

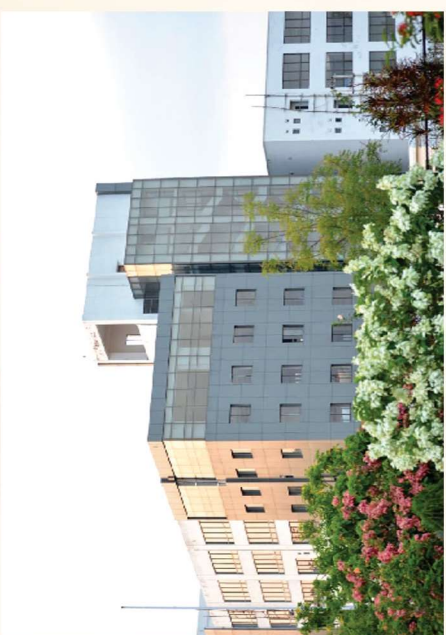


NATIONAL INSTITUTE OF TECHNOLOGY SILCHAR

राष्ट्रीय प्रौद्योगिकी संस्थान सिलचर











# **ANNUAL REPORT 2018-19**

**NATIONAL INSTITUTE OF TECHNOLOGY  
SILCHAR**







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## *From the Director's Desk...*



It is extremely delightful for me to present the Annual Report of National Institute of Technology (NIT) Silchar, Assam for the year 2018-2019. National Institute of Technology Silchar, an Institute of National Importance, previously known as Regional Engineering College, Silchar, started its academic activities in the year 1977. NIT Silchar holds a respectable position among premier technical institutes in the country and has been consistently excelling in academics, research and innovation.

In the last four decades, the Institute has flourished and progressing gracefully in the field of engineering education. The Institute was established in the year 1967, and has a proud strength of 3530 students including UG, PG and research scholars. It gives me immense pleasure to mention that in the National Institute Ranking Framework (NIRF) announced by the Ministry of Human Resource Development (MHRD) in 2019, NIT Silchar has been ranked 51<sup>st</sup> among all the top 100 Engineering Institutes/Universities and 10<sup>th</sup> among 31 NITs in the country. It ranked 2<sup>nd</sup> in the North Eastern Region after IIT Guwahati, 36<sup>th</sup> in The Week survey and 18<sup>th</sup> in the survey conducted by Data quest for top 100 technical schools in India. National Board of Accreditation (NBA) has accredited fifteen programs of NIT Silchar among the twenty-one eligible UG & PG engineering programs. Five PG programs out of fifteen are in process of the accreditation and are periodically assessed by NBA. We hope that the remaining programs will be accredited soon in near future. Two of our laboratories, one in Mechanical Engineering and the other in Civil Engineering are accredited by National Accreditation Board for Testing and Calibration Laboratories (NABL). This was possible only because of the unconditional support, co-operation and contribution of all stake holders specially faculty members, staff, students and alumni of NIT Silchar.

The Annual Report is prepared based on the various activities of the Institute during the reporting year of 2018-2019 specifically highlighting the achievements of the institute. I express my sincere gratitude to the MHRD and the State Government for their whole hearted support and co-operation. I am specially thankful to all the members BOG, FC, B&WC, Senate, faculty, staff, students and alumni of NIT Silchar for their commitment and contribution towards the growth of the institute, and I firmly believe, we will conquer the epitome of success with all the dedication and persistence and will be leading as topmost technical institute of the country.

***Prof. Sivaji Bandyopadhyay***  
*Director, NIT Silchar*





## Mission

*The mission of NIT Silchar is to train and transform young men and women into responsible engineers, technologists and scientists to motivate them to attain professional excellence and to inspire them to proactively engage themselves for the betterment of the society.*

## Vision

*The vision of NIT Silchar is to establish a unique identity by developing quality human and knowledge resources in diverse areas of technology to meet local, national and global economic and social needs as well as the needs of human society at large in self-sustained manner.*

## Objectives

- *To impart the best technical education at both the Undergraduate/ Postgraduate level so as to train the students to be able to boldly face a world that is being transformed by scientific and technological advances.*
- *To engage in research work beneficial to Industry as well as society and disseminate the research findings.*
- *To provide knowledge based technological services to satisfy the needs of the industry as well as society.*
- *To help in building national capabilities in developing technologies, opening up new vistas in education and research.*
- *To promote Institute-Industry interaction through sponsored research by sponsoring faculty to work in Industry for short terms and by inviting people from Industry to deliver lectures etc.*
- *To promote national integration and impart value based education.*





# Introduction

## Historical Background

In the fifties, the Government of India decided to establish Regional Engineering Colleges (RECs) under the Quality Technical Education Policy – one each in every major state – with prime objective of imparting quality technical education throughout the country and to foster national integration. These Regional Engineering Colleges were established as joint ventures of the Government of India and the respective State Governments. Assam is considered as the flag bearer of the Northeast India and so in the year 1967 the 15<sup>th</sup> REC was officially established in Silchar. However it took almost a decade for REC Silchar to start its academic programmes due to various constraints.

The first batch of students was admitted in 1977 in the BE program in three branches of Engineering namely, Civil Engineering, Mechanical Engineering and Electrical Engineering. The total intake in the first batch was 60 students. The adequate infrastructure facilities consisted of only a part of a hostel, two Assam type buildings (for classes and administration), a workshop building, seven faculty quarters and a few staff quarters when the College started its academic programs in November 1977. Initially under the guidance of the then Principal Dr. H. R. Chablani, the classes started with only four full time Faculty members. The College started its academic program with affiliation from Gauhati University. The first batch of BE students was awarded degrees in the year 1982-83. Subsequently, two more branches, namely, Electronics and Communication Engineering and Computer Science and Engineering started functioning from the year 1983 and 1987 respectively. The affiliation was later shifted to Assam University in 1994.

On the basis of the report of the High Powered Joint Expert Committee of AICTE and UGC under the chairmanship of Prof. S. K. Joshi, Director General of Council for Scientific and Industrial Research (CSIR), Regional Engineering College Silchar has been transformed and upgraded to National Institute of Technology, Silchar with the status of Deemed University on 28<sup>th</sup> June, 2002. The Institute has been taken over by Government of India and subsequently made into fully funded Central Government Autonomous Institution. This ensures a better financial status for NIT Silchar and will accelerate its growth ensuring that it becomes one of the premier technological institutes of not just the North East but the entire nation. The Institute has remodelled its curriculum and academic activities in line with that of the IITs. With its Deemed University status, the Institute started awarding degrees from the year 2002 and the first convocation of the Institute was held on 16<sup>th</sup> February 2004. The Government of India declared the Institute as an Institute of National Importance by enacting the National Institutes of Technology Act 2007.



## Location

The Institute is situated at Silchar (latitude 24.50N, longitude 92.510E, at a height of 114.68m above MSL), at a distance of about eight kilometres to the south from the heart of the town on the Silchar-Hailakandi road in Cachar District of Assam. Silchar is well connected to rest of the country via airways, railways and roadways. The Institute boasts of state-of-the-art academia and research infrastructure, lecture-theatres, laboratories, resource centres, sport grounds, open-air theatre, health centre, food-courts and many more being embraced by the greenery, expansive tea gardens and lakes.

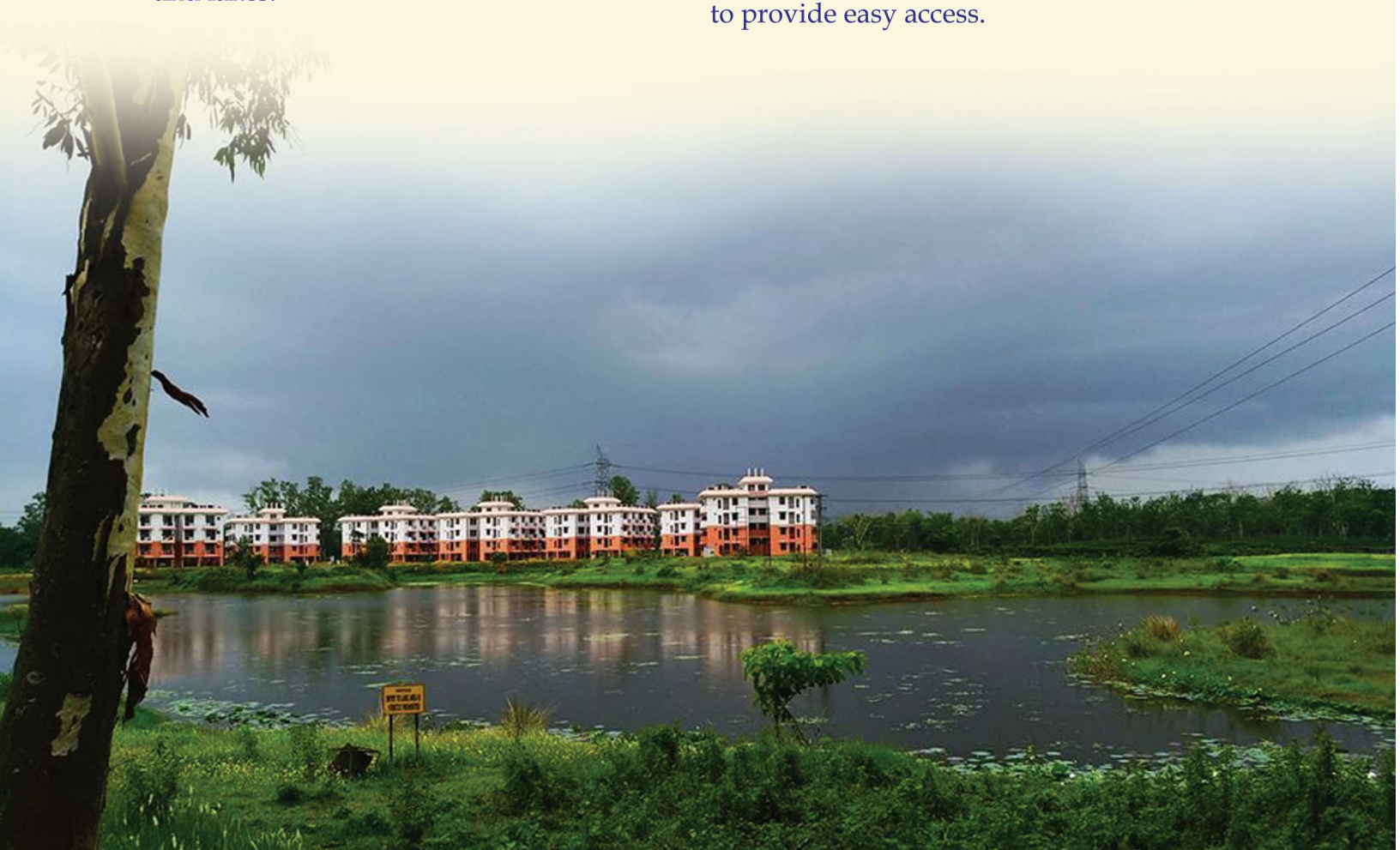
## Campus

The campus of the Institute is spread over an area of 540 acres, set amidst a sprawling landscape of natural quietness, bordered by expansive tea gardens. It presents a spectacle of harmony in the form of modern architecture, natural beauty and picturesque surroundings.

The campus area has been organized in three functional sectors:

- Hostel, amenities and activity centers for students
- Academic blocks and administrative block
- Residential sectors for the staff

The instructional buildings are strategically located between the hostels and staff quarters to provide easy access.





# THE COUNCIL, BOG AND OTHER COMMITTEE

## The Council and its composition

Sl. No	Members	Position
1	Minister In-charge, Ministry of Human Resource Development, Govt. of India	Chairman (ex-officio)
2	Secretary to the Govt. of India, Deptt. of Higher Education, Ministry of Human Resource Development	Vice-Chairman (ex-officio)
3	The Chairperson of all National Institutes of Technology	Member (ex-officio)
4	Director of every National Institute of Technology	Member (ex-officio)
5	The Chairman, University Grant Commission	Member (ex-officio)
6	The Director General, Council for Scientific & Industrial Research	Member (ex-officio)
7	Secretary, Department of Bio-Technology, Govt. of India	Member (ex-officio)
8	Secretary, Department of Atomic Energy, Govt. of India	Member (ex-officio)
9	Secretary, Department of Information Technology, Govt. of India	Member (ex-officio)
10	Secretary, Department of Space, Govt. of India	Member (ex-officio)
11	The Chairman, All India Council for Technical Education	Member (ex-officio)
12	Not less than three, but not more than five persons to be nominated by the Visitor, at least one of whom shall be a women, having special knowledge or practical experience in respect of education, industry, science or technology	Member
13	Three Members of parliament, of whom two shall be chosen by the House of People and one by the Council of States	Member
14	Two Secretaries to the State Govt., from amongst the Ministries or departments of that government dealing with technical education	Member (ex-officio)
15	The Financial Advisor, Ministry of Human Resource Development, Govt. of India	Member Secretary (ex-officio)
16	Joint Secretary to the Govt. of India (Technical)/Additional Secretary (Technical)/ Department of Higher Education, Ministry of Human Resource Development	Member (ex-officio)

## Board of Governors

Name and Address	Position
Prof. Sivaji Bandyopadhyay, Director NIT Silchar	Chairperson (Officiating)
Shri Madan Mohan, ADG(HE), Dept. of Higher Education, MHRD, GOI, Shastri Bhawan, New Delhi-110 001	Member
Ms. Darshana M Dabral, JS & FA, Integrated Finance Division, Dept. of Higher Education, MHRD, GoI	Member
Dr. S.K. Kakoty, Professor, IIT Guwahati- 781039	Member
Shri Basant Kumar Khaitan, Pro Chancellor, Kaziranga University	Member
Shri Abhijit Barooah, Managing Director, Premier Cryogenics Ltd., Mairam Dewan Path, Chandmari, Guwahati – 781 003	Member
Dr. F. A. Talukdar, Professor, Department of Electronics & Communication Engineering, NIT Silchar	Member
Dr. M. K. Bera, Assistant Professor, Department of Electronics & Instrumentation Engineering, NIT Silchar	Member
Prof. A. K. Barbhuiya, Registrar, NIT Silchar	Secretary

## Finance Committee

Name and Address	Position
Prof. Sivaji Bandyopadhyay, Director, NIT Silchar	Chairman (Acting)
Shri Madan Mohan, ADG(HE), Dept. of Higher Education, MHRD, GOI, Shastri Bhawan, New Delhi-110 001	Member
Ms. Darshana M Dabral, JS & FA, Integrated Finance Division, Dept. of Higher Education, MHRD, GOI, Shastri Bhawan, New Delhi-110001.	Member
Dr. S.K. Kakoty, Dean of Infrastructure, Planning and Management, IIT Guwahati- 781039	Member
Dr. F. A. Talukdar, Professor, Department of Electronics & Communication Engineering, NIT Silchar	Member
Prof. A.K. Barbhuiya, Registrar & Member Secretary, NIT Silchar	Member Secretary

## Building and Works Committee

Name and Address	Position
Prof. Sivaji Bandyopadhyay, Director NIT Silchar	Chairman
Ms. Suhasini Gotmare, Director (NITs), Dept. of Higher Education, MHRD, GOI, Shastri Bhawan, New Delhi-110001.	Member
Shri D K Singh, Dy. Secretary (IFD), Dept. of Higher Education, MHRD, C-Wing, Shastri Bhawan, New Delhi-110 001.	Member
Dr. U. Kumar (01.04.2018 – 23.05.2018) / Dr. P. S. Choudhury (23.05.2018 – onwards), Board Nominee, Civil Engineering Department, NIT Silchar	Member



Prof. A. I. Laskar, Dean (P&D), Civil Engineering Department, NIT Silchar	Member
Superintendent Engineer, PWD, Silchar Building Circle, Silchar 1	Member
Executive Engineer (Electrical), Office of Chief Engineer, PWD (Bldng), Assam	Member
Prof. A.K. Barbhuiya, Registrar & Member Secretary, NIT Silchar	Member Secretary

## The Senate

Name and Address	Position
Prof. Sivaji Bandyopadhyay, Director and Chairman, Senate	Chairman
Prof. Fazal A Talukdar, Professor of ECE Deptt., NIT Silchar	Member
Prof. K M Pandey, Professor of Mechanical Engineering Deptt., NIT Silchar	Member
Prof. Nidul Sinha, Professor of Electrical Engg. Deptt., NIT Silchar	Member
Prof. S Baishya, Professor of ECE Deptt., NIT Silchar	Member
Prof. Gurudas Das, Professor of HSS Deptt., NIT Silchar	Member
Prof. A K Dey, Professor of Civil Engineering Deptt., NIT Silchar	Member
Prof. P Choudhury, Professor of Civil Engineering Deptt., NIT Silchar	Member
Prof. S Choudhury, Professor of Civil Engineering Deptt., NIT Silchar	Member
Prof. R D Misra, Professor of Mechanical Engineering Deptt, NIT Silchar	Member
Prof. A I Laskar, Professor of Civil Engineering Deptt., NIT Silchar	Member
Prof. D Chakraborty, Professor of Civil Engineering Deptt., NIT Silchar	Member
Prof. M A Ahmed, Professor of Civil Engineering Deptt., NIT Silchar	Member
Prof. B K Roy, Professor of Electrical Engineering Deptt., NIT Silchar	Member
Prof. P K Patowari, Professor of Mechanical Engineering Deptt., NIT Silchar	Member
Prof. U Kumar, Professor of Civil Engineering Deptt., NIT Silchar	Member
Prof. Saurabh Choudhury, Professor of Electrical Engineering Deptt., NIT Silchar	Member
Prof. N B Dev Choudhury, Professor of Electrical Engineering Deptt., NIT Silchar	Member
Prof. Asim Roy, Professor of Physics Deptt., NIT Silchar	Member
Prof. N C Shivaprakash, Professor of Instrumentation & Applied Physics Deptt., IISC Bangalore	Member
Prof. S K Deb, Professor of Civil Engineering Deptt., IIT Guwahati	Member
Prof. (Mrs.) R R Dhamala, Professor of Political Science Deptt., Assam University, Silchar.	Member
Prof. A K Barbhuiya, Registrar & Secretary, Senate	Member

## Internal Complaint Committee (Old)

Name	Department	Designation	Role in ICC
Dr. (Mrs) Madhuchhanda Choudhury	Electronics and Communication Engineering	Associate Professor	Presiding Officer
Dr. (Mrs) Mausumi Sen	Mathematics	Associate Professor	Member Secretary
Mrs. Madhumita Paul	Electronics and Communication Engineering	Associate Professor	Member

Smt Krishnamati Sinha	Central Library	Assistant Librarian	Member
Dr. Binoy Krishna Roy	Electrical Engineering	Professor	Member
Smt Sanchita Acherjee	NGO		Member

## Internal Complaint Committee (New)

Name	Department	Designation	Role in ICC
Dr. (Mrs.) Ujjwala Baruah	Computer Science and Engineering	Assistant Professor	Presiding Officer
Dr. Munmun Khanra	Electronics and Instrumentation Engineering	Assistant Professor	Member Secretary
Dr. (Mrs) Banani Basu	Electronics and Communication Engineering	Assistant Professor	Member
Dr. (Mrs) Nirmali Borthakur	Civil Engineering Department	Assistant Professor	Member
Prof. R. D. Misra	Mechanical Engineering	Professor	Member
Smt Sanchita Acherjee	NGO		Member
Smt Krishnamati Sinha	Assistant Librarian		Member

## Deans

Sl No.	Name	Department	Designation	Dean
1	Dr. Asim Roy (01.04.2018 – 19.05.2018) Dr. Mokaddes Ali Ahmed (19.05.2018 – onwards)	Physics Civil Engg	Professor	R&C
2	Dr. Mokaddes Ali Ahmed (01.04.2018 – 01.05.2018) Dr. Rahul Dev Misra (01.05.2018 – onwards)	Civil Engg ME Engg	Professor	SW
3	Dr. Srimanta Baishya	Electronics and Communication Engineering	Professor	Academic
4	Dr. N. B. Deb Choudhury (01.04.2018 – 11.10.2018) Dr. K. L. Baishnab (11.10.2018 – onwards)	EE Engg EC Engg	Professor / Associate Professor	Alumni
5	Dr. Aminul Islam Laskar	Civil Engineering	Professor	P&D
6	Dr. Aminul Islam Laskar (01.04.2018 – 01.10.2018) Dr. P. K. Patowari (01.10.2018 – onwards)	Civil Engg ME Engg	Professor	FW

## Associate Deans

Sl No.	Name	Department	Designation	Assoc. Dean
1	Dr. Arup Kumar Goswami	Electrical Engineering	Associate Professor	Academic
2	Dr. Sujit Nath	Mechanical Engineering	Assistant Professor	Exam
3	Dr. Prashanth J	Civil Engineering	Assistant Professor	P&D
4	Dr. Vara Laxmi M Prasad	Electrical Engineering	Assistant Professor	P&D



5	Dr. Dulal Chandra Das	Electrical Engineering	Assistant Professor	P&D
6	Dr. Kaushik Guha	Electronics and Communication Engineering	Assistant Professor	SW
7	Dr. Wasim Arif	Electronics and Communication Engineering	Assistant Professor	SW
8	Dr. Ranjit Nair	Physics	Assistant Professor	R&C
9	Mrs. Madhumita Paul	Electronics and Communication Engineering	Associate Professor	FW

## Head of the Departments

Sl No.	Name	Department	Designation
1	Dr. Rupak Dutta (01.04.2018 – 07.08.2018) Dr. Asim Roy (07.08.2018 – onwards)	Physics	Assistant Professor Professor
2	Dr. B. H. Shambharkar	Chemistry	Associate Professor
3	Dr. K. M. Pandey (01.04.2018 – 22.05.2018) Dr. P. K. Patowari (22.05.2018 – 01.10.2018) Dr. Agnimitra Biwas (01.10.2018 – onwards)	Mechanical Engineering	Professor Professor Assistant Professor
4	Dr. Santanu Roy (01.04.2018 – 01.11.2018) Dr. Mausumi Sen (01.11.2018 – onwards)	Mathematics	Associate Professor
5	Dr. N. B. Singh	Humanities and Social Sciences	Associate Professor
6	Dr. U. Kumar (01.04.2018 – 23.05.2018) Dr. P. S. Choudhury (23.05.2018 – onwards)	Civil Engineering	Professor
7	Dr. Saurabh Choudhury (01.04.2018 – 20.08.2018) Dr. N.B. Dev Choudhury (20.08.2018 – onwards)	Electrical Engineering	Professor
8	Dr. Fazal Ahmed Talukdar	Electronics and Communication Engineering	Professor
9	Dr. Arup Bhattacharjee	Computer Science and Engineering	Assistant Professor
10	Dr. Rajdeep Dasgupta (01.04.2018 – 16.01.2019) Dr. S. H. Laskar (16.01.2019 – onwards)	Electronics and Instrumentation Engineering	Assistant Professor Associate Professor
11	Dr. Gurudas Das (01.04.2018 – 10.07.2018) Dr. Ashim Kumar Das (10.07.2018 – onwards)	Management Studies	Professor Assistant Professor

# EDUCATION SYSTEM

## Undergraduate (B.Tech.)

### Admission Procedure

Admissions to the first semester of all Undergraduate courses are conducted on the basis of seats allocated by Central Seat Allocation Board (CSAB) from the list of candidates selected by all India JEE (Main). Besides, a specified number of foreign nationals/NRIs selected under the policy laid down by Govt. of India, are admitted directly to the 1st year of the courses.

### Academic Calendar

The academic session is divided into two semesters each of approximately 17 weeks duration, an Odd Semester (July-December) and an Even Semester (January-June). The JEE (Main) selected candidates take admission in the first semester and on successful completion of the semester register for the subsequent semester on the dates specified in the Academic Calendar. The Senate approves the Academic Calendar consisting of schedules of activities for a session inclusive of dates for registration, mid-semester and end-semester examinations, inter-semester breaks etc. well in advance of a session. The Academic Calendar usually provides a total of about 90 working days in each semester.

### Programme Structure

The duration of the programme leading to a B.Tech. degree is four years. The curriculum for the different degree programmes as proposed by the respective departments and recommended by the Departmental Undergraduate Programme Committee (DUPC) shall have the approval of the Senate. The departments would also prepare the syllabus of each subject containing the scope of studies and detailed instructions to be imparted which must have the approval of the Senate. All the subjects would have a lecture-tutorial-practical (laboratory/sessional) component (L-T-P) to indicate the contact hours. The tutorial (T) or practical/ Sessional (P) component may be absent in certain courses. Separate laboratory subjects (O-P) may exist in certain cases as decided by the Senate on the recommendation of the DUPC. All the subjects will have a credit count 'C'. Teaching of subjects will be reckoned in terms of credits. One hour lecture or tutorial class is designated as 2 credits while one hour practical class is designated as one credit. In each of the first year/ second year, there shall be non-credit compulsory Extra Academic Activity (EAA). The Extra Academic Activity may be N.S.S., N.C.C., or any other physical education. The curriculum for B.Tech. programme includes compulsory Industrial training of 6-8 weeks duration after 6th semester in any reputed industry, research organization, IIT's and other reputed institutions which is assessed in the 7<sup>th</sup> Semester. The Project work will carry a total of 15-20 credits.

### Registration and Assessment

Students are registered in every semester irrespective of number of credits they have earned at the end of every year. However, if a student fails to complete his/her courses in the stipulated first four years (8 semesters), the student is required to vacate the hostel and complete the remaining part of credits from outside.

- a) If a student fails in a course, he/she will have to repeat the course in the appropriate semester when the course is on offer. He/she may prefer to register that course and attend all classes and offer him/her for normal evaluation or the student may prefer to appear the mid-semester and end-semester examination and his/her internal evaluation would be carried forward from the semester where he/she was regularly registered.



- b) A student may change an elective course within the time-frame mentioned in the academic calendar. If a student fails in an elective course, he/she may change the elective when he/she re-registers for the elective in the appropriate semester.
- c) The duration of the UG programme is four years. However, academically weak students are permitted to complete the programme in six years from the date of first registration.
- d) A student is permitted to register for few DD graded courses if the CPI of the student falls below 6.0 for improvement.
- e) If a student fails to clear a subject in the end semester examination, then he/she is permitted to clear the same in the re-examination normally conducted within the first 15 days of the next semester. No reduction in grade is invoked if a student clears the subject in the re-examination.

## Postgraduate (M.Tech. / M.Sc. / MBA)

The M.Tech regulations provide the necessary guidelines for the two years regular Post graduate programme and three years part-time programme in Engineering disciplines. Similarly the M.Sc./MBA regulations provide guidelines for 2 years (4 semesters) M.Sc./MBA course.

### Academic Procedure

#### M.Tech.

The courses leading to M.Tech degree are open to candidates who have obtained the prerequisite qualification with 60% marks or 6.5 CGPA in aggregate in the qualifying examination. Statutory relaxation in the eligibility criterion is provided to candidates belonging to SC/ST communities. Admission for the GATE qualified candidates is made through Common Admission Process called Central Counselling for M.Tech./M. Plan/M.Arch (CCMT). When GATE qualified candidates are not available, admission is done on the basis of merit as decided by the Institute.

#### M.Sc. (Chemistry, Mathematics, Physics)

Admission to M.Sc. courses in Chemistry, Mathematics and Physics are based on career marking, written test and interview. Applicants must have secured at least 50% marks or a CPI of 5.5 in aggregate at B.Sc. level and preference is provided to students having honours in the applied discipline. Statutory relaxation in the minimum eligibility criterion is provided to candidates belonging to SC/ST communities.

#### MBA

The minimum eligibility criterion for admission to MBA is Bachelor degree in any branch of Engineering/Science/ Humanities with 50% marks or 5.5 CGPA and valid CAT/MAT/CMAT scores. Final selection is conducted on the basis of Group Discussion and Personal Interview conducted at the Institute.

### Programme Structure

Teaching for the courses is reckoned in credits. Due credit is provided to lecture, tutorial (theory) and practical components for a given subject. Normally for M.Tech., first two semesters have theory and practical (laboratory) subjects while for MSc/ MBA, theory courses are taught in all the semesters. The 3<sup>rd</sup> and 4<sup>th</sup> semester mostly constitute the project work for M.Tech. while for M.Sc./MBA, the project work spans over the fourth semester only. MBA students undergo a compulsory summer internship after second semester. Project work and Seminar are essential part of the curricula. Class tests, assignments, tutorials, viva-voce, laboratory assignments, etc., are the constituent components of continuous assessment process and a student must fulfil all these requirements as prescribed by the teacher/coordinator of the subject.

## Registration

Students in Postgraduate programmes register for the course at the beginning of each semester. These programmes do not have summer/re-examinations. Students securing 'F' grade in any course appear the exam in the following session. Attendance in all classes is compulsory and assessment and evaluation pattern are similar to undergraduate course.

## Research Programme (Ph.D.)

Students for admission to Ph.D. Programme in Engg. Departments must satisfy one of the following criteria:

1. Master Degree in Engg./Technology or equivalent in an appropriate area with a minimum CPI of 6.5 or equivalent (60% of marks).
2. Bachelor Degree in Engg./Technology with an excellent academic record and with a CPI of at least 8 or equivalent (70% of marks). Students for admission to the Ph.D. Programme in Science Departments must have a Master degree in relevant discipline with a first class or a minimum of 60% of marks or equivalent. Students for admission to the Ph.D. Programme in Humanities and Social sciences (HSS) Departments must have a Master degree with a minimum of 55% marks or equivalent. Selection of candidates is carried out on the basis of interview conducted by the concerned department.

## Academic Programmes

### Courses Offered

- (i) A four year B.Tech. Programme in the following branches of Engineering and Technology, is offered during the period.
  - ❖ Civil Engineering
  - ❖ Mechanical Engineering
  - ❖ Electrical Engineering
  - ❖ Electronics & Communication Engineering
  - ❖ Computer Science & Engineering
  - ❖ Electronics & Instrumentation Engineering
- (ii) A two- year M.Tech. M.Sc. & MBA programmes in the following branches are offered during the period.

#### **M.Tech (under Civil Engg. department.)**

- ❖ Water Resources Engineering
- ❖ Geotechnical Engineering
- ❖ Transportation Engineering
- ❖ Structural Dynamics & Earthquake Engineering
- ❖ Structural Engineering

#### **M.Tech (under Electrical Engg. department.)**

- ❖ Power and Energy systems Engineering
- ❖ Control & Industrial Automation

#### **M.Tech (under Mechanical Engg. department.)**

- ❖ Thermal Engineering
- ❖ Design & Manufacturing
- ❖ CAD-CAM & Automation
- ❖ Materials & Manufacturing Technology



**M.Tech (under Electronics & Communication Engg. department.)**

- ❖ Microelectronics & VLSI Design
- ❖ Communication & Signal Processing Engg

**M.Tech in Computer Science & Engg.**

**M.Tech in Instrumentation Engg. ( Under Electronics & Instrumentation Engineering)**

**M.Sc. in Applied Chemistry (Chemistry Department)**

**M.Sc. in Applied Physics (Under Physics Department)**

**M.Sc. in Mathematics (Under Mathematics Department)**

**MBA (Under Management studies)**

## B. TECH ENROLLMENT

The following table shows the semester-wise, course wise enrollment with sex and caste breakup for the Year 2018-19.

Sem	Branch	Open (Breakup)		OBC (Break up)		SC (Break up)		ST (Breakup)		PH		Total Enrolment
		Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Total
1 <sup>ST</sup> & 2 <sup>ND</sup>	CE	44	11	34	5	14	5	6	3	1 OPH 2 OBPH 1 SCPH	--	126
	ME	52	9	34	6	15	3	8	2	--	--	129
	EE	46	10	32	4	16	3	6	2	2 OPH 1 OBPH	--	122
	ECE	52	10	29	5	17	2	7	2	2 OPH	--	126
	CSE	48	10	32	5	14	3	8	2	2 OBPH	--	124
	E&I	25	3	16	2	7	3	3	2	--	--	61
	<b>Total</b>	<b>267</b>	<b>53</b>	<b>177</b>	<b>27</b>	<b>83</b>	<b>19</b>	<b>38</b>	<b>13</b>	<b>11</b>	<b>--</b>	<b>688</b>
3 <sup>RD</sup> & 4 <sup>TH</sup>	CE	47	2	29	1	13	4	08	1	1OPH 2OBPH	1OBPH	109
	ME	50	2	36	1	16	0	06	-	2OPPH 1OBPH	--	114
	EE	44	8	30	4	16	1	07	-	1OPPH 1OBPH	1OPPH	113
	ECE	53	7	34	02	14	02	08	01	1OPPH	--	122
	CSE	44	8	27	2	13	--	03	03	1OPPH	--	101
	E&I	24	2	13	01	07	02	04	01	--	--	54
	<b>Total</b>	<b>262</b>	<b>29</b>	<b>169</b>	<b>11</b>	<b>79</b>	<b>9</b>	<b>36</b>	<b>6</b>	<b>10</b>	<b>2</b>	<b>613</b>
5 <sup>TH</sup> & 6 <sup>TH</sup>	CE	38	4	29	3	14	1	4	3	1 OPPH, 1OBPH, 1 SCPH	-	99
	ME	41	4	32	1	17	-	6	3	2OPPH, 2OBPH	-	108
	EE	43	7	27	2	14	0	6	3	2OPPH	2OBPH	106
	ECE	51	4	26	3	14	3	5	-	1SCPH	-	107
	CSE	37	8	21	2	13	-	6	-	1OPPH, 1 OBPH	-	89
	E&I	16	4	12	3	3	1	4	-	1OPPH, 1OBPH	-	45
	<b>Total</b>	<b>226</b>	<b>31</b>	<b>147</b>	<b>14</b>	<b>75</b>	<b>5</b>	<b>31</b>	<b>9</b>	<b>14</b>	<b>2</b>	<b>554</b>
7 <sup>TH</sup> & 8 <sup>TH</sup>	CE	42	9	34	1	13	3	9	-	2 OPPH	-	113
	ME	47	2	36	-	13	2	8	1	2 OPPH	-	111
	EE	31	8	36	6	13	4	6	1	1 OBPH	1 OPPH	107
	ECE	39	12	27	8	15	2	8	-	1 OPPH	-	112
	CSE	44	7	19	6	12	2	7	-	1 OPPH	-	98
	E&I	20	4	15	1	7	1	4	1	-	-	53
	<b>Total</b>	<b>223</b>	<b>42</b>	<b>167</b>	<b>22</b>	<b>73</b>	<b>14</b>	<b>42</b>	<b>3</b>	<b>7</b>	<b>1</b>	<b>594</b>
<b>Grand Total</b>		<b>978</b>	<b>155</b>	<b>660</b>	<b>74</b>	<b>310</b>	<b>47</b>	<b>147</b>	<b>31</b>	<b>42</b>	<b>5</b>	<b>2449</b>



CE= Civil Engineering, ME=Mechanical Engineering, EE= Electrical Engineering, ECE=Electronics & Communication Engineering, CSE= Computer Science & Engineering, E&I= Electronics & Instrumentation Engineering.

The following is a summary table of the number, B.Tech. Students on the roll of NIT Silchar during 2018-19

Year	CE	ME	EE	ECE	CSE	E&I	TOTAL
1 <sup>st</sup>	126	129	122	126	124	61	688
2 <sup>nd</sup>	109	114	113	122	101	54	613
3 <sup>rd</sup>	99	108	106	107	89	45	554
4 <sup>th</sup>	113	111	107	112	98	53	594
<b>TOTAL</b>	<b>447</b>	<b>462</b>	<b>448</b>	<b>467</b>	<b>412</b>	<b>213</b>	<b>2449</b>

## PG ENROLLMENT (2018-19)

Sem	Branch	Open (Break up)		SC (Break up)		ST (Break up)		OBC (Break up)		PH (Break up)		Total		TOTAL
		Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	
1 <sup>st</sup> Sem	CE	41	7	11	3	3	1	22	1	0	0	77	12	89
	ME	29	1	6	1	3	1	13	0	0	0	51	03	54
	EE	16	3	4	1	3	0	5	0	0	0	28	4	32
	ECE	9	2	2	3	1	1	0	0	1	0	13	6	19
	CSE	7	3	3	0	2	0	1	0	0	0	13	3	16
	E&I	4	0	0	0	0	0	1	0	0	1	5	1	6
	<b>Total</b>	<b>106</b>	<b>16</b>	<b>26</b>	<b>8</b>	<b>12</b>	<b>3</b>	<b>42</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>187</b>	<b>29</b>	<b>216</b>
3 <sup>rd</sup> Sem	CE	39	6	11	4	1	2	22	2	0	0	73	14	87
	ME	16	2	7	0	1	1	13	0	0	0	37	3	40
	EE	12	3	4	2	0	3	5	1	0	0	21	9	30
	ECE	8	2	1	0	0	0	1	2	0	0	10	4	14
	CSE	8	4	3	0	1	0	1	0	0	0	13	4	17
	E&I	4	2	0	1	0	1	2	0	0	0	6	4	10
<b>Grand Total</b>		<b>193</b>	<b>35</b>	<b>52</b>	<b>15</b>	<b>15</b>	<b>10</b>	<b>86</b>	<b>6</b>	<b>1</b>	<b>1</b>	<b>347</b>	<b>67</b>	<b>414</b>
1 <sup>st</sup> Sem	PHY	6	3	2	0	0	0	0	0	0	0	8	3	11
	CHEM	4	4	1	2	2	0	0	2	0	0	7	8	15
	MATHS	4	3	1	0	2	0	0	0	0	0	7	3	10
	<b>Total</b>	<b>14</b>	<b>10</b>	<b>4</b>	<b>2</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>22</b>	<b>14</b>	<b>36</b>
3 <sup>rd</sup> Sem	PHY	2	0	2	0	1	0	0	0	0	0	5	0	5
	CHEM	3	0	1	1	1	0	2	1	0	0	7	2	9
	MATHS	1	1	1	0	0	0	2	0	0	0	4	1	5
<b>Grand Total</b>		<b>20</b>	<b>11</b>	<b>8</b>	<b>3</b>	<b>6</b>	<b>0</b>	<b>4</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>38</b>	<b>17</b>	<b>55</b>
1 <sup>st</sup>	MBA	15	15	2	2	3	1	11	1	0	0	31	19	50
3 <sup>rd</sup>	MBA	18	11	1	2	0	0	1	0	0	0	20	13	33
	<b>Total</b>	<b>33</b>	<b>26</b>	<b>3</b>	<b>4</b>	<b>3</b>	<b>1</b>	<b>12</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>51</b>	<b>32</b>	<b>83</b>
<b>Grand Total</b>		<b>246</b>	<b>72</b>	<b>63</b>	<b>22</b>	<b>24</b>	<b>11</b>	<b>102</b>	<b>10</b>	<b>1</b>	<b>1</b>	<b>436</b>	<b>116</b>	<b>552</b>

# Admission Statistics B.Tech

## (a) Indian students admitted

The following table shows the state-wise and course-wise admission statistics with category breakup for the year -2018-19

Name of state	Category	CE	ME	EE	ECE	CSE	E&I	Total
Assam	OP	30	30	29	31	26	15	161
	OBC	16	20	17	18	21	8	100
	SC	10	9	10	10	9	5	53
	ST	3	5	5	5	5	3	26
	OPPH	--	--	--	--	--	--	--
	SCPH	1	--	--	--	--	--	1
	OBPH	2	--	1	--	--	--	3
Rajasthan	OP	1	3	4	5	4	--	17
	OBC	1	4	2	--	--	--	7
	SC	2	1	3	--	3	--	9
	ST	--	1	2	--	1	--	4
Bihar	OP	4	1	4	--	3	2	14
	OBC	8	3	7	2	3	3	26
	ST	1	--	--	--	--	--	1
	SC	--	--	1	--	1	1	3
	OPPH	--	--	1	--	1	--	2
UP	OP	10	12	10	7	7	3	49
	OBC	6	3	3	1	3	2	18
	SC	3	5	3	2	1	1	15
	OPPH	--	--	1	1	--	--	2
Andhra Pradesh	OP	3	4	6	9	7	1	30
	OBC	6	7	5	6	5	3	32
	SC	1	--	2	3	--	2	8
	ST	1	1	--	1	2	--	5
Jharkhand	OP	--	1	--	--	--	--	1
Kerala	OP	1	--	--	--	--	2	3
	OBC	--	--	--	1	--	--	1
Orissa	OP	--	1	1	--	1	--	3
	ST	--	--	--	1	--	--	1
Maharashtra	OP	--	1	--	1	2	1	5
	OBC	--	--	1	--	1	2	4
	SC	--	1	--	--	--	--	1
Chhattisgarh	OP	--	--	--	--	1	--	1
	OBC	--	--	--	--	1	--	1
	ST	--	--	1	1	--	--	2
Haryana	OP	--	2	--	2	--	--	4
Telangana	OP	4	2	1	5	5	3	20
	OBC	2	1	1	6	3	--	13
	SC	3	--	--	2	2	--	7
	ST	--	3	--	1	1	1	6
	OPPH	1	--	--	1	--	--	2



Uttarakhand	OP	1	1	1	1	--	--	4
West Bengal	OP	--	1	--	--	--	--	1
	SC	--	--	--	2	--	--	2
Punjab	OP	--	--	--	--	1	--	1
	ST	--	--	--	--	--	1	1
Manipur	SC	--	--	--	--	1	1	2
	ST	1	--	--	--	1	--	2
MP	OP	1	1	--	1	--	1	4
	OBC	--	2	--	--	--	--	2
	SC	--	1	--	--	--	--	1
	OBCPH	--	--	--	--	1	--	1
Arunachal Pradesh	ST	3	--	--	--	--	--	3
Chandigarh	OP	--	1	--	--	--	--	1
Karnataka	SC	--	1	--	--	--	--	1
Grand Total		126	129	122	126	123	61	687

## (b) Foreign students admitted

Name of country	Category	CE	ME	EE	ECE	CSE	E&I	Total
Bangladesh	OP	--	--	--	--	1	--	1

## Course-Wise Admission statistics (B.Tech-1<sup>st</sup> Year)-2018-19

Sl.No.	Courses	Intake Capacity	Admitted
1.	Civil Engineering	126	126
2.	Mechanical Engineering	130	129
3.	Electrical Engineering	122	122
4.	Electronics & Communication Engg.	126	126
5.	Computer Sc. & Engineering	122	124
6.	Electronics & Instrumentation Engg.	62	61
Total		688	688

# Admission Statistics (M.Tech/M.Sc/MBA)

## Admission to M.Tech

### (a) Indian Students Admitted

The following table shows the course-wise admission statistics with category breakup for the year -2018-19  
**Admission Statistics (M. Tech Branch wise) for the year 2018-19**

Programme	Specialization	General		SC		ST		OBC		PwD		Sponsored		Total		Grand Total
		M	F	M	F	M	F	M	F	M	F	M	F	M	F	
Civil Engg.	WRE	6	4	2	1	0	0	3	0	0	0	0	0	11	5	16
	SD & EQE	9	1	1	1	1	0	5	0	0	0	0	0	16	2	18
	Transportation Engg.	9	0	3	0	1	1	5	0	0	0	0	0	18	1	19
	Geotechnical Engg.	8	1	2	1	1	0	4	0	0	0	0	0	15	2	17
	Structural Engg	9	1	3	0	0	0	5	1	0	0	0	0	17	2	19
	<b>TOTAL</b>	<b>41</b>	<b>7</b>	<b>11</b>	<b>3</b>	<b>3</b>	<b>1</b>	<b>22</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>77</b>	<b>12</b>	<b>89</b>
Mechanical Engg.	Thermal	8	1	3	0	2	0	5	0	0	0	1	0	19	1	20
	Design & Manuf.	10	0	2	1	1	1	3	0	0	0	0	0	16	2	18
	CAD-CAM & Auto.	5	0	0	0	0	0	2	0	0	0	0	0	7	0	07
	MMT	5	0	1	0	0	0	3	0	0	0	0	0	9	0	09
	<b>TOTAL</b>	<b>28</b>	<b>1</b>	<b>6</b>	<b>1</b>	<b>3</b>	<b>1</b>	<b>13</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>51</b>	<b>3</b>	<b>54</b>
Electrical Engg.	Control & Indu. Auto.	7	2	1	1	1	0	1	0	0	0	0	0	10	3	13
	Power & Energy Sy. Engg	9	1	3	0	2	0	4	0	0	0	0	0	18	1	19
	<b>TOTAL</b>	<b>16</b>	<b>3</b>	<b>4</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>28</b>	<b>4</b>	<b>32</b>
Electronics & Communication Engg.	Microelectronics & VLSI D	7	1	1	2	0	1	0	0	1	0	0	0	9	4	13
	CSP Engg,	2	1	1	1	1	0	0	0	0	0	0	0	4	2	06
	<b>TOTAL</b>	<b>9</b>	<b>2</b>	<b>2</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>13</b>	<b>6</b>	<b>19</b>
Computer Science & Engg.	Computer Sc. & Engg	6	3	3	0	2	0	1	0	0	0	1	0	13	3	16
	<b>TOTAL</b>	<b>6</b>	<b>3</b>	<b>3</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>13</b>	<b>3</b>	<b>16</b>
Electronics & Instrumentation Engg.	Instrumentation Engg.	4	0	0	0	0	0	1	0	0	1	0	0	5	1	06
	<b>TOTAL</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>1</b>	<b>06</b>
<b>GRAND TOTAL</b>		<b>104</b>	<b>16</b>	<b>26</b>	<b>8</b>	<b>12</b>	<b>3</b>	<b>42</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>187</b>	<b>29</b>	<b>216</b>



## (b) Foreign Students Admitted

The following table shows the admission statistics of foreign students for the year 2018-19.

Sl. No.	Courses (B.Tech)	Admitted
1.	Civil Engineering	--
2.	Mechanical Engineering	--
3.	Electrical Engineering	--
4.	Electronics & Communication Engg.	--
5.	Computer Sc. & Engg.	01
6.	Electronics & Instrumentation Engg.	--
<b>Total</b>		<b>01</b>

## M.Tech. M.SC & MBA Intake & Admission

The following table shows course admission statistics of PG programmes (M.Tech, M.Sc. & MBA) for the year 2018-19.

Deptt.	Sanctioned strength including approved category (R-20+S-5)*	M.Tech. & M. Sc. Specialization	No. of PG students	
			M.Tech/M.Sc. /MBA	Total
CE	20+5	M.Tech. in Water Resource Engg.	16	16
	20+5	M.Tech. in Structural Dynamics & Earthquake Engg.	18	18
	20+5	M.Tech in Transportation Engg.	19	19
	20+5	M.Tech. in Geotechnical Engg.	17	17
	20+5	M.Tech in Structural Engg.	19	19
ME	20+5	M.Tech. in Thermal Engg.	20	20
	20+5	M.Tech. in Design & Manufacturing	18	18
	10+2	M.Tech in CAD-CAM Automation	07	07
	10+2	M.Tech in Material & Manufacturing Technology	09	09
EE	20+5	M.Tech. in Power & Energy System Engg.	19	19
	20+5	Control & Industrial Automation	13	13
ECE	20+5	M.Tech. in Microelectronics & VLSI Design	13	13
	20+5	M.Tech in Communication & Signal Processing Engg.	06	06
CSE	20+5	M.Tech. in Computer Science & Engg.	16	16
E&I	10+2	Instrumentation Engg.	06	06
PHY	20+5	M.Sc. in Applied Physics	11	11
CHEM	20+5	M.Sc. in Applied Chemistry	15	15
MATH	20+5	M.Sc. in Mathematics	10	10
MS(MBA)	60	MBA	50	50
<b>Grand Total (M.Tech. + M.Sc. + MBA) = 216+36+50</b>				<b>302</b>

\*(Regular & Sponsored)

CE= Civil Engineering, ME= Mechanical Engineering, EE= Electrical Engineering, ECE= Electronics & Communication Engineering, CSE= Computer Science & Engineering, E&I= Electronics & Instrumentation Engg. PHY= Physics, CHEM= Chemistry, MATH= Mathematics, MS=Management Studies.

The following is a summary of the total number of PG students on the roll of NIT Silchar during 2018-19

Courses	CE	ME	EE	ECE	CSE	E&I	PHY	CHY	MATHS	HSS	MBA	TOTAL
M.Tech	176	94	62	33	33	16						414
M.Sc							16	24	15			55
MBA											83	83
<b>Total</b>												<b>552</b>

CE= Civil Engineering, ME= Mechanical Engineering, EE= Electrical Engineering, ECE= Electronics & Communication Engineering, CSE= Computer Science & Engineering, E&I= Electronics & Instrumentation Engg .PHY= Physics, CHEM= Chemistry, MATH= Mathematics. MBA= Master of Business Administration.

## Students Strength

The following table shows the total student strength on the roll (course wise) of the year 2018-19 at NIT Silchar.

Courses		Branches	Total students strength (course-wise)
UG (B.Tech.)		Civil Engineering	447
		Mechanical Engineering	462
		Electrical Engineering	448
		Electronics & Communication Engineering	467
		Computer Science & Engineering	412
		Electronics & Instrumentation Engineering	213
PG	M.Tech	Postgraduate Course (all engineering department)	414
	M.Sc.	Applied Chemistry/Applied Physics/Mathematics	55
	Management studies	MBA	83
<b>GRAND TOTAL</b>			<b>3001</b>

## Awards

a. The Institute offered the following awards during the period under consideration:

(A)	Institute Gold Medal		
Sl.No.	Title of the Medal	Department	Awardees
1.	Best B.Tech. Graduate	Mechanical Engineering	Amitrajit Bhattacharjee

(B)	Institute Silver Medals		
Sl.No.	Title of the Medal	Awardees	
1.	Best B.Tech. Graduate in Electrical Engineering	Pratyutpanna K. Rout	
2.	Best B.Tech. Graduate in Computer Science & Engineering.	Anshika Bhargava	
3.	Best B.Tech. Graduate in Electronics and Instrumentation Engineering	Ankit Kumar	
4.	Best B.Tech. Graduate in Electronics & Communication Engineering	Debakshi Dey	
5	Best B.Tech. Graduate in Civil Engineering	Vivek Kumar Jha	

**b. Sponsored awards-**

(C)	<b>Kalikrishna Mrinalini Krori Gold Medal</b>		
Sl.No.	Title of the Medal	Department	Awardees
1.	Best B.Tech. Graduate on overall performance, (Instituted by Dr. K.D Krori, Guwahati)	Mechanical Engineering	Manish Jain

(D)	<b>Saswata Purkayastha Memorial Gold Medal</b>		
Sl.No.	Title of the Medal	Department	Awardees
1.	Best B.Tech. Graduate on overall performance, (Instituted by Shri Niharendu Purkayastha, Silchar )	Mechanical Engineering	Dev Manas

## EXAMINATION DETAILS

\* Even semester examinations were held in the month of May 2018 (both UG & PG)

\* Odd semester examinations were held in the month of Nov-Dec. 2018 (both UG & PG).

### Statistics of the Results

#### a) End semester examination Held in May 2018

Program me	Branch & Course	No. of Students appeared	Passed & Eligible for Degree	Failed/ Withheld	Percentage passed	Remarks
M.Tech	Civil Engg. (Water Resources Engg.)	09	09	--	100%	
	Civil Engg. (Structural Dynamics & Earthquake Engg.)	11	11	--	100%	
	Civil Engg. (Transportation Engg)	20	20	--	100%	
	Civil Engg. (Structural Engg)	15	15	--	100%	
	Civil Engg.(Geotechnical Engg)	15	15	--	100%	
	Mech. Engg. (Thermal Engg.)	15	15	--	100%	
	Mech. Engg. (Materials & Manufacturing Technology)	08	08	--	100%	
	Mech. Engg.(Design & Manufacturing)	16	16	--	100%	
	Mech. Engg. (CAM-CAD & Automation)	03	03	--	100%	
	Electrical Engg. (Power & Energy system Engg.)	14	14	--	100%	
	Electrical Engg. (Control & Industrial Automation Engg)	12	12	--	100%	
	Electronics & Comm. Engg. (Communication & Signal Process Engg)	07	07	--	100%	
	Electronics & Comm. Engg. (Microelectronics & VLSI Design)	05	05	--	100%	
	Computer Science & Engg.	09	09	--	100%	



	Instrumentation Engg.	08	08	--	100%	
M.Sc.	Chemistry (Applied Chemistry)	10	10	--	100%	
	Physics (Applied Physics)	09	09	--	100%	
	Mathematics	10	10	--	100%	
MBA	Master of Business Administration (MBA)	44	44	--	100%	
B.Tech.	Civil Engg.	117	112	5	95.73%	
	Mechanical Engg.	127	121	6	95.28%	
	Electrical Engg.	106	93	13	87.74%	
	Electronics & Comm. Engg.	116	114	2	98.28%	
	Computer Sc. & Engg.	96	76	20	79.17%	
	Electronics & Instrumentation Engg.	53	50	3	94.34%	

**b) List of candidates qualified for the Degree of Bachelor of Technology after 15<sup>th</sup> Convocation held in May 2017 and before End semester Examination held in June 2018**

Branch	Appeared	Passed
Civil Engg. (B.Tech)	11	11
Mechanical Engg. (B.Tech)	12	12
Electrical Engg. (B.Tech)	10	10
Electronics & Communication Engg. (B.Tech)	19	19
Computer Science & Engg. (B.Tech)	12	12
Electronics & Instrumentation Engg. (B.Tech)	04	04

# PLACEMENT STATISTICS OF NIT SILCHAR 2018-2019

[illegible]

19.	Medlife	25-28 Aug 18	9 LPA	-	-	-	0	7	-	-	-	7	
20.	L&T ECC	5-8 Sep 18	6.27 LPA	21	2	1	0	-	0	-	0	27	
		PPO		3	-	-	-	-	-	-	-		
21.	Wipro	8-11 Sep 18	6.5 LPA	2	2	4	13	4	8	-	-	38	
		PPO		-	-	-	1	4	-	-	-		
22.	MAQ Software	10-11 Sep 18	5 LPA	-	-	-	-	3	-	-	-	3	
		On line Interview											
23.	Just Dial	10-11 Sep 18	2.59 LPA	-	-	-	-	-	-	Mktg-3	-	3	
		Pool at Guwahati											
24.	DENSO India Ltd.	13-14 Sep 18	4.24 LPA	-	-	1	0	-	1	-	-	2	
25.	Oracle Financial Service	17-19 Sep 18	6.4 LPA	-	2	1	2	2	0	-	CSE-1	7+1=8	
26.	Prism Johnson Ltd.	19-20 Sep 18	3.24 LPA	4	1	-	-	-	-	-	-	5	
27.	First American	27-29 Sep 18	PG-7 LPA UG 6.5 LPA	-	-	-	1	0	-	-	CSE-1	1+1=2	
28.	Deloitte	3-5 Oct 18	6.2 LPA	1	4	4	4	3	1	-	-	17	
29.	HSBC	5-7 Oct 18	7 LPA	-	-	0	6	4	2	-	-	12	
			12 LPA	-	-			-		-	-		
30.	IBM	6-9 Oct 18	4.1 LPA	-	-	9	8	1	7	-	CSE-2	25+2=27	
31.	Addverb Technologies	8-9 Oct 18	7.2 LPA	-	0	1	0	1	1	-	-	3	
32.	Infosys	10-13 Oct 18	3.6 LPA	14	25	5	2	2	2	-	Math-1 CSE-2	50+1+2=53	
33.	Shapoorji Pallonji & Co. Ltd	23 Oct 18	3.75 LPA	5	-	-	-	-	-	-	-	5	
34.	Bajaj Electricals	22-24 Oct 18	4.75 LPA	-	-	-	-	-	-	Mktg-2	-	2	
35.	Avanti Learning	23-24 Oct	5 LPA	-	-	-	1	-	1	-	-	2	
		Online Interview											
36.	Tata Motors	25-27 Oct 18	6 LPA	-	2	2	-	-	-	-	-	4	
37.	Karvy Stock Broking Limited.	25-26 Oct 18	2.5 LPA	-	-	-	-	-	-	Fin-5	-	5	
		Online Interview											
38.	ABB, Vadodara	25-26 Oct 18	5 LPA	-	-	2	-	-	-	-	-	2	
		Interview at Vadodara											
39.	Virtusa India Pvt Ltd	26-27 Oct 18	5 LPA	-	-	-	1	0	-	-	-	1	
40.	Marico Ltd , Guwahati	27-28 Oct 18	5 LPA							Mktg-1		1	
		Pool at Guwahati University											
41.	Goibibo	31 Oct-02 Nov 18	12 LPA	-	-	-	2	4	-	-	-	6	





65.	KEC , Mumbai	18-20 Jan 19	4.75 LPA	5	-	2	-	-	-	-	-	-	7	
66.	DXC Technology, Bangalore	19-21 Jan 19	5 LPA	-	-	3	2	1	0	-	-	-	6	
67.	RAAM Group, Hyderabad	20-22 Jan 19	4 LPA	0	1	0	-	-	-	-	-	-	1	
68.	HDFC AMC, Guwahati	23-24 Jan 19	3 LPA	-	-	-	-	-	-	Fin-6 HR-3 Mktg-1	-	-	10	
69.	Parul University	25 Jan 2019 On line Interview	5.04 LPA	-	-	-	-	-	-	-	-	CSE-1	1	
70.	Bandhan Bank (MF) , Kolkata	28-30 Jan 19	3.24 LPA	-	-	-	-	-	-	Mktg-4 Fin-2	-	-	6	
71.	Ajmal Foundation, Hozai	28-30 Jan 19	3.45 LPA	2	1	-	2	-	1	-	Math-1	-	6+1=7	
72.	Cognizant, Kolkata	30-31 Jan 19	6.5 LPA	-	-	-	5	4	2	-	-	-	11	
73.	Star Cement Ltd., Meghalaya	30-31 Jan 19	2.52 LPA	0	5	0	-	-	0	-	-	-	5	
74.	Pine Lab, Noida	7-9 Feb 19	6.5 LPA	-	-	-	5	5	1	-	-	-	11	
75.	Siemens Technologies & Services Pvt Ltd.	5 Feb 2019 On line interview	8 LPA	-	-	-	-	-	-	-	-	CSE-1	1	
76.	Black Whale, Pune	8-9 Feb 19 On line interview	M.Tech-4.32 MBA-4.84	-	-	-	-	-	-	HR-5 Fin-2 Mktg-4	-	WR-3 ,SDE, GEO, MMT, CSP,P ESE & CIA-1 each	11+9 =20	
77.	Teach for India, Mumbai	13-14 Feb 19	3.6 LPA							-				Result Awaiting
78.	Subex, Noida	15-16 Feb 19	6.5 LPA	-	-	-	0	1	-	-	-	-	1	
79.	Berger Paints India Ltd.	20 Feb 2019	5.75 LPA	-	-	-	-	-	-	Mktg-3	-	-	3	
80.	Gammon India	22-24 Feb 19	3.5 LPA	4	-	-	-	-	-	-	-	-	4	
81.	Numaligarh Refinery Ltd.	25-28 Feb 19 Pool at AEC	10 LPA	2	2	0	-	-	-	-	-	-	4	
82.	Simplex Infrastructure Ltd. Kolkata	11-13 Mar 19	3.42 LPA	7	0	0	0	0	0	0	0	0	7	
83.	Amazon	15-17 Mar 19 02 Mar at Interview at Bangalore	28 LPA 18 LPA	-	-	-	-	5	-	-	--	-	6	
84.	Mphasis	15 Mar 2019 On line interview	4 LPA			1	1						2	
85.	Nissan Digital	26 Mar 2019 On line interview	10 LPA	-	-	-	1	-	-	-	-	-	1	

86.	Hindustan Construction Company Ltd, Mumbai	29 Mar-01 Apr 19	3.75 LPA	4	-	-	-	-	-	-	-	-	4	
87.	Tata Chemicals	04 Apr 20-19	5.5 LPA	-	1	1	-	-	1	-	-	-	3	
		On line interview												
88.	JCB India Ltd	4 Apr 2019	4 LPA	-	3	1	-	-	-	-	-	-	4	
		On line interview												
89.	L & T Infotech	5-8 Apr 2019	6 LPA	-			1	1	2				4	
90.	IMEG Engg. (I) Ltd.	18 Apr 2019	4.2 LPA	-	-	-	-	-	-	-	-	Struc-1	1	
		Interview at Visakhapatnam												
91.	Arcesium India Pvt Ltd.	3 May 2019	32.5 LPA	-	-	-	-	3	-	-	-	-	3	
		On line interview												
92.	Oil India Ltd.	12-14 May 2019	10.20 LPA	-	3	2	-	-	-	-	-	-	5	
93.	NHIDCL	13-14 May 2019	4.2 LPA	6	-	-	-	-	-	-	-	-	6	
94.	Nidhi Creative	22-24 May 19	2.16 LPA	-	2	-	-	-	-	HR-2			2+2=4	
95.	Bridge & Roof, Kolkata	30 May -01 Jun 2019	3.36 LPA	6	2	-	-	-	-	-	-	-	8	
96.	Power Grid	2-5 Jun 2019	12 LPA	-	-	3	-	-	-	-	-	-	3	
97.	Brahmaputra Cracker & Polymer Ltd	9-10 Jul 19	6 LPA	-	1	-	-	-	2	-	-	-	3	
				CE	ME	EE	ECE	CSE	EI	MBA	M.Sc.	M. Tech.	Total	
<b>Total No of students</b>				113	110	106	112	97	52	33	19	185	590 (B. Tech.)	
<b>Total No of eligible students (CPI 6.5 &amp; above)</b>				89	91	72	89	*77	43	33	13	184	461 (B. Tech.)	
<b>Total No. of Job offers (till date)</b>				94	93	68	120	126	47	61	5	28	548 (B.Tech.)	
<b>Total No. of Job Placed</b>				73	70	54	87	*82	38	32	5	25	404 (B. Tech.)	
<b>Average Job Placed % (B.Tech. – 87.63%)</b>				82.02	78.02	75	97.25	106.49	88.37	96.96	38.46	13.58		
<b>Average Job Offer % (B.Tech - 118.87% )</b>				105.61	102.19	94.44	134.83	163.63	109.3	184.85	38.46	15.16		
<b>Average Salary (B.Tech – 6.36 LPA)</b>				4.85 LPA	5.13 LPA	5.96 LPA	6.38 LPA	8.70 LPA	6.03 LPA	3.69 LPA	4.41 LPA	5.27 LPA		
<b>Median Salary (B.Tech – 6.2 LPA)</b>				4.75 LPA	6 LPA	6 LPA	6.4 LPA	6.53 LPA	6.35 LPA	4 LPA	4.2 LPA	6 LPA		
<b>Highest package</b>				<b>B.Tech. –32.5 LPA</b>			<b>M.Tech. - 8 LPA</b>			<b>MBA -5.75 LPA</b>				
<b>Average Package</b>				<b>B.Tech. –6.36 LPA</b>			<b>M.Tech. 5.60 LPA</b>			<b>MBA – 3.69 LPA</b>				

\*Below 6.5pointer got placed.

# DEPARTMENTS

## 1. Name of the Department:

### Civil Engineering



#### 1.1 Academic Staff:

**HEAD:** Dr. U. Kumar (01.04.2018 – 23.05.2018)

Dr. P. S. Choudhury (23.05.2018 – onwards)

#### Name of Faculty members:

Professor	Associate Professor	Assistant Professor
Prof. Satyabrata Choudhury	Dr. A. K. Das	Dr. Monowar Hussain
Prof. A.K Dey	Dr. T. Rahman	Dr. Debjit Bhowmik
Prof. P. S. Choudhury	Dr. P. Roy	Dr. Amit Kumar Das
Prof. D. Chakraborty		Mrs. Nirmali Borthakur
Prof. A. I. Laskar		Ms. Parbin Sultana
Prof. M. Ali Ahmed		Ms. Anangsha Alammyan
Prof. A. K. Barbhuiya		Dr. Arjun Sil
Prof. U. Kumar		Dr. Nitesh A.
		Dr. D. K. Ghose
		Dr. B. S. Sil
		Dr. S. Ghosh
		Dr. Prashanth J

		Dr. Khwairakpam Lakshman Singh
		Mr. Pallab Das
		Dr. Nirmalendu Debnath
		Dr. Vara Laxmi M Prasad
		Dr. Bijan Kumar Roy
		Dr. Subhrajit Dutta

Visiting Professor (If any): NIL

## 1.2 Distinction Achieved

### a) By Student:

- (i) Mr. Ayan Das (research scholar No. 17-3-01-125) has reviewed two manuscripts from SCI-indexed journal 'Advances in Structural Engineering'.

### b) By Faculty Member:

- (i) Dr. Nitesh A., "Winner of Year 2019 as International Innovative Researcher in Structural Dynamics for International Innovation, Betterment and Excellence in Technical", Research Peace Awards, RULA Awards.
- (ii) Dr. A. Sil, Appointed as "Research Advisor" of Nanyang Academy of Sciences (Singapore).

## 1.3 Seminars, Symposia, Short Term Courses, Workshops

### a) Conducted by Faculty Member

Sl. No	Name(s) of the Coordinator	Title	Funding Agency	Duration
1	Dr. Nitesh A. and Dr. A. Sil	One week workshop on Earthquake disaster mitigation	TEQIP-III	16-20 January 2019
2	Prof. A.K. Dey	First NE Inter NIT Geotechnical Students' Meet	TEQIP-III	13-14 May 2018
3	Prof. A.K. Dey & Dr. A. Sil	7th Indian Young Geotechnical Engineers Conference (7IYGEC-2019)	TEQIP-III	14-15 May 2019
4	Dr. Susmita Ghosh & Dr. Prashanth J.	Integrated soil water modelling	TEQIP-III	8 to 12 April 2019
5	Dr. B.K. Roy & Dr. Prashanth J.	Hazard mitigation of onshore and offshore structure	TEQIP-III	26 to 30 April 2019
6	Dr. M.L.V. Prasad	One week workshop on innovative construction materials for roads and buildings	TEQIP-III	9-13 November 2018
7	Mr. P. Das	Recent Advances in Fuzzy Optimization	TEQIP-III	21-15 May 2018
8	Dr. A. Sil & Dr. N. Debnath	One day Springer nature author workshop on scientific publishing.	TEQIP-III	21 August 2018
9	Dr. N. Debnath, Dr. B. K. Roy, Mr. P. Das, Dr. S. Dutta, Dr. M.L.V. Prasad, Dr. A. Sil, Dr. D. Bhowmik, Dr. Nitesh A.,	National Conference on Advances in Structural Technologies (CoAST-2019)	TEQIP-III	1-3 February 2019



**b) Participated by Faculty Member**

Sl. No.	Name of Faculty	Details of the Program	Organizing Institute
1	Prof. A. K. Dey	Short term training programme on Geosynthetics as Modern Civil Engineering Construction Materials	IIT Madras
2	Prof. A. K. Dey	One day Seminar on Use of Geosynthetics	Menteng, Jakarta, Indonesia
3	Dr. Prashanth J.	Recent Advances on Water and Environment Studies	NIT Silchar
4	Dr. S. Ghosh	Recent advancements on Water and Environment studies	NIT Silchar
5	Prof. U. Kumar	Recent Advances on Water and Environment Studies	NIT Silchar
6	Dr. Kh. Lakshman Singh	Recent Advances on Water and Environment Studies	NIT Silchar
7	Dr. Kh. Lakshman Singh	An AICTE approved Faculty Development Programme on Foundation Program in ICT for Education	IIT Bombay
8	Prof. A. K. Dey, Dr. D. Bhowmik, Dr. M. Hussain, Dr. A. K. Das, Dr. N. Debnath.	Curriculum Design and Implementation for Outcome Based Education	NIT Silchar

## 1.4 Research Development

**a) Ph.D. Programme (Specializations):**

- Geotechnical Engineering (GE)
- Structural Engineering (SE)
- Structural Dynamics and Earthquake Engineering (SDEE)
- Transportation Engineering (TE)
- Water Resources Engineering (WRE)

**b) Ph.D. Produced/Ongoing (in number):**

Completed	Submitted	Ongoing
5	5	84

**c) Research Lab/ Workshop:**

Sl. No.	Name of Lab/Workshop	Purpose/Linkage to an existing/new programme
1	Structural Engineering Laboratory	To conduct UG and PG lab (Structural Engineering, Structural Dynamics and Earthquake Engineering) and to serve the PhD research, R&D and Consultancy.
2	Concrete Laboratory	To conduct UG and PG lab (Structural Engineering, Structural Dynamics and Earthquake Engineering) and to serve the PhD research, R&D and Consultancy.
3	Geotechnical Engineering Laboratory	To conduct UG and PG lab (Geotechnical Engineering) and to serve the PhD research, R&D and Consultancy.
4	Soil Dynamics Laboratory	To conduct UG and PG lab (Geotechnical Engineering) and to serve the PhD research, R&D and Consultancy.
5	Centre for Testing and Consultancy (NABL accredited)	Advanced level research and consultancy
6	PG Computation Lab	PG-Programs: Geotechnical Engineering (GE), Structural Engineering (SE), Structural Dynamics and Earthquake Engineering (SDEE), Transportation Engineering (TE), Water Resources Engineering

		(WRE). (NOTE: this lab also serves the needs for environmental engineering requirements).
7	Hydraulics Lab	To conduct UG and PG lab for Hydraulic and Water resource Engineering, Also Serves as lab to perform PhD research
8	Water Resources Lab	To conduct UG and PG lab for Hydraulic and Water resource Engineering, Also Serves as lab to perform PhD research
9	Highway Engineering Lab	To conduct UG and PG lab for Transportation Engineering, Also Serves as lab to perform PhD research
10	Modal Testing Lab (Sponsored by SERB, DST)	Modal Testing Facility

**d) Ongoing/Completed Sponsored Research Project:**

Sl. No.	Project Title	Principal Investigator(s)	Funding Agency	Cost in lakhs	Duration
1	Effect of variations in input-excitation on the performance of limited-sensors based operational modal analysis.	Dr. N. Debnath	DST, SERB.	31.66 Lakhs	3 years (2016-19)
2	Topology optimization of complex structures and architected metamaterials -- Computational design considering uncertainties	Dr.S Dutta	DST International Cooperation (Bilateral) Division and Finland Scheme	1 Lakh (DST) + 3735 Euros (Academy of Finland)	2 years (April, 2019 - July, 2020)
3	Condition Assessment & Reliability of Existing Bridges.	Dr. A. Sil	DST, SERB.	19.09 Lakhs	3 years (2017-20)
4	Development of Spatial Data Infrastructure (SDI) and its impact on climate change for Cachar district, Assam, India.	Dr. D. Ghose	DST	30 Lakh	2019-2021
5	STA NIT Silchar	Prof. M. A. Ahmed	NRRDA	-	2018-
6	DST project on Evaluation of Nonlinear Fatigue Damage in Asphalt Materials.		DST	42 Lakh	2015-2018

**e) Research Paper Reviewed**

Sl. No.	Faculty Name	Journal Name	No of Paper	Year
1	Prof. M. Ali Ahmed	Construction and Building Materials	1	2018
2	Prof. S. Choudhury	Bulletin of Earthquake Engineering	1	2019
3		Institute of Engineers (I)	2	2019
4	Dr. M.L.V Prasad	Engineering Structures	2	2018-19
5		International Journal of Civil Engineering	3	2018-19
6	Dr. Prashanth J.	Journal of The Institution of Engineers (India): Series A	1	2018
7		International Journal of Earth Sciences and Engineering	2	2018
8	Dr. S. Dutta	Reliability engg. & system safety	1	2018
9		Structures	1	2019
10		ASCE-ASME Journal of risk & uncertainty	1	2018-19

11	Dr. S. Dutta	Journal of Institution of Engineers : Part A	3	2018-19
12		Mathematical Problems in Engineering	1	2018
13	Dr. N. Debnath	Journal of Vibration and Control	2	2018-19
14		Applied Mathematical Modelling	1	2018-19
15		Advances in Mechanical Engineering	1	2018-19
16		Journal of The Institution of Engineers (India): Series A (IEIA)	1	2018-19
17	Dr. A. Sil	Natural Hazard Review, ASCE	1	2018
18		Journal of Earthquake Engineering	1	2018
19		Advances in Structural Engineering	1	2019
20		Mathematical Problems in Engineering	1	2019
21		Indian Concrete Journal	1	2019

**f) Chairing of Technical Section**

Sl. No.	Faculty Name	Details
1	Dr. D. K. Ghose	2nd International Conference on Smart Computing & Informatics (SCI-2018)
2	Prof. S. Choudhury	Chairman of National Conference on Advances of Structural Technologies, NITS 2019

## 1.5 PUBLICATIONS

**a) International Journal(s):**

- [1] Manita Das and Ashim Kanti Dey (2018) Prediction of Bearing Capacity of Stone Columns Placed in Soft Clay Using SVR Model, Arabian Journal for Science and Engineering, Springer, doi: 10.1007/s13369-018-3513-7.
- [2] Parbin Sultana and Ashim Kanti Dey (2018) Regression Analysis of short term time-settlement response of soft clayey soil at constant loading condition, International Journal of Civil Engineering and Technology (IJCIET), 9(10), Article ID : IJCIET\_09\_10\_182.
- [3] Manita Das and Ashim Kanti Dey (2018) Determination of Bearing Capacity of Stone Column with Application of Neuro-fuzzy System, KSCE Journal of Civil Engineering, 22(5), Springer, DOI 10.1007/s12205-017-1497-6, pISSN 1226-7988, eISSN 1976-3808, www.springer.com/12205.
- [4] Manita Das and Ashim Kanti Dey (2018) Prediction of Bearing capacity of Stone Columns placed in Soft Clay using ANN Model, Geotechnical and Geological Engineering, 36(3), Springer.
- [5] Subhradeep Dhar and Monowar Hussain (2018) The strength behaviour of lime-stabilised plastic fibre-reinforced clayey soil, Road Materials and Pavement Design, Taylor & Francis, doi.org/10.1080/14680629.2018.1468803.
- [6] Subhradeep Dhar and Monowar Hussain (2019) The strength and microstructural behavior of lime stabilized subgrade soil in road construction, International journal of geotechnical engineering, Taylor & Francis, https://doi.org/ 10.1080/19386362.2019.1598623.
- [7] Subhradeep Dhar and Monowar Hussain (2019) Experimental Investigation on Strength and Bearing Capacity Improvement of a high Plasticity Clayey Subgrade Soil Using Lime Key Engineering Materials, 803.
- [8] Subhradeep Dhar and Monowar Hussain (2018) The Tensile Strength Behavior of Lime-Stabilized Soft Soil with inclusion of plastic fiber, Ground Improvement Techniques and Geosynthetics, Springer, https://doi.org/10.1007/ 978-981-13-0559-7\_24.

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- [10] Abninaba Paul and Monowar Hussain (2018) The physicochemical properties and microstructural characteristics of peat and their correlations, *Reappraisal International journal of geotechnical engineering*, Taylor & Francis.
- [11] Abninaba Paul and Monowar Hussain (2019) Geotechnical Properties and Microstructural Characteristics of Northeast-Indian Peat Mires and Peat, 24(7), *International Peatland Society*.
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- [13] Anangsha Alamyani, Vinaykumar Gadi, Sanandam Bordoloi, Saikrishna Kothapalli, S Sreedeeep, Mei Guoxiong and AnkitGarg (2019) A new autonomus program customized for computing surface cracks in an unsaturated soil in a 1-D column, 47(5), *ASTM International*.
- [14] Amit Kumar Das and Kousik Deb (2019) Response of Stone Column-Improved Ground under c-phi Soil Embankment, *Soils and foundation*, 59(3), Elsevier, <https://www.sciencedirect.com / science/article/abs/pii/S0038080619300241>.
- [15] Nirmali Borthakur and A.K. Dey (2018) Experimental investigation on load carrying capacity of micropiles in soft clay, *Arabian Journal for Science and Engineering*, 43(4), Springer.
- [16] Parbin Sultana and Ashim Kanti Dey (2018) Regression Analysis of Short Term Time-Settlement Response of Soft Clayey Soil at Constant Loading Condition, *International Journal of Civil Engineering and Technology*, 9(10), IAEME Publication, <http://www.iaeme.com/ijciyet/ issues.asp? JType=IJCIET & VType= 9 & I Type=10>.
- [17] Shehnaj Ahmed Pathan, B S Sil. (2019) Parameterization and uncertainty analysis of stream flow in the Barak River basin—a case study, *ISH Journal of Hydraulic Engineering*, 1(11), *Indian society for hydraulics*.
- [18] Piya Biswas and A.K Barbhuiya (2019) Effect on submerged vane on three dimensional flow dynamics in river bend *River Research and Applications*, 35, Wiley.
- [19] Bahnisikha Das, B S Sil. (2018) Determination of downstream flood flow considering inputs from different upstream rivers using ANN, *Journal of Urban and Environmental Engineering*, 12(1).
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- [23] Piya Biswas and A.K Barbhuiya (2018) Countermeasure of bend scour using combination of submerged vane and riprap, *International Journal of Sediment Research*, 33, Elsevier.
- [24] S samantaray, D K Ghose (2018) Modelling runoff in a river basin India: An integration for developing ungauged catchment, *IJHST, Inderscience*.
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**b) National Journal(s):**

- [1] Parbin Sultana and Ashim Kanti Dey (2018) Estimation of Ultimate Bearing Capacity of Footings on Soft Clay from Plate Load Test Data Considering Variability, Indian Geotechnical Journal.

**c) International Conference(s):**

- [1] Durga Mibang and Satyabrata Choudhury, Performance-Based Design of Dual System, International Conference on Recent Development in Sustainable Infrastructure, Kalinga Institute of Technology, Bhubaneswar, 11-13th July, 2019.
- [2] Durga Mibang and Satyabrata Choudhury, Performance of Dual System Designed Using UPBD Method, 2nd International Conference on Recent Advancements In Interdisciplinary Research (ICRAIR-2019), Asian Institute of Technology Conference Center, THAILAND 01-02 June, 2019.
- [3] Arshad H Choudhury and A I Laskar, Rehabilitation of exterior beam column joint using geopolymers mortar SEC 18, Proc Structural Engineering Convention, Jadavpur University, 19-21 Dec, 2018.
- [4] M.L.V. Prasad et.al, Durability Studies of Environmental Friendly Self Compacting Concrete with and without Fiber, 3rd International Conference on Civil and Building Materials (ICCBM2019), National University of Singapore, Singapore, 24-27 January, 2019.
- [5] A Kumar and N. Debnath, Seismic behaviour of a typical rail bridge using North-East India specific synthetic ground motion under multi support excitation, International Conference on Recent Development in Sustainable Infrastructures (Materials & Management), Bhubaneswar, 11-13 July, 2019.
- [6] Marbaniang AL, Dutta S, Ghosh S, A comparative study on the optimisation-based form-finding of tensile membrane structures, 60th IASS Annual Symposium Barcelona, Spain, 7-10 Oct, 2019.
- [7] Putcha C, Rodriguez J, Dutta S, Hebert L, Risk priority number for construction failures, 17th International Conference on Software Engineering Research and Practice (SERP '19), Las Vegas, USA, July 29 - Aug 1, 2019.
- [8] Dutta S, Putcha C, Reliability-based design optimization of a large-scale truss structure using polynomial chaos expansion metamodelling, 4th International Conference on Reliability, Safety and Hazard (ICRESH 2019), Chennai, India, 10-13 Jan, 2019.
- [9] Vinod Singh, Nitesh A. (2019), "Model Updating of a Real RC Building using Vibration Data from Smartphone", International Symposium on Earthquake Engineering, I.I.T. Roorkee.
- [10] Kh. Lakshman Singh and Debjani Panda, Study on Strength Characteristics Improvement of Polyethylene Modified Bituminous Concrete Mixes, 3rd International Conference on Civil and Building Materials (ICCBM2019), National University of Singapore, Singapore, 24-27 January, 2019.
- [11] Dheeraj Sunil Deshmukh and Kh. Lakshman Singh, Investigation on Strength Characteristics of Subgrade of Pavement using Waste material, 15th World conference on Transport Research (WCTRS-2019), 26-31 May 2019, IIT Bombay, Mumbai, India.
- [12] Kh. Lakshman Singh and Manish Jamatia. "Study on Pavement Soil Subgrade Properties with Reinforced Fibres." International Symposium on Geotechnics Transportation Infrastructure (ISGTI-2018), April 07-08, 2018, IIT Delhi, India.
- [13] Adarsha B.S., Narayana Harish, Prashanth Janardhan, and Sukomal Mandal (2018), "Elephant Herding Optimization Based Neural Network To Predict Elastic Modulus Of Concrete", 8th International Conference Soft Computing for Problem Solving - SocProS 2018, December 17-19, 2018, Vellore Institute of Technology, Tamil Nadu, India.
- [14] Prashanth J., Harish Narayana, Ramji Prasad (2019), "Pervious Concrete with LLDPE Powder as Fine Aggregate", 4th International Conference on Composite Materials and Material Engineering (ICCMME2019), January 19-22, 2019, Tokyo, Japan.
- [15] Harish Narayana, Shivkumar Hosamani and Prashanth Janardhana (2019), "Studies on Green Concrete Pavement: Experimental and SVM Modelling", International Conference on Sustainable Computing in Science, Technology and Management (SUSCOM 2019), February 26-28, 2019, Amity University, Jaipur, India.
- [16] Joydeep Das and Arjun Sil (2019). "Condition assessment and failure probability of existing bridges in the Cachar district, Assam" [paper ID:094], IACMAG2019 Symposium, IIT Gandhinagar, 5-7 March 2019.

- [17] Arjun Sil, Vanapalli Naveen Kumar, AnishaKumari, PratyashaGogoi, and DebasishMojumder (2019). "Experimental comparative study on strength parameters of concrete assimilating glass fibers of fine aggregate, cement with rubber & GGBS" [paper ID:082], IACMAG2019 Symposium, IIT Gandhinagar, 5-7 March 2019.
- [18] AvishekChakraborty and Arjun Sil (2018). Experimental study of reinforced and unreinforced soil retaining wall using shake table facility. 11th International conference on Geosynthetics (11ICG-2018), Seoul, South Korea (16-21 Sept 2018).

**d) National Conference(s):**

- [1] Ghosh, A. and Choudhury, S., Correlation between Structural Performance and Damage Index in RC Frame Buildings, 16th Symposium on Earthquake Engg, IIT Roorkee, Dec 22-23, 2018.
- [2] A. Das, N. Debnath, Sampling based techniques for finite element model updating in Bayesian framework using commercial software, National Conference on Advances in Structural Technologies (CoAST-2019), NIT-Silchar, 1-3 Feb, 2019.
- [3] K. Bhowmik, N. Debnath, Stochastic structural optimization of multiple tuned mass damper (MTMD) system National Conference on Advances in Structural Technologies (CoAST-2019), NIT-Silchar, 1-3 Feb, 2019.
- [4] Marbaniang AL, Dutta S, Ghosh S, Tensile membrane structure: An overview, National Conference on Futuristic Approaches in Civil Engineering (FACE-2019), Hyderabad, India, Aug 30-31, 2019.
- [5] Ghosh S, Ansari D, AjmalBabu MS, Teja DN, Konjari R, Swathi M, Dutta S, Osdag: A Software for Structural Steel Design using IS 800:2007, National Conference on Advances in Structural Technologies (CoAST-2019) NIT Silchar, India, Feb 1-3, 2019.
- [6] Nazeel Sabah, Arjun Sil and G. Vijayakumar (2019). A Season-wise Geotechnical and Morphological Study of Alteration in Coastal Profile along the Shores of Pondicherry, India, 7th Indian Young Geotechnical Engineers Conference (7IYGEC 2019), (Paper ID: 99], 15-16 March, 2019.
- [7] Saranika Das and Arjun Sil (2019). Comparative seismic fragility study of railway concrete bridge piers with and without the effect of soil structure interaction. 7th Indian Young Geotechnical Engineers Conference (7IYGEC 2019), (Paper ID: 98], 15-16 March, 2019.

**e) Book/Chapter:**

- (i) Dr. A. Sil, Chapter Title: Quantification of recent seismicity and a back propagation Neural Network for forecasting of earthquake magnitude in Northeast Region of India, BOOK TITLE: Earthquakes - Volume 1, ISBN 978-953-51-6047-2. (Accepted, 2018).

## 1.6 CONSULTANCY SERVICES

Sl. No.	Name of the Scheme	Sponsoring Agency	Amount Earned
1	Soil investigation work or construction of hostel building at Assam University	CPWD, Silchar Division	137352
2	NDT Test of Vidyalaya Building	Kendriya Vidyalaya, KV Masimpur	118000
3	Proof checking of sub surface structure	Sadguru Engineers and Allied service private limited, Guwahati	30000
4	Testing of Soil and Rock	Disaster Management and rehabilitation, Mizoram	150000
5	Proof checking of sub surface structure	Sadguru Engineers and Allied service private limited, Guwahati	75000
6	Sinking of road : Technical report	EE, PWD Silchar	80000
7	Proof checking of design of Bridges	RVNL	1596000
8	Proff checking for design of bridge at Sonabarighat, Silchar	PWD, Govt of Assam	500000
9	River erosion protection for Barak river at Tarapur	WRD, Govt of Assam	236000

	site		
10	Greater Algapur-Hailakandi RWSSPLIS project	World Bank	3268600
11	Non-destructive (NDT) of school testing	KendriyaVidyalaya (GoI)	118000

## 1.7 Major Equipment Acquired

- Integral type compression proving ring with pads
- Shear box assembly
- Large direct shear apparatus, motorized
- Hydrodynamic sieve test apparatus
- Geotextile Permeameter comprising specimen holders
- Compaction test apparatus
- Adjustable bracket for penetration dial gauge
- Consolidation apparatus

## 1.8 Patent

Sl. No.	Details	Year
1	An Intelligent and a self-learning fluid detection apparatus and method thereof	2019
2	An improved concrete rheometer	2018

## 1.9 Visits To Abroad

Sl. No.	Name of the Faculty	Name of the Conference/ Programme	Place	Date
1	Prof. A.K. Dey	11 <sup>th</sup> International conference on Geosynthetics	Coes Seoul, South Korea	17-09-2018 to 20-09-2018
2	Dr. M. Hussain	The 4 <sup>th</sup> International conference on Civil and Building materials	Singapore	24-01-2019 to 27-01-2019
3	Dr. Vara Laxmi M Prasad	International Conference of Construction Building Materials ICCBM 2019	Singapore	January 24-27, 2019
4	Dr. Prashanth J.	The 4 <sup>th</sup> International Conference on Composite Materials and Material Engineering (ICCMME 2019)	Tokyo, Japan	January 19-22, 2019
5	Dr. A. Sil	11 <sup>th</sup> International conference on Geosynthetics	CoesSeoul, South Korea	17-09-2018 to 20-09-2018

## 1.10 M.Tech. / M.Sc. (Thesis/Project)

Sl. No.	Name of the Scholar	Name of the Supervisor	Title of the Thesis/Project
1	Kamalesh Kumawat	Mr. Pallab Das	Effect of shear wall on performance of flat slab building
2	Abhishek Kumar Sinha	Dr. Bijan Kumar Roy	Seismic response of vibrationcontrol of structure using variable friction pendulum isolator
3	Aditya Nath Sonkar	Dr. Bijan Kumar Roy	Response surface methodology based optimization of tuned mass damper under earthquake
4	Sitesh Mohapatra	Prof. Satyabrata Choudhury	Determination of beam depth for rc building with infill wall in UPBD method
5	Dhanjit Deka	Prof. Ashim Kanti Dey	Effect of MTLDS in reduction of vibration in a rccbuilding
6	Rahul Kumar	Dr. Nitesh A.	Comparative liquefaction assessment of foundation soil of a flyover in patna city



7	Amarjeet Kumar	Dr. Nitesh A.	ANN method for assessment of TMD parameters to minimize transmissibility for rc building
8	Nazeel Sabah	Dr. Arjun Sil	Forecasting of Tsunami occurrences across various tsunamigenic zones of the earth
9	Misal Bharati Hanamant	Dr. Bijan Kumar Roy	Effect of URM infills on seismic fragility of rcc building
10	Roshan Adhikari	Dr. M.L.V. Prasad	Seismic performance of box-girder bridge with single circular and double elliptical piers
11	Nancy Nabam	Dr. Bijan Kumar Roy	Seismic response control of structure using tuned mass friction damper
12	Charla Venkatesh	Dr. Arjun Sil	Evaluation of seismic wave attenuation for the Kathmandu region, Nepal
13	Saranika Das	Dr. Arjun Sil	Comparative seismic fragility study of railway concrete bridge piers considering with and without soil structure interaction
14	Diptimoyee Phukan	Dr. Arjun Sil	Modelling of airblast load and assessment of performance on reinforced concrete structure
15	Mayuri Borah	Prof. Satyabrata Choudhury & Dr. Subhrajit Dutta	Performance of different structural systems of tall buildings
16	Aakash Kumar	Dr. Nirmalendu Debnath	Seismic behavior of plate girder bridge subjected to multi support excitation with north-east India specific synthetic ground motions
17	Tusharkanti Das	Mr. Pallab Das	Effect of plan irregularity on the seismic performance of multi-storey rcc buildings
18	Sujoy Biswas	Prof. A.K. Dey	Determination of safe bearing capacity and settlement of shallow foundation using seismic velocities
19	Nishant Agarwal	Prof. A.K. Dey	Modification of conventional footing as a remediation to tilting problem during liquefaction.
20	Yogendra Kumar	Prof. A.K. Dey	Study of an embankment using geo-foam over soft clay
21	Dhanjit Deka	Prof. A.K. Dey	Effect of MTLs in reduction of vibration in a RCC building
22	Punit Kumar Yadav	Dr. Monowar Hussain	Unconfined compressive strength behavior of sodium silicate and alkali activated cement stabilized peat
23	Krishna Kant Thakur	Dr. Monowar Hussain	The strength behavior of lime stabilized RHA blended clayey subgrade
24	Gautam	Dr. Monowar Hussain	Application of Geosynthetic in unpaved road
25	Nilanjana Banik	Dr. Debjit Bhowmik	Behaviour of shallow foundation on geotextile reinforced liquefiable soil
26	Rajib Modak	Dr. Debjit Bhowmik	A comparative of a piled raft foundation with uniform and non-uniform pile lengths on soft clay
27	Vishnu G	Dr. Debjit Bhowmik	Study of coir fibre reinforced soil
28	Suvrajeet Pramanik	Dr. Debjit Bhowmik	Study of variation of ground response and dynamic soil properties by block vibration tests.
29	Ankit Sahu	Mrs. Prabin Sultana	Soil Stabilization Using Microbially Induced Calcite Precipitation (MICP)
30	Sinjan Debnath	Mrs. Parbin Sultana	Modelling of Geotechnical Problems Using Machine Learning Techniques
31	Sudeepta Malakar	Mrs. Parbin Sultana	Study of Bearing Capacity of Shallow Foundation on Bamboo Geotextile Reinforced Clayey Bed
32	Banchiva K Marak	Mrs. Nirmali Borthakur	Behavior of square footing on cement modified fibre reinforced sand layer underlain by soft clayey soil
33	Sibam Das	Mrs. Nirmali Borthakur	Dynamic response of shallow foundation with steel skirts
34	Nikhil Kumar	Mrs. Nirmali Borthakur	Study of lateral dynamic load behavior on pile group using block vibration apparatus
35	Vijay	Dr. U. Kumar	Application of the statistical downstream modelling and

			Arc-GIS to simulate climate change in NCR Delhi
36	MD Mirajul Islam	Prof. A.K. Barbhuiya	Protection of scour at 180° flume bend by using hockey shape spurs dike
37	Tinkle Das	Dr. B.S. Sil	Soil erodibility measurement of the Barak River Bank Using Jet apparatus
38	Dikshita Goswami	Dr. Dibakar Chakrabarty	Dam break analysis using HEC-RAS
39	Arindam Bar	Prof. A.K. Barbhuiya	Effect of kinetic energy of precipitation and slope of watershed on soil loss
40	Kaoustav Nath	Dr. Susmita Ghosh	Impact of climate change on glacier health at bhutan-china border region using satellite images
41	Juhi Dhuriya	Dr. B.S. Sil	Uncertainty analysis of rainfall-runoff model using Monte Carlo simulation technique for Var River basin
42	Omkeshtripathi	Dr. D.K Ghose	Comparison of geospatial interpolation techniques to assess spatial and temporal variation of precipitation in assam
43	Subhankar Das	Dr. P.J. Roy	Discharge characteristic of multi-cycle triangular Labyrinth weir
44	Totan Sarker	Dr. Sushmita Ghosh	Conjunction use of ground and surface water for optimal cropping pattern
45	Shyam Babu Yadav	Dr. Prashanth J.	Eco-Friendly Bio-Retention tank
46	Nasim Aktar	Dr. P.J. Roy	Flow over sharp crested plan view circular Arc form weir
47	Rajender Nathpaul	Dr. Prashanth J.	Experimental and numerical modelling of infiltration rate
48	B.L.S. Naidu	Dr. D.K. Ghose	Estimation of groundwater storage changes in Bankura district, West Bengal
49	Mayank Chaudhary	Prof. Parthasarathi Choudhury	Flow propagation modelling for river system incorporating Ungauged Watersheds
50	Pavan Kumar Varshney	Prof. Parthasarathi Choudhury	Planning and operation of a reservoir
51	P. Shiva Kumar	Prof. Dibakar Chakrabarty	Regional Flood frequency analysis for lower krishna river basin, Andhra Pradesh, India
52	Sridharam Shriharsha	Dr. U. Kumar	Optimised release policy for somasila reservoir using CROPWAT
53	George Kennedy Lyngdoh Nongbri	Dr. Kh. Lakshman Singh	Effect of silica fume with polyester fiber reinforcement in concrete pavement
54	Abishak Baidya	Dr. Kh. Lakshman Singh	Strength characterisation of silica fume stabilised clay soil reinforced with polypropylene fiber
55	Maharshi Kalita	Dr. Kh. Lakshman Singh	Behavior of soil subgrade stabilised with industrial by-products
56	Ashwani Bokadia	Prof. Mokaddes Ali Ahmed	On-street night car parking demand estimation in residential area: a case study of Delhi
57	Sourav Barman	Dr. Kh. Lakshman Singh	Evaluation of bituminous mixes using flyash and brick dust as fillers
58	Debasis Ray Sarkar	Prof. Mokaddes Ali Ahmed	Estimation of capacity and level of service at uncontrolled T intersection using VISSIM
59	Gaurav Kumar	Dr. Kh. Lakshman Singh	Investigation of moisture susceptibility of fiber reinforced bituminous concrete
60	Sujeet Suman	Dr. Kh. Lakshman Singh	Performance of asphalt concrete mix using elastomeric and plastomeric polymer
61	Neelabha Roy	Prof. Mokaddes Ali Ahmed	Proactive surrogate safety analysis in unsignalised intersection using VISSIM and SSAM
62	Yeddu Dhanunjaya	Dr. M. L. V. Prasad	Evaluation of behaviour of geopolymer concrete in rigid pavement
63	Suman Ganguly	Prof. Mokaddes Ali Ahmed	Performance evaluation and enhancement of unsignalled T intersection under mixed traffic condition using VISSIM

64	Soumik Sarkar	Prof. Mokaddes Ali Ahmed	Determination of service quality of bus transit system using servqual method based on users predictions and expectations
65	Mukesh Kumar Soni	Prof. Mokaddes Ali Ahmed	Mode shift analysis of the car user to metro rail in indian developed city: a case study of Delhi metro
66	Avijit Mandal	Prof. Mokaddes Ali Ahmed	Estimation of the pedestrian level of service: a case study in Kolkata
67	Pranav Rai	Dr. M.L.V Prasad	Pushover analysis of a box-girder bridge
68	Aninda Paul	Dr. S. Choudhury	Dynamic wind analysis for 22 storey building using computational fluid dynamics
69	Rangish A	Dr. N. Debnath	Reliability Analysis of Cable Stayed Bridge for Serviceability subjected to Earthquake Excitations
70	Chaudhari Rahul Gopal Sushila	Dr. N. Ahir	Seismic vulnerability assessment for open ground storey RC building with and without infill walls
71	Vivek Laishram	Dr. N. Debnath	Comparative studies on seismic performance of conventional shear wall frame and rocking wall moment frame
72	Sadananda Angom	Dr. N. Debnath	Post-buckling behaviour of Cold-formed Z section beam using Finite Element (FE) Model
73	Suman Kalita	Dr. M.L.V Prasad	Experimental study of geopolymer concrete using industrial by-products
74	Abhinandan Kashyap	Dr. S. Choudhury & Dr. S. Dutta	Reliability of Civil Engineering Systems using Bayesian Inference
75	Imdad Ahmed Laskar	Dr. A.I. Laskar	Effect of cold joint on rehabilitation of beam column joint by removal and replacement technique
76	Aditi Halder	Dr. B. K. Roy	Optimization of seismic response control of structure using compliant liquid column damper and shape memory alloy liquid column damper in uncertainty
77	Intakab Alam	Mr. P. Das	Blast loading on structures
78	Athul Nath M K	Mr. P. Das	Seismic performance assessment of diagrid structures
79	Satyaki Ghosh	Dr. A. Sil	Behaviour of fly ash concrete in beam column joint under cyclic loading
80	Chigurupati Ravi Teja	Dr. N. Debnath	Parametric study on effects of a circular perforation on a LDSS square hollow column
81	Md Tabrej Alam	Dr. S. Choudhury & Dr. S. Dutta	Structural topology optimization for multiple loads
82	Banani Das	Dr. Prashanth J.	Experimental studies on pervious concrete with plastic waste

### 1.11 Ph.D. Thesis

Sl. No.	Name of the Scholar	Name of the Supervisor	Title of the Thesis
1	Joseph Tripura	Dr. P.J. Roy, Prof. A. K. Barbhuiya	Data driven for real time flow forecasting in river system
2	Piya Biswas	Prof. A.K. Barbhuiya	Study of river bank erosion at bends and its countermeasures
3	Umesh Kumar Das	Dr. P.J. Roy, Dr. D. K. Ghose	Effects of hydrologic parameters on groundwater: A case study
4	Debasish Das	Prof. Mokaddes Ali Ahmed	Modelling of On-street Parking for 4 Wheelers in Urban CBD: A Case Study in Kolkata
5	Amit Kumar Dey	Prof. U. Kumar	Removal of congo red & reactive red 195 dyes from aqueous solution using treated jute fibre.

1. Name of the Department:

# Mechanical Engineering



1.1 Academic Staff:

**HEAD:** Dr. K. M. Pandey (01.04.2018 – 22.05.2018)

Dr. P. K. Patowari (22.05.2018 – 01.10.2018)

Dr. Agnimitra Biswas (01.10.2018 – onwards)

**Name of Faculty members:**

Professor	Associate Professor
Dr. Rajat Gupta (on deputation as Director, NIT Mizoram)	Mr. Darpahari Das
Dr. Krishna Murari Pandey	Dr. Kalyan Chakraborty
Dr. Rahul Dev Misra	Mr. Pannalal Choudhury
Dr. Promod Kumar Patowari	Dr. Kaushal Kumar Sharma
Assistant Professor	
Dr. Lintu Roy	Dr. Sukumar Pati
Mr. Sujit Kumar Pattanayak	Dr. Biplab Das
Dr. Agnimitra Biswas	Dr. Sudip Dey
Dr. Sumita Debbarma	Dr. S.R. Maity
Dr. Sudipta Halder	Dr. Pitambar R. Randive
Dr. Dipankar Bhanja	Dr. Chinmaya Kumar Sahoo
Dr. Sumit Bhowmik	Dr. Abhishek Paul
Dr. Sujit Nath	Dr. Bipul Das
Dr. Pradip Debroy	Dr. Yogesh Singh
Dr. Ashish B. Deoghare	Dr. Subhankar Das (Contractual)

**Visiting Professor (If any):**

Prof. Amitava Sarkar (Ph.D from IIT Madras) Since 4<sup>th</sup> Feb 2019.

## 1.2 Distinction Achieved

- a) **By Student: NIL**  
b) **By Faculty Member: NIL**

## 1.3 SEMINARS, SYMPOSIA, SHORT TERM COURSES, WORKSHOPS

### a) Conducted by Faculty Member

Sl. No.	Name(s) of the Coordinator	Title	Funding Agency	Duration
1	Dr. A. Biswas, Dr. Biplab Das	One week Workshop on Frontiers in Solar Energy (FST-2018)	TEQIP-III	24 <sup>th</sup> -28 <sup>th</sup> Sep. 2018
2	Dr. P. Randive, Dr. Sukumar Pati	Workshop on Fundamentals of Energy Storage	TEQIP-III	23 <sup>rd</sup> – 27 <sup>th</sup> , July, 2018
3	Dr. Ashish B Deoghare, Dr. C.K. Sahoo	Material Processing and Surface Treatment	TEQIP-III	1 <sup>st</sup> -5 <sup>th</sup> October, 2018
4	Dr. B. Das, Dr. S. Debbarma, Dr. A. Paul	Workshop on Combustion Process in IC Engine	TEQIP-III	1 <sup>st</sup> – 5 <sup>th</sup> November, 2018
5	Prof. R.D Misra, Dr. A Biswas, Dr. S Dey, Dr. Y. Singh, Dr. Bipul Das, Dr. C.K Sahoo, Dr. A Paul.	ELIXIR	TEQIP-III	6 <sup>th</sup> -7 <sup>th</sup> April 2019
6	Dr. Yogesh Singh, Dr. Bipul Das	eSMART	TEQIP-III	20 <sup>th</sup> – 24 <sup>th</sup> May, 2019
7	Dr. Sudip Dey Dr. Agnimitra Biswas Dr. Saikat Ranjan Maity	Workshop on Computational Technologies (CT - 2018)	TEQIP-III	August 16 - 20, 2018
8	Dr. Sudip Dey	One-day Workshop by Springer Nature Author Workshop on "Scientific Publishing"	TEQIP-III	21 <sup>st</sup> August 2018
9	Dr. Sudip Dey	National Conference on Advances in Structural Technologies (CoAST-2019)	TEQIP-III	1-3 <sup>rd</sup> February, 2019
10	Dr. Sudip Dey	<b>Technical talk-</b> (a) Career scope for UG, PG and PhD Scholars at Germany (b) Optimization of variable-axial composite structures. By Dr. Jose Humberto, Alexander von Humboldt Fellow, IPF, Germany	TEQIP-III	5 <sup>th</sup> March 2019
11	Dr. Sudip Dey	<b>GIAN course-</b> Structural dynamics, Aerodynamics and vibrational control of wind turbines. By Prof. Biswajit Basu School of Engineering, Trinity College, Dublin, Ireland	GIAN, MHRD, GOI	16 <sup>th</sup> to 20 <sup>th</sup> April 2019



## b) Participated by Faculty Member

Sl. No.	Name of Faculty	Details of the Program	Organizing Institute
1	Dr. Bipul Das	Faculty Development Program: Recent Advancement in welding and allied processes	Assam Engineering College
2	Dr. Sudip Dey	Invited talk on "Conservation of energy"	Oil and Natural Gas Corporation (ONGC Srikona, Assam) on 12th February, 2019

## 1.4 Research Development

## a) Ph.D. Programme (Specializations):

Thermal Engineering, CFD application, Non-conventional energy; Computational combustion; Bio-fuel research, Boiling heat transfer, Refrigeration, Air - conditioning, CFD, Solar Energy; Renewable energy, Robotics; Advanced Manufacturing processes, Micro-machining; Micro hydro turbine, Hybrid renewable energy system, Solar thermal collectors; Composite, Fatigue & fracture behavior of material; Extended surface, Heat transfer, Thermodynamics, Nano fluidics; Design of object under water, Non-linear & linear water flow. Development of innovative idea; Microfluidics, Natural convection, Non-Newtonian fluid mechanics, Numerical heat transfer; Bio- mechanics, Bio-materials, Fatigue behaviour of materials; Heat exchanges, Mixed convection, Solar thermal; Uncertainty quantification, Computational mechanics and modelling, Mechanics of tribology, Meta-materials, functionally graded materials and composites, Multi- scale Analysis, Optimization and reliability analysis; Non-traditional optimization, Virtual manufacturing; Fluid mechanics, LBM

## b) Ph.D. Produced/Ongoing (in number):

Completed	Submitted	Ongoing
12	5	75

## c) Research Lab/ Workshop:

Sl. No.	Name of Lab/Workshop	Purpose/Linkage to an existing/new programme
1.	Solar RTC	UG and PG in Thermal Engg.
2.	Instrumentation and Control Laboratory	UG Lab
3.	Nano composite Lab	PhD and M.tech project, UG Project
4.	FRP Lab	PhD and M.tech project, UG Project
5.	Materials Characterization lab	PhD and M.tech project, UG Project
6.	Renewable engineering laboratory	Research work can be done in renewable energy
7.	Machinery Dynamics Lab	UG Project
8.	PVT Lab	PG in Thermal Engg. and Research

**d) Ongoing/Completed Sponsored Research Project:**

Sl. No.	Project Title	Principal Investigator(s)	Funding Agency	Cost in lakhs	Duration
1	Design and development of a heat pipe embedded solar collector based latent heat storage system for domestic application	Dr. B. Das	SERB	27.21	2017-2020
2	Development and testing of hybrid solar photovoltaic thermal (PVT) air system for the composite environment of North-East India for tea drying applications	Dr. B. Das Dr. A. Biswas	SERB	30.3	2018-2021
3	Experimental and Computational analysis of heat sink application for optimal performance by developing low cost natural filler reinforced composite material	Dr. S. Bhowmik Dr. B. Das	CPRI	22.63	2017-2019
4	Design and development of a hybrid photo voltaic thermal (PVT) system for rural application	Dr. B. Das Dr. A. Biswas Dr. S Halder	DST	14.6	2017-2020
5	Centre for Advanced Manufacturing and Material Testing	Dr. Sudipta Halder (Coordinator)	DST-FIST	220	20.08.2015 to 20.08.2020
6	Bamboo bricks/laminates from BMFs (Bamboo Micron Fibres) for low-cost housing structures for North Eastern Himalayan region	Dr. Sudipta Halder	NMHS	49.5	3 Years
7	Enabling innovative multiple self-healing technology in fiber-reinforced composite with unaltered mechanical properties,	Dr. Sudipta Halder	SERB-DST	35	3 Years
8	Jal Abhyaranya Campaign for Water security in IHR	Dr. Sudipta Halder	NMHS	13.624	45 days
9	Development and Testing of nano doped hybridized biodiesel as pilot fuel for hydrogen dual fuel operation in CI engine.	Dr. Abhishek Paul	DST	52.81 Lakhs	3 Years
10	Development and testing of hybrid solar photovoltaic thermal (PVT) air system for the composite environment of North-East India for tea drying applications	Dr. Biplab Das (PI) Dr. A. Biswas (Co-PI)	DST	30.3	2017-20
11	Stochastic multi-scale failure analysis of composites.	PI-Dr. Sudip Dey Co-PI- Dr. S. Maity Co-PI- Dr. Arunasis Chakraborty	AR&DB	11.55	2 Years

**e) Research Paper Reviewed**

Sl. No.	Faculty Name	Journal Name	No. of Paper	Year
1	Dr. Yogesh Singh	IEEE Access	03	2019
2		Transactions of the Canadian Society for Mechanical Engineering	01	2019
3		IEEE Transactions on Industrial Electronics	01	2019
4		Advances in Mechanical Engineering	02	2019

5	Dr. Yogesh Singh	Defence Science Journal	02	2018
6	Dr. Agnimitra Biswas	Applied Energy (Elsevier)	08	2018-2019
7		Energy Conversion and Management (Elsevier)	16	2018-2019
8		Sustainable Energy Technologies and Assessments (Elsevier)	02	2018-2019
9	Dr. Bipul Das	Experimental Techniques	09	2018-2019
10		Science and Technology of Welding Joining	01	2019
11	Dr. Sudipta Halder	Carbon	02	2018
12		Carbon	01	2019
13		Mal chemistry physics	01	2018
14		Composite Part-B	01	2018
15		Composite Part-A	01	2018
16		Composite Part-A	01	2019
17		Iranian polymer journal	01	2018
18		Polymer composite	01	2018
19		Journal of Composite Materials	01	2018
20		High Performance Polymer	01	2018
21	Prof. K. M. Pandey	Combustion Science and Technology	01	2018
22		Journal of The Institution of Engineers (India): Series C	01	2018
23		Applied Thermal Engineering	05	2018
24		International Journal of Hydrogen Energy	02	2018
25		Energy Science & Engineering	01	2018
26		Proceedings of the National Academy of Sciences, India Section A: Physical Sciences	01	2018
27		Sustainable Cities and Society	02	2018
28		Renewable Energy	01	2018
29		Solar Energy	01	2018
30		The Journal of Engineering	01	2018
31		Chemical Engineering & Technology	01	2018
32		International Journal of Heat and Mass Transfer	03	2018
33		Renewable and Sustainable Energy Reviews	01	2018
34		Acta Astronautica	03	2018
35		International Journal of Materials Research (formerly Zeitschrift Fuer Metallkunde)	01	2018
36		Materials Science and Technology	01	2018
37		Materials Research Express	01	2018
38		Applied Energy	01	2018
39		Aerospace Science and Technology	01	2018
40		Defence Technology	01	2018
41	Prof. P. K. Patowari	Experimental Techniques, Springer	01	2018
42		Microsystem Technologies, Springer	01	2018
43		Materials and Manufacturing Processes, Taylor & Francis	07	2018-19
44	Dr. S. Bhowmik	Journal of the Brazilian Society of Mechanical Sciences and Engineering	01	2019
45		Silicon	01	2019
46	Dr. D. Bhanja	International Journal of Heat and Mass Transfer, Elsevier	2	2018
47		Heat and Mass Transfer, Springer	2	2018

48	Dr. D. Bhanja	Heat and Mass Transfer, Springer	1	2019
49		Applied Thermal engineering, Elsevier	1	2018
50		Applied Thermal engineering, Elsevier	1	2019
51		Journal of Renewable and Sustainable Energy	1	2018
52		Desalination and Water Treatment, Taylor and Francis	1	2018
53	Dr. Abhishek Paul	Energy (Elsevier)	5	2018-2019
54	Dr. Sudip Dey	Composites Part B: Engineering (Elsevier Publication)	1	2018-2019
55		Applied Mathematical Modelling (Elsevier Publication)	1	2018-2019
56		International Journal of Mechanical Science (Elsevier Publication)	1	2018-2019
57		Composite Structures (Elsevier Publication)	1	2018-2019
58		AIAA Journal	1	2018-2019
59		Journal of Reinforced Plastics and Composites (Sage Publication)	1	2018-2019
60		Journal of Mechanical Science and Technology (Springer Publication)	1	2018-2019
61		Journal of Materials: Design and Applications (Sage Publication)	1	2018-2019
62		Latin American Journal of Solids and Structures	1	2018-2019
63		Sadhana (Springer)	1	2018-2019
64	Dr. Sujit Nath	International Journal of Heat and Mass Transfer, Elsevier	1	2019
65		International Journal of Heat and Mass Transfer, Elsevier	3	2018
66	Dr. Sukumar Pati	Experimental Thermal and Fluid Science	1	2019
67		Powder Technology	1	2019
68		Chemical Engineering & Processing: Process Intensification	1	2019
69		Journal of Thermal Science and Engineering Applications (ASME)	2	2018
70		Canadian Journal of Physics	1	2018
71		Physica Scripta	1	2019
72		Journal of the Institution of Engineers (India):Series C	1	2019
73		Australian Journal of Mechanical Engineering	1	2019

**f) Chairing of Technical Section**

Sl. No.	Faculty Name	Details
1	Dr. Bipul Das	Session Chair at the technical session at 2 <sup>nd</sup> International Conference on New Frontiers in Engineering Science & Technology (NFEST 2019) 18 <sup>th</sup> Feb – 22 <sup>nd</sup> Feb, 2019, NIT Kurukshetra, India
2	Prof. K. M. Pandey	2018 3 <sup>rd</sup> International Seminar on Advances in Materials Science and Engineering (ISAMSE 2018) Venue: 317 Outram Road (Singapore Riverside/Clark Dock Area, Singapore, 169075) June 22-24, 2018
3	Dr. Biplab Das	Technical Session Chair, 9 <sup>th</sup> International Conference on Key Engineering Materials (March 29-April 1, 2019 , Oxford University, UK).
4	Dr. Sudip Dey	Technical Session Chair, in National Conference on Advances of Structural Technology (CoAST 2019) (Feb 1-3, 2019, NIT Silchar).

## 1.5 PUBLICATION

### (a) International Journal(s):

1. Sengupta A.R., Biswas A., Gupta R. Comparison of low wind speed aerodynamics of unsymmetrical blade H-Darrieus rotors- blade camber and curvature signatures for performance improvement. *Renewable Energy* 139 (2019) 1412-1427.
2. Basumatary M., Biswas A., Misra R.D. CFD Analysis of an Innovative Combined Lift and Drag (CLD) based Modified Savonius Water Turbine. *Energy Conversion and Management* 174 (2018) 72–87.
3. Das M., Maisanam Singh A., Biswas A. Techno economic optimization of an off-grid hybrid renewable energy system using metaheuristic optimization approaches- case of a radio transmitter station in India. *Energy Conversion and Management*, 185 (2019) 339–352.
4. Thakur N. Biswas A., Kumar Y., Basumatary M. CFD analysis of performance improvement of the Savonius water turbine by using an impinging jet duct design. *Chinese Journal of Chemical Engineering* 27 (2019) 794–801.
5. Mazarbhuiya H.M.S.M, Biswas A., Sharma K.K. Performance Investigations of modified asymmetric blade H-Darrieus VAWT rotors. *Journal of Renewable and Sustainable Energy* 10, 033302 (2018)
6. Biswas A. & Gupta R. Prediction of Performance for Savonius-Darrieus Wind Rotor by Hybrid Neuro-Fuzzy Controller. *Journal of Urban & Environmental Engineering*, Vol. 12, No.1, p. 93-101, 2018.
7. P. K. Sahu, N P Vasudevan, B. Das, S. Pal, 2019, Assessment of Self-Reacting Bobbin Tool Friction Stir Welding For Joining AZ31 Magnesium Alloy at Inert Gas Environment, *Journal of Magnesium and Alloys*, (accepted)
8. Manabendra Das, Ashish Meena, Bipul Das, 2019, Sensor fusion model for defect identification in friction stir welding process, *IOP Conference Series: Journal of Physics*, 1240.
9. Bipul Das, Swarup Bag, Sukhomay Pal, 2019, Probing weld quality monitoring in friction stir welding through characterization of signals by fractal theory, *Sadhana*, 44, 79.
10. Payel Deb, Ashish B Deoghare, 2019, Effect of Acid, Alkali and Alkali–Acid Treatment on Physicochemical and Bioactive Properties of Hydroxyapatite Derived from Catla catla Fish Scales, *Arabian Journal for science and engineering*, 44, 9, Springer. <https://doi.org/10.1007/s13369-019-03807-9>
11. Payel Deb, Emon Barua, Ashish B Deoghare, Sumit Das Lala, 2019, Development of bone scaffold using Puntius conchionius fish scale derived hydroxyapatite: Physico-mechanical and bioactivity evaluations, *Ceramics International*, 45, Elsevier. <https://doi.org/10.1016/j.ceramint.2019.02.044>
12. Sumit Das Lala, Ashish. B. Deoghare, Sushovan Chatterjee, 2019, Effect of Dual Pre-treatment on Mechanical, Morphological, Electrical and Thermal Properties of Rubber Seed Shell-Reinforced Epoxy Composites, *Arabian Journal of Science and Engineering*, 44, Springer. <https://doi.org/10.1007/s13369-018-3302-3>
13. Suraj B. Shende, Ashish B. Deoghare, Krishna M. Pandey, 2019, Characterization of harmonic response of human middle ear using finite element approach, *Journal of computational science*, 29, Elsevier. <https://doi.org/10.1016/j.jocs.2018.10.003>
14. Kh. Gopal Krishna Singh, Sudipta Halder\*, Sukumar Pati, Jialai Wang, 2018, Microencapsulation of Paraffin Wax Microspheres with Silver, *Defence Science Journal*, 62(2), 218-224, Impact factor: 0.5.
15. Nazrul Islam Khan, Sudipta Halder, Subhankar Das, M.S. Goyat, 2018, Parametric influence towards size reduction of poly(methylmethacrylate) shelled microcapsule with epoxy core, *Materials Today Proceeding*, 5(1), Part 2, 2295-2299.
16. Subhankar Das, Sudipta Halder, Arijit Sinha, Muhammad Ali Imam, and Nazrul Islam Khan, 2018, Assessing Nanoscratch Behavior of Epoxy Nanocomposite Toughened with Silanized Fullerene, *ACS Applied Nano Materials* 2018 1 (7), 3653-3662.
17. Zhang, J., Luo, F., Liu, T. et al., 2018, Galerkin Analysis of Effect of Dead Load on Natural Frequencies of Box Beam, *J. Inst. Eng. India Ser. C* (2018). <https://doi.org/10.1007/s40032-018-0494-y>.

18. S Das, NI Khan, S Halder, 2018, Thermo-mechanical stability of epoxy composites induced with surface silanized recycled carbon fibers, IOP Conference Series: Materials Science and Engineering 377 (1), 012172.
19. NI Khan, S Halder, SB Gunjan, T Prasad, 2018, A review on Diels-Alder based self-healing polymer composites, IOP Conference Series: Materials Science and Engineering 377 (1), 012007.
20. Gopal Krishna Singh Khagokpam, Sudipta Halder, 2019, Paraffin wax microsphere embedded epoxy composites for potential thermal management in electronic devices. High Performance Polymers, Vol. 31(7) 767–777, Impact factor: 1.584.
21. Nazrul I Khan, Sudipta Halder, Subhankar Das, Jialai Wang, 2019, Exfoliation level of aggregated graphitic nanoplatelets by oxidation followed by silanization on controlling mechanical and nanomechanical performance of hybrid CFRP composites, Composite Part B: Engineering. Impact factor: 6.864
22. Tankeshwar Prasad, Sudipta Halder, Siddhartha S.Dhar, 2019, Imidazole-supported silica one-pot processed nanoparticles to enhance toughness of epoxy based nanocomposites, Materials Chemistry and Physics Volume 231, Pages 75-86. Impact factor: 2.781
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24. AS Singha, Sudipta Halder, J Wang, MA Imamd, P Chene, 2019, Tannic Acid Intermediated Surface Functionalization of Bamboo Micron Fibers to Enhance Mechanical Performance of Hybrid GFRP, Composites Part B: Engineering, DOI: <https://doi.org/10.1016/j.compositesb.2019.107322>. Impact factor: 6.864
25. AS Singha, Sudipta Halder, 2019, Tannic Acid Functionalization of Bamboo Micron Fibres: Its Capability to Toughen Epoxy Based Biocomposites, Materials Chemistry and Physics, <https://doi.org/10.1016/j.matchemphys.2019.122112>, 2019. Impact factor: 2.781
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27. Verma, K.A., Pandey, K.M., Sharma, K.K., (2019), Computational investigation on design of scramjet combustor – A review, International Journal of Recent Technology and Engineering, 7 (6), pp. 544-548.
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30. Sahu, M.K., Pandey, K.M., Chatterjee, S., (2019), Thermo-hydraulic performance of rectangular channel roughened with combined semi-circular and triangular ribs, Heat and Mass Transfer/Waerme- und Stoffuebertragung, DOI: 10.1007/s00231-019-02630-0
31. Alam, N., Pandey, K.M., Sharma, K.K., (2019), Numerical investigation of combustion wave propagation in obstructed channel of pulse detonation engine using kerosene and butane fuels, Journal of Applied Fluid Mechanics, 12 (3), pp. 883-890., DOI: 10.29252/JAFM.12.03.29058
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34. Debnath, S., Das, B., Randive, P.R., Pandey, K.M., (2018), Performance analysis of solar air collector in the climatic condition of North Eastern India, Energy, pp. 281-298., DOI: 10.1016/j.energy.2018.09.038
35. Sahu, M.K., Pandey, K.M., Chatterjee, S., (2018), Numerical investigation on friction factor characteristics for protruded channel under turbulent cross-flow condition, International Journal of Engineering and Advanced Technology, 8 (C2C), pp. 69-73.



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42. Sharma, D., Pandey, K.M., (2018), Review on using nano fluids for heat transfer enhancement in nuclear power plants, *Kerntechnik*, 83 (5), pp. 426-438., DOI: 10.3139/124.110925
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46. Choubey, G., Pandey, K.M., (2018), Effect of different wall injection schemes on the flow-field of hydrogen fuelled strut-based scramjet combustor, *Acta Astronautica*, 145, pp. 93-104, DOI: 10.1016/j.actaastro.2018.01.034
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51. Bhowmik, C., Bhowmik, S., and Ray, A., 2018, The effect of normalization tools on green energy sources selection using multi-criteria decision-making approach: A case study in India, *Journal of Renewable and Sustainable Energy*, 10, 065901, SCIE, Impact Factor: 1.342, DOI: <https://doi.org/10.1063/1.5043131>.
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45. S. Dutta, A. K. Biswas, S. Pati, Heat transfer enhancement of copper-water nanofluids in a rhombic wavy wall enclosure, 7th International and 45th National Conference on Fluid Mechanics and Fluid Power, IIT Bombay, Mumbai, 10th to 12th December 2018, Paper No:688
46. S. K. Mehta, S. Pati, Effect on non-uniform heating on heat transfer characteristics in wavy channel, Fifth International Conference on Computational Methods for Thermal Problems THERMACOMP 2018, July 9-11, 2018, Indian Institute of Science, Bangalore, INDIA
47. A. Borah, N. Deka, S. Pati, Effect of non-uniform heating on entropy generation for thermally developing flow between parallel plates, Fifth International Conference on Computational Methods for Thermal Problems THERMACOMP2018, July 9-11, 2018, Indian Institute of Science, Bangalore, INDIA pp. 47-50
48. S. K. Mehta, S. Pati, Thermo-hydraulic analysis for flow through triangular corrugated channel, International Conference on Thermal Analysis and Energy Systems (ICTASE 2018), Hindusthan College of Engg and Technology, Coimbatore, April 12-13, 2018.

**(d) National Conference(s):**

1. Das M., Singh M.A., Biswas A., Sharma K.K. Design and analysis of hybrid renewable energy system: A review. AIP Conference Proceedings 1998, 020007 (2018); doi: 10.1063/1.5049103.
2. Rahul Ranjan, Siddhartha Kar and Promod Kumar Patowari, Parametric optimization of micro drilling on brass in micro electrical discharge machining, AIP Conference Proceedings, 1998 (1), 020005, Renewable Energy Technology: Issues and Prospects (RETIP-2017), NIT Silchar, Assam, 2018, <https://doi.org/10.1063/1.5049101>.
3. Ekta Tripathi, Tapas Debnath and P. K. Patowari, Etching characteristics of aluminium while machining square cavity using photochemical machining, AIP Conference Proceedings, 1998 (1), 020009, Renewable Energy Technology: Issues and Prospects (RETIP-2017), NIT Silchar, Assam, 2018, <https://doi.org/10.1063/1.5049105>.
4. Keshob Kumar Patra, Tapas Debnath and P. K. Patowari, Fabrication of an array of square micro-holes on glass using ultrasonic machining, AIP Conference Proceedings, 1998 (1), 020013, Renewable Energy Technology: Issues and Prospects (RETIP-2017), NIT Silchar, Assam, 2018, <https://doi.org/10.1063/1.5049109>.
5. Tejas Pramod Naik, Tapas Debnath and P. K. Patowari, Machinability study on German silver using wire-EDM, AIP Conference Proceedings, 1998 (1), 020004, Renewable Energy Technology: Issues and Prospects (RETIP-2017), NIT Silchar, Assam, 2018, <https://doi.org/10.1063/1.5049100>.
6. Vaishali and S. Dey, Effect of thickness on stochastic natural frequency of functionally graded spherical shells, 4th Indian Conference on Applied Mechanics (INCAM 2019) held on July 3-5, 2019 at Indian Institute of Science Bangalore, India.
7. P. Choudhary, S. Das, S. Haldar, Mechanical Characterization of Graphane Infused Hybrid GFRP laminates, International Conference on recent multidisciplinary research (ICRMR-2019), Goa, 24-25 Jan 2019

**(e) Book / Chapter:**

1. Jagadish, Biswas A & Gupta R. A hybrid MCDM method for optimization of VAWT performance parameters. In book: Advanced Multi-Criteria Decision Making for Addressing Complex Sustainability Issues. DOI: 10.4018/978-1-5225-8579-4.ch011, January 2019, Publisher: IGI Global.
2. Bipul Das, Design of mixed mode dryer for spices for rural applications, Advances in Science and Technology, Vol. 1, Eds. B Kakati, D Bora, I-Manage Publications, 2019.
3. Extraction of Hydroxyapatite from Bovine bone for sustainable development, (Eds): Biomaterials in Orthopaedics and Bone Regeneration , 978-981-13-9976-3, 474892\_1\_En, (10)
4. Chapter 5: Bhowmik, C., Bhowmik, S., and Ray, A., 2019, Optimum Selection of Biodiesel for Sustainable Assessment: A Prospect Theory-Based Approach, Advanced Multi-Criteria Decision Making for Addressing Complex Sustainability Issues, IGI Global, 94 – 114, DOI: 10.4018/978-1-5225-8579-4.ch005
5. Chapter 8: Kumar, R., Bhowmik, S., and Jayasval, R., 2019, Influence of drilling parameters on the thrust force and mechanical properties of biodegradable particleboard composite panels: A review, Biodegradable Composites: Materials, Manufacturing and Engineering, De Gruyter, 167–182, DOI: <https://doi.org/10.1515/9783110603699-008>.
6. Chapter 10: Emon Barua, Payel Deb, Sumit Das Lala, Ashish B. Deoghare, Extraction of Hydroxyapatite from Bovine bone for sustainable development, (Eds): Biomaterials in Orthopaedics and Bone Regeneration ,Materials Horizons: From Nature to Nanomaterials, Springer [https://doi.org/10.1007/978-981-13-9977-0\\_10](https://doi.org/10.1007/978-981-13-9977-0_10).
7. Book Chapter 9: Chatterjee, B., and Bhowmik, S., 2019, Evolution of Material Selection in Commercial Aviation Industry - A Review, Sustainable Engineering Products and Manufacturing Technologies, 1st Edition, Elsevier, 199 – 218, DOI: <https://doi.org/10.1016/B978-0-12-816564-5.00009-8>
8. Book Chapter 15: Jagadish, Bhowmik, S., and Gudala, S., 2019, Hybrid Multi-Criteria Decision-Making Optimization Strategy for RP Material Selection: A Case Study, Optimizing Current Strategies and Applications in Industrial Engineering, IGI Global, 320 – 334. DOI: 10.4018/978-1-5225-8223-6.ch015
9. Book Chapter 6: Faisal, N., Zindani, D., Kumar, K., and Bhowmik, S., 2019, Laser micromachining of engineering materials – A review, Micro and nano machining of engineering materials, Springer, 121 – 136, DOI: <https://doi.org/10.1007/978-3-319-99900-5>
10. Book Chapter 6: Faisal, N., Bhowmik, S., and Kumar, K., 2018, Recent Developments in Wire Electrical Discharge Machining, Non-Conventional Machining in Modern Manufacturing Systems, IGI Global, 125 – 152, DOI: 10.4018/978-1-5225-6161-3.ch006
11. Pranjal Sarma, P. K. Patowari, Alternate Soft Lithographic Approaches for Microfluidic device Fabrication Using PCM and EDM based tools, Advances in Science and Technology, Vol 1, pp. 1-5.
12. Sandeep Sitaram Wangikar, Promod Kumar Patowari, Rahul Dev Misra and Dnyaneshwar Misal, Photochemical Machining: A Less Explored Non-Conventional Machining Process, Non-Conventional Machining in Modern Manufacturing Systems, pp. 188-201.
13. P.K. Karsh, S. Dey, Hierarchical Composite Materials, edited by Paolo Davim and K. Kumar, De Gruyter Pub., Fuzzy based frequency response function analysis of functionally graded plates, 2018
14. R. R. Kumar, K.M. Pandey, S. Dey, Advances in Structural Engineering and Rehabilitation, A stochastic investigation of effect of temperature on natural frequencies of functionally graded plates, Vol. 38, Springer, 2019
15. Pitambar Randive, Debayan Bhowmick, Sukumar Pati, Effect of Thickness of Porous Layer on Thermo-Hydraulic Characteristics and Entropy Generation in a Partially Porous Wavy Channel, Advances in Mechanical Engineering, Springer.
16. S. Singh, S. Pati, “Thermal Engineering”, 1st Edition, Pearson India Education Services Pvt. Ltd., New Delhi, ISBN: 9789352866687
17. Book Chapter 23, S. Dutta, A. K. Biswas, S. Pati, Numerical Analysis of Heat Transfer and Entropy Generation for Natural Convection in a Quadrantal Cavity with Non-uniform Heating at the Bottom Wall, Lecture Notes on Multidisciplinary Industrial Engineering, Prasanta Sahoo and J. Paulo Davim (Eds): Advances in Materials, Mechanical and Industrial Engineering, 978-3-319-96967-1.

18. Wangikar, S.S., Patowari, P.K., and Misra, R.D., 2018, "Parametric Optimization for Photochemical Machining of Copper Using Grey Relational Method", In Proceedings of the International Conference on Advanced Technologies for Societal Applications (Techno-Societal 2016), Part V, pp. 933-943; Ed.: P.M. Pawar, B.P. Ronge, R. Balasubramaniam, S. Seshabhattar; Pub.: Springer, Singapore, 2018, ISBN 978-3-319-53555-5 (Print), ISBN 978-3-319-53556-2 (online), DOI: 10.1007/978-3-319-53556-2.
19. S Debbarma, B Das, Jagadish (2019) Optimization of performance and emissions parameters of a biodiesel run diesel engine: An integrated MCDM approach. Book Name: Advanced Multi-Criteria Decision Making for Addressing Complex Sustainability Issues, IGI Global, India (Accepted-In Press)
20. M Bardalai, DK Mahanta, B Das (2019) Production and Characterisation of Teak Tree Saw Dust and Rice Husk Biochar. Book name Pollutants from Energy Sources, 291-306, Springer. DOI: 10.1007/978-981-13-3281-4\_14
21. S Das, RD Misra, B Das (2019) Sustainability Assessment of Biodiesel Production in India from Different Edible Oil Crops Using Emery Analysis, 107-134. Book name: Methanol and the Alternate Fuel Economy, Springer. DOI: 10.1007/978-981-13-3287-6\_6
22. J Reddy, Jagadish, B Das (2018) Study on Effect of Barriers in Green Supply Chain Management Using Modified SAW Technique: A Case Study. Book Name: Optimizing Current Strategies and Applications in Industrial Engineering, IGI Global, India, Page-100-112, DOI: 10.4018/978-1-5225-8223-6, ISBN 13: 9781522582236

## 1.6 CONSULTANCY SERVICES

Sl. No.	Name of the Scheme	Sponsoring Agency	Amount Earned
	NIL		

## 1.7 MAJOR EQUIPMENT ACQUIRED

NIL

## 1.8 PATENT

Sl. No.	Details	Year
1	Emon Barua, Payel Deb, Sumit Das Lala, Ashish B. Deoghare, Development of composite bone scaffold using hydroxyapatite derived from Caprine bone bio-waste and Polylactic-co-glycolic acid (PLGA), Application number: 201931010903	2019
2	A System And Method For Multi Shell Wall Microcapsules, Sudipta Halder, KHG Krishna, 2019, IN Patent App. 201931023343	2019
3	S. Dey, A.J. Borah, A. Sarmah, A. B. K. Laskar, Design of Mobile Boat for Flood-hit areas, (Application number 201831021570).	2019

## 1.9 VISITS TO ABROAD

Sl. No.	Name of the Faculty	Name of the Conference/ Programme	Place	Date
1	Dr. K. M. Pandey Keynote Speaker	2018 3rd International Seminar on Advances in Materials Science and Engineering (ISAMSE 2018)	Venue: 317 Outram Road (Singapore Riverside/Clark Dock Area, Singapore, 169075)	June 22-24, 2018
2	Dr. Biplab Das	Overseas Associateship', sponsored by Department of Biotechnology, Govt. of India	Visited Ulster University, UK,	January-July, 2019

### 1.10 M.Tech. / M.Sc. (Thesis/Project)

Sl. No.	Name of the Scholar	Name of the Supervisor	Title of the Thesis/Project
1.	Yogesh Dokwal	Dr. A. Biswas	Experimental and Numerical Investigations of the Effect of Cavity Airfoil on the performance of H-Darrieus VAWT
2.	Suraj Shende	Dr. Ashish B Deoghare, Prof. K. M. Pandey	Design and Modeling of Human Middle Ear to Examine Pathological Conditions
3.	Smriti Jaiswal	Dr. Ashish B Deoghare, Prof. K. M. Pandey	Exploration of CFD Analysis of Human Airways for Drug Deposition
4.	Radhe Tado	Dr. Ashish B Deoghare, Prof. K. M. Pandey	Computational Study of Blood Flow Analysis in Left Coronary Artery
5.	Lakshi Nandan Borah	Dr. Sudipta Halder	Investigation on cenosphere encapsulated phase change material coated with calcium silicate hydrate gel
6.	Avinash Kumar	Dr. Sudipta Halder	Surface functionalized TiO <sub>2</sub> nanoparticle reinforced hybrid FRP laminated composites
7.	Kumar Aditya Chandra	Dr K.K.Sharma & Prof. K.M.Pandey	Energy, Exergy, and Economic Analysis of Solar flat plate collector-An investigation of the effect of Absorber Plate Surface area.
8.	Siddhita Yadav	Prof. K.M. Pandey	Computational study of flame behaviour on scramjet engine with tandem dual cavity
9.	Saurabh Tripathi	Prof. K.M. Pandey	Effect of Obstacles on Flame velocity in Pulse Detonation Engine
10.	Kumar Aditya Chandra	Prof. K.M. Pandey and Dr. K. K Sharma	CFD analysis solar water heater
11.	Shivji Kumar	Prof. K.M. Pandey and Dr. K. K Sharma	CFD analysis solar water heater
12.	Pankaj kumar Shahu	Prof. K.M. Pandey	Optimisation of process parameters of abrasive water jet machining using grey-fuzzy hybrid approach
13.	Dhiraj Raj	Prof. K.M. Pandey and Dr. S.R.Maity	Characterisation of spray formed and warm rolled Al-Si-Pb alloy
14.	Guttikonda Manohar	Prof. K.M. Pandey and Dr.S.R.Maity	Fabrication and determination of mechanical properties of AA7075/B4C Nano composite by powder metallurgy techniques
15.	Navin Niraj	Prof. K.M. Pandey	Tribiological behaviour of magnesium metal matrix composites
16.	Ajay Yadav	Prof. K.M. Pandey	Tribiological behaviour of aluminium metal matrix composites
17.	Girija sankar Murmu	Prof. K.M. Pandey	Preparation of biodegradable plastic and bio-bag using banana peel as an alternative of plastic bag optimising with Taguchi method
18.	Netrananda Behera	Prof. K.M. Pandey	Modeling and simulation of uni-directional MMC subjected to off axis loading
19.	Rahul Ranjan	Prof. P. K. Patowari	Machining of Titanium in Macro and Micro Domain using EDM in Different Dielectric Medium
20.	Ekta Tripathi	Prof. P. K. Patowari	Design Analysis and Fabrication of Spiral Microchannels
21.	Keshob Kumar Patra	Prof. P. K. Patowari	Performance Evaluation for Drilling of Square Micro Holes using USM in Different Materials
22.	Tejas Naik	Prof. P. K. Patowari	Fabrication of Aluminium Al-6063 Based Metal Matrix Composite and its Machining using Wire-EDM



23.	Mehta Kandarp Jaydevbhai	Dr. S. Bhowmik	Development and application of J-C material model for 20MnMoNi55 steel
24.	C. Bhargav	Dr. S. Bhowmik	Evaluation of tensile and flexural properties of bamboo graphene filler reinforced epoxy composite
25.	Rahul Kumar	Dr. Y. Singh	To develop a currency recognition technique from feature extraction
26.	Shashank Pal	Dr. Dipankar Bhanja	Thermal performance analysis of PVT system with cooling arrangement
27.	Raju Prasad Saw	Dr. Sudip Dey	PSO based optimum microhardness of electroless Ni- P coating
28.	Tanmoy Loha	Dr. Sudip Dey	Nonlocal elasticity effects on stochastic free vibration of rotating nanocantilever beam
29.	Kritesh Kumar Gupta	Dr. Sudip Dey	Mechanical behaviour of monolayer graphene - A molecular dynamics study
30.	Saranga Sekhar Saikia	Dr. Sujit Nath	Thermal Performance Analysis of Coaxial and Microchannel Evacuated Tube Solar Collector
31.	Shreekant Kumar Sahu	Dr. Sujit Nath Dr. Dipankar Bhanja	Numerical study of heat transfer performance and flow characteristics of microchannel heat sink with micro pin-fins
32.	Ramdev Sah	Dr. A. Biswas and Prof. K.M. Pandey	Exergy and Energy Analysis of Micro Gas Turbine Integrated with Solar based Compressed Air Energy Storage
33.	Gopal Chandra Pal	Dr. Sukumar Pati	Some studies on natural convection heat transfer inside an enclosure having pair of cylinders embedded in it
34.	Madhusmita Sahoo	Dr. Sukumar Pati	Combined effects of pulsatile flow and non-uniform heating on transport characteristics for flow through wavy channel
35.	D. Borah	Prof. R.D. Misra	Experimental evaluation of performance and emission characteristics of CI Engine fuelled with pyrolysed vegetable oil
36.	A.K. Shukla	Prof. R.D. Misra	Thermodynamic analysis of earth air tunnel for hot and humid climatic conditions
37.	A. Sharma	Prof. R.D. Misra	Synthesis & characterization of a thermosensitive PCL-PEG-PCL hydrogel / hydroxyl apatite based scaffold
38.	Sumit Gupta	Dr. Biplab Das and Dr. Sumita Debbarma	Design and development of heat pipe based solar energy storage device

#### 1.11 Ph.D. Thesis

Sl. No.	Name of the Scholar	Name of the Supervisor	Title of the Thesis
1	Subhankar Das	Dr. Sudipta Halder	Silanized carbon fillers and its damage mitigation capabilities for potential reinforcement in hybrid laminates
2	Asangnam Satyavrata Singh	Dr. Sudipta Halder	Synthesis and Characterization of Hybrid FRP Biocomposites Using Bamboo Fillers
3	Nazrul Islam Khan	Dr. Sudipta Halder	Thermo-reversible healing of graphitic nanofiller hybridized CFRP laminated composites
4	A Gopal Krishna Singh	Dr. Sudipta Halder	Synthesis of Novel PCM microcapsules and their characterization for efficient thermal management of electronic devices.
5	P L Choudhury	Dr. Sudipta Halder	Enhancing Delamination Resistance of GFRP Laminates Using Graphene Nanofiller

6	Tankeshwar Prasad	Dr. Sudipta Halder	Assessing latent initiator based multiple healing in epoxy matrix GFRP laminated composites
7	Noor Alam	Dr. K.K. Sharma & Prof. K.M.Pandey	Numerical Analysis of Combustion Mechanism and Propulsive Performance of Pulse Detonation engine with various operating and Geometrical Parameters
8	Abhijit Dey	Prof. K M Pandey	Investigation on the Wire Electro Discharge Machining Behavior of Alumino Silicate Particles Reinforced AA6061 Alloy Composite Prepared by Compocasting Route
9	Gautam Choubey	Prof. K M Pandey	Numerical simulation with CFD on the performance of Scramjet combustor using Multi-strut injector
10	Wangikar Sandeep Sitaram	Prof. P. K. Patowari	Design and Development of Microchannel for Effective Mixing of Multifluids
11	Ambarish Maji	Prof. P. K. Patowari, Dr. D. Bhanja	Computational Investigation for System Performance Enhancement of Heat Sink with Perforated Pin Fins
12	Rahul Kumar	Dr. S. Bhowmik	Experimental investigation of static and dynamic mechanical properties of lingocellosic particle filler reinforced epoxy composite under diverse constraint
13	Pradeep Karsh	Dr. Sudip Dey	Stochastic Dynamic Analysis of Layered and Graded Structures.
14	Ravi Ranjan Kumar (submitted)	Dr. Sudip Dey & Prof. K.M Pandey	Surrogate based probabilistic performance assessment of sandwich plates
15	Suman Debnath	Dr. Biplab Das, Dr. P. Randive	Experimental investigation for performance evaluation of solar air collector with plain and wavy (corrugated) absorber plate.
16	Mrs. S. Debbarma	Prof. R. D. Misra	Experimental investigation on CI engine performance and exhaust emissions using biodiesel with nano-additives
17	B. Pattanayak	Prof. R. D. Misra	Synthesis of deoxygenated biofuels and their experimental performance evaluation for CI Engine applications

1. Name of the Department:

# Electrical Engineering



1.1 Academic Staff:

**HEAD :** Dr. Saurabh Chaudhury (01.04.2018 – 20.08.2018)

Dr. Nalin Behari Dev Choudhury (20.08.2018 – onwards)

**Name of Faculty members:**

Professor	Associate Professor	Assistant Professor
Prof. Nidul Sinha	Dr. Arup Kumar Goswami	Dr. Lalit Chandra Saikia
Prof. Binoy Krishna Roy	Dr. Jyoti Prasad Mishra	Dr. Tanmoy Malakar
Prof. N.B.Dev Choudhury		Dr. Dulal Chandra Das
Prof. Saurabh Chaudhury		Dr. Chayan Bhattacharjee
		Dr. Prasant Roy
		Dr Prashant Kumar Tiwari
		Dr Raj Kumar Biswas
		Dr. Rajeeb Dey
		Dr. Nirmala Soren
		Dr. Amretesh Kumar
		Dr. Tapan Pradhan
		Dr. D.Koteswara Raju
		Dr. Partha Kayal
		Dr. Avadth Pati
		Dr. Nabanita Adhikary
		Dr. Saheli Roy

Visiting Professor (If any): NIL

## 1.2 Distinction Achieved

a) By Student: NIL

b) By Faculty Member: NIL

## 1.3 SEMINARS, SYMPOSIA, SHORT TERM COURSES, WORKSHOPS

a) Conducted by Faculty Member

Sl. No.	Name(s) of the Coordinator	Title	Funding Agency	Duration
1.	Dr. T. Malakar Dr. R. Dey	Hands on Training using Mi-Power Software for Power System Analysis	TEQIP-III	2-6 Oct 2018
2.	Dr. L. C. Saikia, Dr. D. K. Raju, Dr. Tapan Pradhan	Synchrophasor Measurement Technology for Smart Grid - Present Scenario and Implementation in Indian Power System	TEQIP-II, NIT Silchar	19 - 23 Jan' 2019
3.	Dr. C. Bhattacharjee, Dr. D. C. Das, Dr. A. Goswami, Dr. P. K. Tiwari	Recent challenges on integration and energy management of wind and solar PV generation under the paradigm of smart grid.	TEQIP-II, NIT Silchar	17 - 21 Nov' 2018
4.	Dr. Nirmala Soren, Dr. Arnab Nandi	Outcome Based Education and Accreditation (WOBEA 2018), 30 <sup>th</sup> September-1 <sup>st</sup> October, 2018)	TEQIP-III, NIT Silchar	Sept 30-1 <sup>st</sup> Oct 2018

b) Participated by Faculty Member

Sl. No	Name of Faculty	Details of the Program	Organizing Institute
1.	Dr. J.P. Mishra	Workshop on "Outcome Based Education and Accreditation (WOBEA 2018)", sponsored by TEQIP – III, Sept. 30 <sup>th</sup> – Oct. 1 <sup>st</sup> , 2018	NIT Silchar and GUIST, Jalukabri, Guwahati
2.	Dr. Amrithesh Kumar	One week workshop on "Intellectual property rights and technological development" Jan21-25, 2019	NIT Silchar
3.	Dr. Amrithesh Kumar	"Outcome based education and accreditation", Sept 30-1 <sup>st</sup> , 2018	NIT Silchar and GUIST, Jalukabri, Guwahati
4.	Dr. Avadh Pati	One week workshop on "Intellectual property rights and technological development" Jan21-25, 2019	NIT Silchar
5.	Dr. Avadh Pati	"Outcome based education and accreditation", Sept 30-1 <sup>st</sup> , 2018	NIT Silchar and GUIST, Jalukabri, Guwahati
6.	Dr. Nabanita Adhikary	Curriculum Design and Implementation for Outcome Based Education (CuDIOBE 2019), 27 <sup>th</sup> May-31 <sup>st</sup> May, 2019.	NIT Silchar
7.	Dr. Nabanita Adhikary	Outcome Based Education and Accreditation (WOBEA 2018), 30 <sup>th</sup> September-1 <sup>st</sup> October, 2018)	NIT Silchar and GUIST, Jalukabri, Guwahati
8.	Dr. D. Koteswara Raju	Curriculum Design and Implementation for Outcome Based Education (CuDIOBE 2019), 27 <sup>th</sup> May-31 <sup>st</sup> May 2019	NIT Silchar
9.	Dr. Tapan Pradhan	Curriculum Design and Implementation for Outcome Based Education (CuDIOBE 2019), 27 <sup>th</sup> May-31 <sup>st</sup> May 2019	NIT Silchar
10.	Dr. D. C. Das	Workshop on "Outcome Based Education and Accreditation (WOBEA 2018)" sponsored by TEQIP – III, Sept. 30 <sup>th</sup> – Oct. 1 <sup>st</sup> 2018	NIT Silchar and GUIST, Jalukabri, Guwahati
11.	Dr. Saheli Ray	Outcome Based Education & Accreditation (WOBEA	NIT Silchar and GUIST,

		2018), 30 <sup>th</sup> September-1 <sup>st</sup> October, 2018	Jalukabri, Guwahati
12.	Dr. Saheli Ray	Intellectual Property Rights and Technological Development (IPRTD-2019), 21 <sup>st</sup> -25 <sup>th</sup> January, 2019	NIT Silchar
13.	Dr. Nirmala Soren	Outcome Based Education & Accrediation (WOBEA 2018), 30 <sup>th</sup> September-1 <sup>st</sup> October, 2018	NIT Silchar and GUIST, Jalukabri, Guwahati
14.	Dr. Nirmala Soren	4th World Summit on Accrediation, 7-9 Sep 2018	NBA
15.	Prof. B. K. Roy	Outcome Based Education & Accrediation (WOBEA 2018), 30 <sup>th</sup> September-1 <sup>st</sup> October, 2018	NIT Silchar and GUIST, Jalukabri, Guwahati

## 1.4 Research Development

a) **Ph.D. Programme (Specializations): Electrical Engineering**

b) **Ph.D. Produced/Ongoing (in number):**

Completed	Submitted	Ongoing
14 (Fourteen) ( From 01/04/2018 to 31/03/2019)	3 (Three) ( From 01/04/2018 to 31/03/2019)	61 ( Sixty one) ( Till 31/03/2019)

c) **Research Lab/ Workshop:**

Sl. No.	Name of Lab/Workshop	Purpose/Linkage to an existing/new programme
1.	Embedded System Lab	To carry out undergraduate, PG projects, mini projects for M. Tech (CIA) as a part of the course curriculum. Moreover, to take up projects leading to Ph.D
2.	Virtual Nano lab and CAD	To cater to the need of carrying out research in the field of nano electronics and VLSI Design
3.	Power System Hardware Lab	To explore the possibilities of conducting research on Smart Grid related problems using Power TLS simulator, Relay trainers
4.	Research Lab for Power Electronics	To provide facility for experimentation related to Power electronics and publish research papers based on prototype hardware results.
5.	Advance Control Laboratory	To provide facility for experimentation related to Control engineering and publish research papers based on prototype hardware results.
6.	Biomedical Signal Processing and Control Lab	Linkage to an existing program
7.	Network Theory Lab	Separate this lab from Basic Electrical lab as both runs in the same semester of B.Tech programme.

d) **Ongoing/Completed Sponsored Research Project:**

Sl. No.	Project Title	Principal Investigator(s)	Funding Agency	Cost in lakhs	Duration
1.	Design and Demonstration of Off-grid Self-Healing & Sustainable DC Community Energy Solutions	Dr. Amrithesh Kumar (CO-PI)	DST	250	2 Years
2.	Investigation and development of robust control strategy for nonlinear bilateral teleoperation system with delayed communication: An experimental validation for rehabilitation of stroke patients	Dr. Rajeeb Dey and Dr. Nabanita Adhikari	MHRD	67	2 years

e) Research Paper Reviewed

Sl. No	Faculty Name	Journal Name	No. of Paper	Year
1.	Dr. Saurabh Chaudhury	IETE Journal of Research	01	2018-19
		Journal of Circuit, system and Computer	01	2018-19
		IEEE Tnano	01	2018-19
2.	Dr. L.C. Saikia	IEEE trasaction on power systems	02	2018-19
		IET Renewable power generation	04	2018-19
		International Transactions on Electrical Energy Systems	05	2018-19
		ISA transaction	01	2018-19
		Energy	01	2018-19
		International Journal of power and Energy	01	2018-19
		International Journal of Energy research	02	2018-19
		Journal of the Franklin Institute	01	2018-19
		Electric power component and system	02	2018-19
3.	Dr. T. Malakar	Electric power components and system, Taylor & Francis	2	2018-19
		IEEE trans. on industrial Informatics, IEEE	1	2018-19
		Applied soft computing, Elsevier	4	2018-19
		Electrical Engineering, Springer	2	2018-19
		International journal of Green Energy, Taylor & Francis	1	2018-19
4.	Dr. Amritesh Kumar	IEEE Transaction on Industrial Electronics	03	2018-19
5.	Dr. Avadh Pati	ISA Transaction	2	2018-19
		COMPEL	1	2018-19
		IEEE Transactions on Industrial Electronics	1	2018-19
6.	Dr. N. Adhikary	Control Engineering Practice	01	2018-19
		IET Control Theory & Applications	1	2018-19
		Journal of the Franklin Institute	1	2018-19
		Journal of the Franklin Institute	1	2018-19
7.	Dr. Partha Kayal	International Transactions on Electrical Energy Systems, Wiley	3	2018-19
		IET Renewable Power Generation	1	2018-19
		IET Generation Transmission & Distribution	1	2018-19
8.	Dr. R K Biswas	Journal of the Franklin Institute	1	2018-19
		Optimal Control Applications and Methods	1	2018-19
		Asian Journal of Control	1	2018-19
9.	Dr. D. C. Das	IEEE System Journal	1	2018-19
		IEEE System Journal	1	2018-19
		International Transactions on Electrical Energy Systems	1	2018-19
		International Journal of System Assurance Engineering and Management	2	2018-19
		Journal of Energy Storage	1	2018-19
		International Journal of Sustainable Energy	1	2018-19
		Sustainable Cities and Society	1	2018-19
10.	Dr. D Koteswara Raju	ISA Transactions	10	2018-19



		Transactions of the Institute of Measurement and Control	2	2018-19
		Electrical Power components and systems	3	2018-19
11.	Dr. Prasanta Roy	ISA Transaction, IEEE Access	4	2018-19
12.	Dr. Chayan Bhattacharjee	Energy Conversion and Management	2	2018-19
13.	Prof. N. B. Dev Choudhury	AIHC, Spriger	12	2018-19
14.	Dr. Prashant Kumar Tiwari	IEEE Transactions on Power Systems	01	2018-19
		IET Generation, Transmission& Distribution	2	2018-19
15.	Dr. Rajeeb Dey	ISA Transaction, Elsevier	20	2018-19
		MSSP, Elsevier	2	2018-19
		IEEE Access	2	2018-19
		IJRNC, Wiley	2	2018-19
16.	Prof. B.K. Roy	Chaos Solitons and Fractals	4	2018-19
		Complexity	1	2018-19
		IEEE Access	4	2018-19
		IEEE Transaction of Industrial Electronics	2	2018-19
		International Journal of Bifurcation Chaos	2	2018-19
		International Journal of Distributed Sensor Networks	1	2018-19
		International Journal of Electrical and Computer Engineering	1	2018-19
		International Journal of Nonlinear Sciences and Numerical Simulation	1	2018-19
		International Journal of Systems Science	1	2018-19
		ISA Transaction	1	2018-19
		Journal of Energy Storage	1	2018-19
		Journal of Engineering and Technological Sciences	1	2018-19
		Journal of Nano science and Nanotechnology Applications (JNNA)	1	2018-19
		Mathematical Problems in Engineering	1	2018-19
		Mechanical System and Signal Processing	1	2018-19
		Neuro Computing	1	2018-19
		Robotics and Autonomous System	1	2018-19
		Systems and Control Engineering	1	2018-19

**f) Chairing of Technical Section**

Sl. No.	Faculty Name	Details
1.	Dr. Lalit Chandra Saikia	2nd International Conference on Power, Energy and Environment: Towards Smart Technology (ICEPE), Shillong, India, June, 2018
2.	Dr. T Malakar	Int. Con. on innovations in Infrastructure , Springer .18-19 May-2018
3.	Dr. Nirmala Soren	As a Session Chairperson at the International Conference on Engineering, Computers and Natural Sciences (ICECNS-2018) held during October 19-21, 2018 at Vivanta by Taj, Panjim, Goa India,
4.	Dr. D. C. Das	International Conference in Recent Trends on Electronics & Computer Sciences (ICRTECS), Silchar, March 2019
5.	Dr. Rajeeb Dey	First International Conference on Innovations in Infrastructure at IIT-RAM Ahmedabad May 19-19 2018

## 1.5 PUBLICATION

### a) International Journal(s):

1. Soumya Samanta, Jyoti Prakash Mishra, Binoy Krishna Roy, July 2018, "Virtual DC machine: an inertia emulation and control technique for a bidirectional DC-DC converter in a DC microgrid", IET Electric Power Applications, Vol. 12 no. 6, pp. 874-884.
2. Soumya Samanta, Jyoti Prakash Mishra, Binoy Krishna Roy, March 2018, "Hierarchical Virtual Inertia Control of a Grid Connected Inverter Interfaced DC Micro Grid to Regulate the DC Bus Voltage", Journal of Advance Research in Dynamical and Control Systems, Vol. 10, 03-Special Issue, Institute of Advanced Scientific Research (ISSN 1943-023X)
3. Chandan K. Pandey, Debashish Dash, Saurabh Chaudhury, Jan 2019, "Approach to suppress ambipolar conduction in Tunnel FET using dielectric pocket," IET Micro & Nano Letters, Vol. 14, no. 1, pp. 86-90.
4. Avtar Singh, Chandan Kumar Pandey, Saurabh Chaudhury, Chandan Kumar Sarkar, Jan 2019, "Effect of Strain in Silicon Nanotube FET devices for Low Power Applications", European Journal of Applied Physics, Vol. 85, no.1, pp.1-7
5. Debashish Dash, Chandan K. Pandey, Saurabh Chaudhury, Susanta K. Tripathy, Feb 2019, "Structural, Electronic, and Mechanical Properties of Anatase Titanium Dioxide – An Ab-Initio Approach," Multidiscipline Modelling in Materials and Structures, Emerald Publications, Vol.15, no.2, pp. 306-316.
6. Debashish Dash, Chandan K. Pandey, Saurabh Chaudhury, Susanta K. Tripathy, Sept 2018, "Determination of Different Optical Properties for Cubic Titanium Dioxide: An ab-initio Approach," Advances in Science and Technology Research Journal, Vol. 12, No. 3, pp.223-232
7. Chandan K. Pandey, Debashish Dash, Saurabh Chaudhury, May 2018, "Impact of Dielectric Pocket on Analog and High-Frequency Performances of Cylindrical Gate-All-Around Tunnel FETs," ECS Journal of Solid State Science and Technology, The Electrochemical Society, Vol. 7, No. 5,, pp.59-66.
8. Avtar Singh, Arpan Dasgupta, Rahul Das, Atanu Kundu, Saurabh Chaudhury, 2018, "An Extensive Study of Different Underlap Architectures of sub-32nm DG MOSFET," IJNEAM
9. W. Tasnin, L.C. Saikia, Oct 2018 "Deregulated AGC of multi area system incorporating dish Stirling solar thermal and geothermal power plants using fractional order cascade controller" International Journal of Electrical Power and Energy Systems, vol 101, pp. 60-74, 2018
10. R. Rajbongshi , L. C. Saikia, Aug 2018 "Coordinated performance of interline power flow controller and super conducting magnetic energy storage in combined ALFC and AVR system under deregulated market" Journal of Renewable and Sustainable Energy, Vol 10, no 4, pp.1-25
11. M. Raju, L. C. Saikia, N. Sinha, Feb 2019, "Load frequency control of a multi area system incorporating distributed generation resources, gate controlled series capacitor along with high voltage direct current link using hybrid ALO pattern search optimised fractional order controller" IET Renewable Power Generation, Vol 13, no 2, pp .330-341
12. Raju, L. C. Saikia, N. Sinha, Apr. 2018 " Maiden application of two degree of freedom cascade controller for multi-area automatic generation control", International Transactions on Electrical Energy Systems, vol.28, no.9, pp.2586
13. Arindita Saha, L.C. Saikia, Nov. 2018, "Load frequency control of a wind thermal split shaft gas turbine based restructured power system integrating FACTS and energy storage devices", International Transactions on Electrical Energy Systems, Vol 29, no 3, pp. 1- 19
14. Saumyabrata Das, T. Malakar, Feb 2019. "Emission constraint capacitor placement and sizing problem using modified competitive swarm optimizer", International Journal of AmbientEnergy, Taylor&Francis, pp.1-24. <https://doi.org/10.1080/01430750.2019.1587723>, ISSN 0143 - 0750
15. Saumyabrata Das, T. Malakar, 2018, "Optimum capacitor placement and sizing problem in distribution system using competitive swarm optimizer", (Accepted for publication) International. Journal of Advance Intelligence Paradigm, Inderscience. ISSN 1755-0394

16. Avadh Pati, Richa Negi, Dec 2018, "Design of backstepping control with CNN-based compensator for active magnetic bearing system subjected to input voltage saturation", *World Journal of Engineering*, Vol.15, No. 6, pp. 678 - 687, 2018. <https://doi.org/10.1108/WJE-03-2017-0068>
17. Nabanita Adhikary, Chitralekha Mahanta, Dec 2018, "Sliding Mode Control of Position Commanded Robot Manipulators", *Control Engineering Practice*, vol. 81, pp. 183-198.
18. Tirumalasetty Chiranjeevi, Raj Kumar Biswas, April 2018, "Formulation of optimal control problems of fractional dynamic systems with control constraints", *Journal of Adv Research in Dynamical & Control Systems*, Vol. 10, 03-Special Issue, Institute of Advanced Scientific Research.
19. Tirumalasetty Chiranjeevi, Raj Kumar Biswas, Feb 2019, "Closed form solution of optimal control problem of a fractional order system", *Journal of King Saud University – Science*, (Article in press), Elsevier,
20. Tirumalasetty Chiranjeevi, Raj Kumar Biswas, Feb 2019, "Optimal control of fractional order singular system", *International Journal of Electrical Engineering & Education*, SAGE. pp.1-17
21. S. Ranjan, D. Chandra Das, S. Behera, N. Sinha, Dec 2018, "Parabolic trough solar–thermal–wind–diesel isolated hybrid power system: active power/frequency control analysis," *IET Renewable Power Generation*, vol. 12, no. 16, pp. 1893-1903.
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24. Rajdeep Ghosh, Vikas Kumar, Nidul Sinha, Saroj Kumar Biswas, May 2018, "Motor imagery task classification using intelligent algorithm with prominent trial selection", *Journal of Intelligent & Fuzzy Systems*, vol.35, no.2, pp.1501-1510
25. D. Bhowmik, N. Sinha and A. K. Sinha, April 2018, "Investigation of multifarious power transferred through the transmission network for all associated generators in the system individually," *IET Generation, Transmission & Distribution*, vol. 12, no. 8, pp. 1848-1855.
26. J. P. Singh, B. K. Roy, Sept 2018, "Five new 4-D autonomous conservative chaotic systems with various type of non-hyperbolic and lines of equilibria", *Chaos Solitons & Fractals*, vol.114, pp.81-91
27. J. P. Singh, K. Rajagopal, B. K. Roy, July 2018, "A new 5D hyperchaotic system with stable equilibrium point, transient chaotic behaviour and its fractional-order form", *Pramana*, vol. 91, no. 3, pp. 33-41
28. P. Prakash, J. P. Singh, B. K. Roy, May 2018, "Fractional-order memristor-based chaotic jerk system with no equilibrium point and its fractional-order back stepping control", *IFAC-Papers On Line*, vol. 51, no.1, pp.1-6.
29. S. Barman, S. Samanta, J. P. Mishra, P. Roy, B. K. Roy, May 2018, "Design and Implementation of an IDA-PBC for a Grid Connected Inverter used in a Photovoltaic System", *IFAC-Papers On Line*, vol.51 no.1, pp.680-685.
30. Manashita Borah, B. K. Roy, July 2018, "Fractional-order systems with diverse dynamical behaviour and their switching-parameter hybrid-synchronization", *European Physical Journal Special Topics*, Springer, vol. 226, pp. 3747-3773.
31. P. P. Singh K. M. Singh, B. K. Roy, Oct 2018, "Chaos control in biological system using recursive back stepping sliding mode control", *Physics Journal Special Topics (EPJ ST)*, vol. 227, no. 7-9, pp.731-746
32. Bidhan Malakar, B.K. Roy, Aug 2018, "Adaptive Multisensor Data Fusion Technique for Train Localisation and Detection of Accidental Train Parting", *Radar, Sonar & Navigation*, vol. 12, no. 8, 853 – 861.
33. L. Seban, N Boruah, B. K. Roy, June 2018, "Development of FOPDT and SOPDT model from arbitrary process identification data using the properties of orthonormal basis function", *International Journal of Engineering and Technology (UAE)*, 7 (2.21), 77-83.
34. P.P.Singh, B.K.Roy, March 2018, "Comparative performances of synchronisation between different classes of chaotic systems using three control techniques", *Annual Reviews in Control*, Vol. 45, Pages 152-165

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36. K. Lochan, J. P. Singh, B. K. Roy, B. Subudhi, Sept. 2018, "Adaptive time-varying super-twisting global SMC for projective synchronisation of flexible" , Dynamics, vol.93, no.4, pp. 2071-2088
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41. Dey, B., Hossain, A., Dey, R. et al., Jume 2018, "Integrated Blind Signal Separation and Neu-ral Network Based Energy Detector Architecture", Wireless Pers Commun ., Vol.106, no.4, pp.2315-2333 <https://doi.org/10.1007/s11277-018-6081-y>
42. A.Nath, R. Dey, Carlos Aguilar-Avelar, Jan 2019, "Observer based nonlinear control design for glucose regulation intype 1 diabetic patients: An LMI approach", Biomedical Signal Processing and Control, vol. 47 , PP 7–15.
43. R. Dutta, R.Dey, Baby Bhattacharjee, Jan 2018, "Further Improved Stability Condition for T-S Fuzzy Time-Varying Delay Systems via Generalized Inequality", International Journal of Advanced Intelligence Paradigm, vol.10, pp.1
44. Pushpa Gaur, Nirmala Soren, Debashish Bhowmik, Feb 2019, "Load Frequency Control of Hybrid Power System Incorporating Vehicle-to-Grid Technology Considering AC Transmission Links", Journal of Electrical Engineering & Technology, pp.1-11 doi.org/10.1007/s42835-019-00134-9.
45. Pushpa Gaur, Nirmala Soren, Debashish Bhowmik, 2018, "Impact assessment of incorporating plug-in electric vehicles for frequency regulation of multi-area solar-thermal system", Journal of Advanced Research in Dynamical and Control Systems, Vol. 10, 15-Special Issue, no.103-112, ISSN:1943-023X
46. Pushpa Gaur, Debashish Bhowmik, Nirmala Soren, 2018, "Impact Assessment of Vehicle-to Grid in Frequency Control of Multi-area Hybrid System", International Journal of Engineering & Technology, 7 (4.41), Oct., 120-125, ISSN: 2227-524X
47. Pushpa Gaur, Nirmala Soren, Debashish Bhowmik, 2018, "Impact Assessment of Vehicle-to-grid Technology in LFC of Multi-area Solar-thermal Power System", International Journal of Renewable Energy Research, Vol.8, No.3, September, pp. 1580-1590, Online ISSN: 1309-0127
48. Pushpa Gaur, Nirmala Soren, Debashish Bhowmik, Dec 2018, "Secondary Frequency Regulation of Multi-area Interconnected Hybrid Power System with electric vehicle", International Journal on Electrical Engineering and Informatics, Vol. 10, No. 4 Printed ISSN 2085-6830/ online e-ISSN 2087-5886 DOI: 10.15676/ijeii.2018.10.4.8
49. Thomas Paul, Nirmala Soren, March 2018, "An overview of municipal solid waste-to-energy application in Indian scenario, Environment, Development and Sustainability (Springer Nature), <https://doi.org/10.1007/s10668-018-0235-7> , August.
50. Galiveeti Hemakumar, Arup Kr Goswami, Nalin B.D Choudhury, Sept 2018 "Impact of Distributed Generation Integration on Distribution System Reliability", Indian Journal of Science and Technology, vol.11, no.34, pp.1-13

66. A. K. Barik, and D. C. Das, Oct 2018, "Expeditious Frequency Control of Solar PV/Biogas/Biodiesel Generator based Isolated Renewable Microgrid using Grasshopper Optimisation Algorithm" IET Renewable Power Generation, Vol.12, No.14, pp. 1659-1667.
67. A. Latif, A. Pramanik, D. C. Das, et.al, Oct 2018, "Plug in Hybrid Vehicle-Wind-Diesel Autonomous Hybrid Power System: Frequency Control using FA and CSA Optimized Controller", International Journal of System Assurance Engineering and Management (Springer), Vol. 9, no.5, pp. 1147-1158.
68. D. Koteswara Raju, Arvind Singh, Mohan P Thakre, Dec 2018, "Adaptive Digital Distance Relay for SSSC Based Double- Circuit Transmission Line Using Phasor Measurement Unit", International Transactions on Electrical Energy Systems (Wiley-Blackwell), Vol. 29, no.04, pp. 1-20.
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70. Manashita Borah, Prasanta Roy, Binoy Krishna Roy, Aug 2018, "Enhanced Performance in Trajectory Tracking of a Ball and Plate System using Fractional Order Controller", IETE Journal of Research, vol. 64, no.1, pp 76-86.
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72. M. Barman, N. B. Dev Choudhury., Oct 2018, "Hybrid GOA-SVR technique for short term load forecasting during periods with substantial weather changes in North-East India." Procedia Comput Sci 2018;143:124–32. doi:10.1016/j.procs.2018.10.360.
73. Prashant Kumar Tiwari, Manash Kumar Mishra, Subhojit Dawn, March 2019, "A two step approach for improvement of economic profit and emission with congestion management in hybrid competitive power market", published in International Journal of Electrical Power and Energy Systems (Elsevier), vol. 110, pp. 548-564.
74. Subhojit Dawn, Prashant Kumar Tiwari, Arup Kumar Goswami, Ankit Kumar Singh, Rajesh Panda, Jan 2019, "Wind Power: Existing Status, Achievements and Government's Initiative towards Renewable Power Dominating India", published in Energy Strategy Reviews, vol. 23, pp. 178-199, (SCIE-SCOPUS Journal)
75. Furquan Nadeem, S.M. Suhail Hussain, Prashant Kumar Tiwari, Arup Kumar Goswami, Taha Selim Ustun, Dec 2018, "Comparative Review of Energy Storage Systems, Their Roles and Impacts on Future Power Systems," published in IEEE Access, vol. 7, pp. 4555-4585
76. Rajesh Panda, Prashant Kumar Tiwari, Oct 2018, "Economic Risk based Bidding Strategy for Profit Maximization of Wind Integrated Day-Ahead and Real-Time Double Auctioned Competitive Power Markets," published in IET Generation, Transmission & Distribution, vol. 13, no. 2, pp. 209-218
77. Rituparna Mitra, Arup Kumar Goswami, Prashant Kumar Tiwari, Oct 2018, "Optimal Selection of Voltage Sag Mitigating Devices for Micro Level Customer in Distribution System", published in IET Renewable Power Generation, vol. 13, no. 1, pp. 191-200.
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79. Subhojit Dawn, Prashant Kumar Tiwari, Arup Kumar Goswami, Aug 2018, "An efficient approach for establishing the economic and operating reliability via optimal coordination of wind-PSH-solar-storage hybrid plant in highly uncertain double auction competitive power market", published in IET Renewable Power Generation, vol. 12, no.10, pp. 1189-1202

**b) National Journal(s):**

**c) International Conference(s):**

1. Rituparna Mitra, Arup Kumar Goswami, Prashant Kumar Tiwari, "Wind Power Generation, an Ingredient for Charging Battery Electric Vehicle (BEV) and a Useful Menace of Voltage Sag in Distribution System", 3rd International Conference for Convergence in Technology (I2CT), 1-6, Publication date 2018/4/6, Publisher IEEE.
2. Rituparna Mitra, SadhanGope, Arup Kumar Goswami, Prashant Kumar Tiwari, "Optimal Selection of Voltage Sag Mitigating Devices Using Whale Optimization Algorithm for Small and Medium Sized Customers in Distribution System", 2nd International Conference on Power, Energy and Environment: Towards Smart Technology (ICEPE), 1-6, Publication date 2018/6/1, Publisher IEEE.
3. SK Ruksana, SK Singh, AK Goswami, N Sinha, "Recent Challenges for Power Quality Impacts on Grid Integrated Wind Energy System: A Review", Second International Conference on Intelligent Computing and Control Systems (ICICCS), 420-426, Publication date 2018/6/14, Publisher IEEE.
4. S Esther, SK Singh, AK Goswami, N Sinha, Recent Challenges in Vehicle to Grid Integrated Renewable Energy System: A Review", Second International Conference on Intelligent Computing and Control Systems (ICICCS), 427-435, Publication date 2018/6/14, Publisher IEEE.
5. Devaprasad Paul, Arup Kumar Goswami, Subham Kumar, Sushant Jain, Adarsh Pandey, "A Comparative Study on Propagation of Voltage Sag through Different Transformer Winding Connections", IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES), 1-5, Publication date 2018/12/18.
6. Devaprasad Paul, Arup Kumar Goswami, PK Rout, Surendra Prakash, "Modelling of Logic Circuit for Enabling High Speed Auto Reclosure of High Voltage System" International Conference on Power Electronics, Drives and Energy Systems (PEDES), 1-6, December 2018.
7. Chinmaya Behera, Mamata Debbarma, Abhishek Banik, Galiveeti Hemakumar Reddy, Arup Kumar Goswami, "Voltage Sag Mitigation Using Distributed Generation For An Industrial Distribution System", IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES), 1-6, December 2018.
8. Subhasish Deb, Pratik Harsh, Jaina Prasad Sahoo and Arup Kumar Goswami, "Charging Coordination of Plug-in Electric Vehicle for Congestion Management in Distribution System Integrated with Renewable Energy Sources" IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES), 1-6, December 2018.
9. Debashish Dash, Chandan K. Pandey, Saurabh Chaudhury, and S. K. Tripathy "Structure and Electronic Properties of TiO<sub>2</sub> Nanowires of Different Geometrical Shapes: An Ab-initio Study", 3rd IEEE International conference on Devices for Integrated Circuit (DevIC), 2019, Kolkata.
10. Inamul Hussain, Chandan K. Pandey, Saurabh Chaudhury, "Design and Analysis of Low Power Multiplier Circuit," 3rd IEEE International conference on Devices for Integrated Circuit (DevIC), 2019, Kolkata.
11. Avtar Singh, Chandan K. Pandey, Saurabh Chaudhury, Chandan K Sarkar "Comparative Study of High K in Silicon Nano Tube FET for Switching Applications," 3rd IEEE International conference on Devices for Integrated Circuit (DevIC), 2019, Kolkata.
12. Chandan K. Pandey, Avtar Singh, Saurabh Chaudhury, "Interfacial Charge Analysis of Dielectric Pocket SOI-TFET," 3rd IEEE International conference on Devices for Integrated Circuit (DevIC), 2019, Kolkata.
13. Chandan K. Pandey, Saurabh Chaudhury, "A Novel Structure of Double-Gate Tunnel FET with Extended Back Gate for Improved Device Performances," 2nd IEEE International conference on Innovations in Electronics, Signal processing and Communication (IESC), 2019, NIT Meghalaya.
14. Chandan K. Pandey, Debashish Dash, Saurabh Chaudhury, "Dielectric Engineered Tunnel FETs for Improved Device Performances," 4th International conference on Nanotechnology-Applications, Advances and Innovations (NanoCon-2018), Oct. 25-26, BVDU, Pune.
15. Chandan K. Pandey, Saurabh Chaudhury, "Dual-Metal Graded-Channel Double-Gate Tunnel FETs for Reduction of Ambipolar Conduction," 1st IEEE International conference on Electron Devices (EDKCON-2018), Nov. 24-25, Kolkata.

16. D Debashish, Saurabh Chaudhury, TS Kumar, A Density Functional Theory- Based Study of Electronic and Optical Properties of Anatase Titanium Dioxide, International Conference on Advances in Communication, Devices and networking, 2018
17. N. R. Babu, L. C. Saikia, D. Saha, "Smart AC and Micro DC Grid Based DSM Using Battery Storage and Wind Energy," 2018 2nd International Conference on Power, Energy and Environment: Towards Smart Technology (ICEPE), Shillong, India, 2018, pp. 1-6..
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21. W. Tasnin, L.C.Saikia, A. Saha, D. Saha and R. Rajbongshi, "Effect of Different Renewables and FACT Device on an Interconnected Thermal System Using SCA Optimized Fractional Order Cascade Controllers," 2018 2nd International Conference on Power, Energy and Environment: Towards Smart Technology (ICEPE), Shillong, India, 2018, pp. 1-6.
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23. D. Saha, L.C.Saikia, W. Tasnin, A. Saha and R. Rajbongshi, "Frequency and Temperature control scheme for AGC of a CCGT and WTG integrated Isolated System," 2018 International Conference on Computing, Power and Communication Technologies (GUCON), Greater Noida, Uttar Pradesh, India, 2018, pp. 825-830
24. T. Malakar, U. Ghatak, "An Efficient Unbalanced Load Flow for Distribution Networks" International Conf. on Innovations in Infrastructure, Springer.18-19 May 2018, Ahmedabad, Gujarat.
25. Soumyabrata Das, Tanmoy Malakar: "A Probabilistic Load Flow with Uncertain Load using Point Estimate Method", INDICON 2018.
26. Nisha, Vipin Chandra Pal, Richa Negi and Avadh Pati, "Stability analysis of continuous time-delayed system with input saturation", 5th IEEE Uttar Pradesh Section International Conference on Electrical, Electronics and Computer Engineering (UPCON), 2-4 Nov. 2018, MMM Gorakhpur, India, pp. 1-6, 2018.
27. S. Roy, G. Adhikari, T. Dasgupta, T. Pradhan, "An Adaptive Warp Correction Algorithm for Handwritten Text Images with Non-Linear Baselines", 9th IEEE International Conference on Computing, Communication and Networking Technologies (ICCCNT) 2018, IISC Bangaluru, India, 10-12 July 2018.
28. G. Adhikari, S. Roy, T. Dasgupta, T. Pradhan, "A Novel Technique for Unwarping Curved Handwritten Texts Using Mathematical Morphology and Piecewise Affine Transformation", 9th IEEE International Conference on Computing, Communication and Networking Technologies (ICCCNT) 2018, IISC Bangaluru, India, 10-12 July 2018.
29. Suman Sutradhar, Nalin B Dev Choudhury, Nidul Sinha, " Parallel ABC optimization algorithm for hydrothermal scheduling problems", vol. 1998, no.1, pp. 020015, Aug 2018
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31. SK Ruksana, SK Singh, AK Goswami, N Sinha, " Recent Challenges for Power Quality Impacts on Grid Integrated Wind Energy System: A Review", Second International Conference on Intelligent Computing and Control Systems (ICICCS), 2018, pp.420-426



32. P. P. Singh, B. K. Roy, Secure Communication Using NAC Based Synchronisation Between Nonidentical Chaotic Systems, 2nd IEEE Int. Conference on Energy, Power and Environment (ICEPE), NIT Meghalaya, Shillong, Meghalaya, India, June 1-2, 2018
33. M. Borah, B. K. Roy, A Novel Multi-wing Fractional-order Chaotic System, its Synchronisation Control and Application in Secure Communication, IEEE International Conference on Energy, Power and Environment (ICEPE), NIT Meghalaya, Shillong, Meghalaya, India, June 1-2, 2018
34. J. Samantaray, S. Chakrabarty, and B K Roy, Switching Surface as a Filter and its Application to Anti-synchronisation of Lu Chaotic System, 15th International Workshop on Variable Structure Systems (VSS-2018), Graz University of Technology, Austria, 9-11 July 2018
35. A. K. Prajapati, B. K. Roy, Rajendra Prasad, A State of Art Review of Integrated Vehicle Health Management System, Conference: IEEE 3rd International Conference for Convergence in Technology (I2CT), At: The Gateway Hotel , XION Complex, Wakad Road, Pune, April-2018
36. Pushpa Gaur, Debashish Bhowmik, Nirmala Soren, "Utilization of plug-in electric vehicles for frequency regulation of multi-area hybrid power system", International Conference on Computational Intelligence & IoT, 2018, Vol.1, Issue.1, Dec. 2018, 84-89, ELSEVIERSSRN( ISSN:15565068 <https://ssrn.com/abstract=3354440>)
37. Uday Kumar Jha, Nirmala Soren, Abhimanyu Sharma, " An Efficient HEMS for Demand Response considering TOU Pricing Scheme and Incentives" 2nd International Conference on Energy, Power and Environment: Towards Smart technology,ICEPE2018, June 2018, DOI: 10.1109/EPET SG.2018.86593388
38. P. Kumar, A. K. Barik, D. C. Das, "Comparative Study on Optimal Frequency Control of Interconnected Hybrid Microgrid based mini VPP using PSO and SSA", International Conference in Recent Trends on Electronics & Computer Sciences (ICRTECS), Silchar, pp. 1-6, 2019.
41. A. K. Barik, D. C. Das, R. Muduli,"Demand Response Supported Optimal Load-Frequency Regulation of Sustainable Energy based Four-Interconnected Unequal Hybrid Microgrids", 2019 IEEE International Conference on Sustainable Energy Technologies and Systems (ICSETS), pp. 273-278, 2019.
42. A. Barik, D. C. Das "Optimal Load Frequency Regulation of Bio-Renewable Cogeneration Base Interconnected Hybrid Microgrids with Demand Response Support", IEEE India Council International Conference (INDICON), 16-18 December 2018.
43. G. Das and D. C. Das "Demand Side Management for Active Power Control of Autonomous Hybrid Power System", 2nd International Conference in Energy, Power and Environment (ICEPE), 1-2 June, 2018
44. A. Barik and D.C. Das, "Active Power Management of Isolated Renewable Microgrid Generating Power from Rooftop Solar Arrays, Sewage Waters and Solid Urban Wastes of a Smart City using Salp Swarm Algorithm", Technologies for Smart-City Energy Security and Power (ICSESP) 2018, IEEE, pp. 1-6, 2018.
45. Saheli Ray, Aniruddha Bhattacharya, "Symbiotic Organisms Search Algorithm for Reliability Improvement in Radial Distribution Network", Computational Intelligence and Internet of Things (ICCIoT), NIT Agartala, India, 14<sup>th</sup> -15<sup>th</sup> December, 2018.
46. A.Sahi , C. Bhattacharjee, "A Study and Analysis of Fuzzy Based P&O MPPT Scheme in PMSG Based Wind Turbine", ICSESP, IEEE, Bhubaneswar, India, 2019
47. D. Tripathy, B. K. Sahu, B. Patnaik, N.B. Dev Choudhury, "Spider Monkey Optimization Based Fuzzy-2D-PID Controller for Load Frequency Control in Two-Area Multi Source Interconnected Power System," IEEE International Conference on Technologies for Smart-City Energy Security and Power (ICSESP-2018), March 28-30, Bhubaneswar, India, 2018, pp. 1-6.
48. D. Tripathy, A. K. Barik, N. B. Dev Choudhury, B. K. Sahu, "Performance Comparison of SMO-Based Fuzzy PID Controller for Load Frequency Control," Soft Computing for Problem Solving, Advances in Intelligent Systems and Computing, IIT Bhubaneswar, India, 2018, pp. 879-892
49. D. Tripathy, B. K. Sahu, N. B. Dev Choudhury, S. Dawn, "Spider monkey optimization based cascade controller for LFC of a hybrid power system," International Conference on Computational Intelligence & IoT (ICCIoT), NIT Agartala, India, 2018, pp.747-753

50. Rajesh Panda, Prashant Kumar Tiwari, "Security Constrained Unit Commitment Economic Dispatch Based Optimal Bidding Strategy in Risky Environment", accepted for publication in IEEE PES GTD Grand International Conference and Exposition Asia 2019, from 19 - 23 March 2019 at Bangkok, Thailand
51. Sadhan Gope, Arup Kumar Goswami and Prashant Kumar Tiwari, "Congestion Mitigation Considering Solar Electric Vehicle: A Possible Solution for Today's Electricity Market", International Conference on Sustainable Energy and Environment Sensing (SEES 2018), University of Cambridge , U.K., 18-19 June, 2018
52. Sadhan Gope, Arup Kumar Goswami, Prashant Kumar Tiwari, "Impact Assessment of Bi-directional Solar Electric Vehicle in Competitive Electricity Market under Congested Transmission System", Procedia Computer Science, vol. 143, pp. 653-662, 2018, E-ISSN: 1877-0509. SCOPUS Indexed
53. Rajesh Panda, Prashant Kumar Tiwari, "Bidding Strategy for GENCOs and DISCOs in a Risk-based Day-Ahead Market", 1<sup>st</sup> IEEE International Conference on Sustainable Energy Technologies and System, February 2019 at KIIT, Bhubaneswar, Odisha
54. Arindam Sanyal, Rajesh Panda, Prashant Kumar Tiwari, "Frequency Regulation in Deregulated Power Markets: A Review", International Conference on Computational Intelligence and Internet of Things (ICCIoT 2018)", 14-15 December 2018, NIT Agartala, India
55. Rajesh Panda, Prashant Kumar Tiwari, Subhojit Dawn, "A wind integrated bidding model in day-ahead and real-time market considering regulating price in a deregulated power market ", SCOPUS Indexed International Conference on New Technological Opportunities in Networking and Sciences (NEWTONS-18), 8-10 June 2018, SIT Pithoragarh, India

**d) National Conference(s): NIL**

**e) Book/Chapter:**

**Books**

1. D.Deb, V.E Balas, R.Dey, J. Shah, Innovative Research in Transportation Infrastructure as book series in Lecture notes in Intelligent Transportation and Infrastructure, Springer, Singapore, 2018, ISBN: 978-981-13-2031-6 (Edited volume from Conference ICIIF)
2. D.Deb, R.Dey, V.E. Balas, Engineering research Methodology, Springer Nature, 2019
3. D.Deb, V.E. Balas, R.Dey, Innovations in Infrastructure, Springer Nature, 2018 (Edited Volume from Conference ICIIF).
4. R.Patel, D. Deb, R.Dey, V.E. Balas, Adaptive and Intelligent Control of Microbial Fuel Cells, 978-3-030-18067-6, Springer International Publishing, Book Series - Intelligent Systems Reference Library

**Book Chapters**

1. Avtar Singh, Saurabh Chaudhury, "Effect of Ground Plane and Strained Silicon on Nanoscale FET Devices", in the book Nano-Scale Device Physics (CRC Press), 2018
2. S Chaudhury, SK Sinha, "Carbon Nanotube and Nanowires for Future Semiconductor Devices Applications, in the book Nanoelectronics: Devices", Circuits and systems, DOI: 10.1016/B978-0-12-813353-8.00014-2, 2018,
3. Arindita Saha, L.C.Saikia, Rumi Rajbongshi, Debdeep Saha, Washima Tasnin, "AGC of multi-area thermal-split shaft gas turbine system integrating interline power flow controller and ultra-capacitor, International Conference on Innovations in Infrastructure," Advances in Intelligent Systems and Computing, pp.105-115, 2019
4. Rumi Rajbongshi, L.C.Saikia, Arindita Saha, Washima Tasnin, Debdeep Saha, "Impact of Power System Stabilizer on Combined ALFC and AVR System, International Conference on Innovations in Infrastructure," International Conference on Innovations in Infrastructure," Advances in Intelligent Systems and Computing, pp.573-582, 2019
5. Washima Tasnin, L.C. Saikia, Debdeep Saha, Rumi Rajbongshi, Arindita Saha, "Effect of Geothermal Power Plant and other renewable on AGC of an interconnected thermal system using SCA optimized Fractional Order Cascade Controllers, International Conference on Innovations in Infrastructure,"

International Conference on Innovations in Infrastructure," Advances in Intelligent Systems and Computing, pp.481-491, 2019

6. T. Malakar, Innovations in Infrastructure, Advances in Intelligent Systems and Computing 757, [https://doi.org/10.1007/978-981-13-1966\\_10](https://doi.org/10.1007/978-981-13-1966_10), Springer Nature Singapore Pte Ltd., 2019
7. L.Seban, B.K.Roy, "Development of parsimonious orthonormal basis function models using particle swarm optimisation, Computational Intelligence: Theories, Applications and Future Directions", I, AISC, Springer, [https://link.springer.com/chapter/10.1007/978-981-13-1132-1\\_43](https://link.springer.com/chapter/10.1007/978-981-13-1132-1_43).
8. Jay Prakash Singh, K Rajagopal, Binoy Krishna Roy, "5-D Hyperchaotic and Chaotic Systems with Non-hyperbolic Equilibria and Many Equilibria, Nonlinear Dynamical Systems with Self-Excited and Hidden Attractors", Springer, Cham, Editors: Pham V-T., Vaidyanathan S., 133, 465-497, 2018
9. K. Lochan, Jay Prakash Singh, Binoy Krishna Roy, "Hidden Chaotic Path Planning and Control of a Two-Link Flexible Robot Manipulator, Nonlinear Dynamical Systems with Self-Excited and Hidden Attractors", Springer, Cham, Editors: Pham V-T., Vaidyanathan S., 133, 433-463, 2018,
10. R. Dey, G. Ray V. E. Balas, Stability and Stabilization of Linear and Fuzzy time-delay system, Springer International Publishing AG, ISSN 1868-4394, ISBN 978-3-319-70147-9, 2018
11. Sutradhar, Suman, Nalin Choudhury, Nidul Sinha, 2018, "Parallel ABC optimization algorithm for hydrothermal scheduling problems", AIP Conference Proceedings, vol.1998, no.1, pp. 020015, 2018
12. Sipon Das, Anirudh Nath, Rajeeb Dey, Saurav Choudhury, Glucose Regulation in Dia-betes Patients Via Insulin Pump: A Feedback Linearisation Approach, Innovations in Infrastructure, As a book series of Advances in Intelligent Systems and Computing, Vol. 757, Springer Singapore, eBook ISBN 978-981-13-1966-2, 2019
13. Rupak Dutta, Rajeeb Dey, Baby Bhattacharjee, Delayed State Feedback Controller De-sign for Inverted Pendulum Using T-S Fuzzy Modeling: An LMI Approach, Innovations in Infrastructure, As a book series of Advances in Intelligent Systems and Computing, Vol. 757, Springer Singapore, eBook ISBN 978-981-13-1966-2, 2019.

## 1.6 CONSULTANCY SERVICES : NIL

Sl. No.	Name of the Scheme	Sponsoring Agency	Amount Earned
1.			

## 1.7 MAJOR EQUIPMENT ACQUIRED

NIL

## 1.8 PATENT : NIL

## 1.9 VISITS TO ABROAD

Sl.No.	Name of the Faculty	Name of the Conference/ Programme	Place	Date
1.	Dr. Prashant Kumar Tiwari	IEEE PES GTD Grand International Conference and Exposition Asia 2019	Bangkok, Thailand	19 <sup>th</sup> – 23 <sup>rd</sup> March 2019
2.	Dr. Rajeeb Dey	ERASMUS+ faculty Exchange	UAV Romania	2 <sup>nd</sup> - 7 <sup>th</sup> March 2019
3.	Prof. N. B. Dev Choudhury	Study in India Programme	Ethiopia	13-21 March 2019
4.	Prof. N. B. Dev Choudhury	Study in India Programme	Uganda	13-21 March 2019
5.	Prof. N. B. Dev Choudhury	Study in India Programme	Bhutan	29 March - 1 April, 2019

### 1.10 M.Tech. / M.Sc. (Thesis/Project)

Sl. No.	Name of the Scholar	Name of the Supervisor	Title of the Thesis/Project
1.	Mr. Abhishek Banik	Dr. A. K. Goswami	Wind power uncertainty forecasting via Prediction Interval using recurrent neural networks.
2.	Mr. Shiladity Dey	Dr. A.K. Goswami	Causative fault classification and optimal placement of lighting arrester for minimizing the risk of failure in transmission systems.
3.	Mr. Sayan Mukherjee	Dr. J. P. Mishra	Power Quality Improvement using Transformer less Hybrid Series Active Filter in Three Phase Three Wire System
4.	Mr. Prakash Majumdar	Dr. S. Chaudhury	Intelligent Traffic control using Image Processing
5.	Mr. Sanjeev Kumar Bhagat	Dr. L.C. Saikia	AGC of Multi Area Multi Source System Incorporating PLL and Emulation Inertia Under Deregulated Environment
6.	Mr. Abhimanyu	Dr. T. Malakar	Solution of Optimal Active Power Dispatch Problem using Hybrid Artificial Bee Colony Algorithm.
7.	Mr. Chudamani Sethi	Dr. R.K. Biswas	A formulation and solution scheme for optimal control problem of a fractional order singular system
8.	Mr. Pintu Kumar	Dr. M. K. Bera Dr. R.K. Biswas	Control of HIV/AIDS Dynamics
9.	Mr. Ajnish Kumar Sharma	Dr. N. Soren	Frequency control of Isolated hybrid power system using PSO optimized controller
10.	Ms. Sophia Debbarma	Dr. N. Soren	Day -ahead demand side management using Particle Swarm Optimization Algorithm
11.	Mr. Anindya Basu	Dr. P. Roy	Different Zone Temperature Control of Reheating Furnace and Plate Thickness Gap Control of HotRolling Mill of a Steel plant
12.	Mr.Soumitra Barman	Dr. P. Roy	Design of an IDA-PBC Technique for Energy Management and Damping Improvement of a Renewable Based DC Hybrid Power System
13.	Mr. Ankit Sahi	Dr. Chayan Bhattacharjee	Fuzzy Logic Based Maximum Power Extraction of WECS and Its Comparative Analysis
14.	Mr. Ankit Pal	Dr. Chayan Bhattacharjee	A Comparative Analysis of Different Control Schemes for PV System
15.	Ms. Ampolu Maneesha	Dr. Prashant Kumar Tiwari	Optimal Bidding Strategy While Providing Ancillary Services with Wind-PSP Hybrid Generation System in Competitive Power Markets
16.	Mr. Adarsh Nagariya	Dr. Prashant Kumar Tiwari	A Strategic Bidding Model for Power Market Considering Economic & Physical Congestions
17.	Ms. Bishmita Sharma	Dr. Rajeeb Dey, Prof. Saurabh Choudhury	Automated Recipe for Induction Cook top using Fuzzy Logic
18.	Mr. Sipon Das	Dr. Rajeeb Dey, Prof. Saurabh Choudhury	Adaptive control for Regulation of blood glucose for Type 1 Diabetes patient
19.	Mr. Bhawani Sankar Dey	Dr. B. K. Roy Dr. M. Bera	Control of Cancerous Tumour Growth by Chemotherapy
20.	Mr. Pakaj Prakash	Dr. B. K. Roy	Fractional-order and Integer-order Chaotic and Hyperchaotic Systems, Control, Synchronisation, and Their Circuit Simulation
21.	Mr. Sibir Ahmad	Dr. B. K. Roy	Tip Position and Tip Deflection Control of a Two-Link Flexible Manipulator
22.	Mr. Utsab Rakshit	Dr. B. K. Roy	Selection and Placement of Automatic Couplers in a Long Freight Train to Reduce the Coupler Forces and Wheel Slide Protection System

### 1.11 Ph.D. Thesis

Sl. No.	Name of the Scholar	Name of the Supervisor	Title of the Thesis
1.	Jayesh Deorao Ruikar	Dr. S. Chaudhury	Perceptual Image Quality Assessment Techniques (Completed)
2.	K Lochan	Dr B. K. Roy	Design of Robust Control Algorithms for a Two-link Flexible Manipulator (Completed)
3.	Raju More	Dr. L. C. Saikia Dr Nidul Sinha	Load frequency Control of Multi-area Power Systems Under Conventional Environment Using Some Nature Inspired Algorithms Optimized Secondary Controllers (Completed)
4.	Arindita Saha	Dr. L. C. Saikia	Automatic Generation Control of Some Interconnected Systems Using WOA Optimized Secondary Controllers (Completed)
5.	Washima Tasnin	Dr. L. C. Saikia	AGC of Multi Area System Incorporating Geothermal Power Plants Using SCA Optimized Fractional Order Cascade Controllers (Completed)
6.	Debdeep Saha	Dr. L. C. Saikia	Analysis of Selected Automatic Generation Control Problems of Interconnected Power Systems Incorporating Diverse Generating Sources (Completed)
7.	Rumi Rajbongshi	Dr. L. C. Saikia	Combined Voltage and Frequency Control of Diverse Sources Incorporated Multi-area Power System under Conventional and Deregulated Environment (Completed)
8.	Galiveetti Hemakumar Reddy	Dr. N. B. Dev Choudhury Dr. A. K. Goswami	Approaches for reliability assessment and improvement of Electrical Distribution system (Completed)
9.	Debashish Bhowmic	Dr. Nidul Sinha	Investigations on the estimation of contribution of individual generators in modern power system (Completed)
10.	Jay Prakash Singh	Dr. B.K.Roy	Development, analyses and applications of some new dissipative/conservative chaotic and hyperchaotic systems with self-excited or hidden attractors (Completed)
11.	Bidhan Malakar	Dr. B.K. Roy	A Study on Certain Aspects of Comfort and Safety Issues in Indian Railways Using VI Rail (Completed)
12.	Manashita Borah	Dr. B.K. Roy	Design, Control, Synchronisation and Applications of Fractional-order Chaotic System (Completed)
13.	Lalu Seban	Dr. B. K. Roy	Applications of Orthonormal Basis Function Models in Some Aspects of Plantwide Process Control (Completed)
14.	Anirudh Nath	Dr. Rajeeb Dey	Control oriented modelling and design of control techniques for the blood glucose regulation in type 1 diabetic patients: towards artificial pancreas ( Submitted)
15.	Abhishek Rajan	Dr. T. Malakar	Solution of active and reactive power dispatch using a meta-heuristic exchange market algorithm (Submitted)
16.	Adbul Kayum Md Khairuzzamman	Dr. S. Chaudhury	Multi-level thresholding based image segmentation using some metaheuristic algorithm (Submitted)
17.	Debashish Dash	Dr. S. Chaudhury	Some studies on Anatase and Cubic Titanium Dioxide using DFT based Approach (Submitted)

### 1.11 Ph.D. Thesis

Sl. No.	Name of the Scholar	Name of the Supervisor	Title of the Thesis
1	Abahan Sarkar	Prof. Binoy Krishna Roy	Automation of some real issues in ITC plant
2	Bidhar Malakar	Prof. Binoy Krishna Roy	A Study on Certain Aspects of Comfort and Safety Issues in Indian Railways Using VI-Rail
3	Kshetrimayum Lochan	Prof. Binoy Krishna Roy	Design, Simulation and Experimental Validation of Robust Control Algorithm for Tip Trajectory Tracking Control of TLFM
4	Prashant Roy (Part time)	Prof. Binoy Krishna Roy	Design and Application of Fractional Order Controllers and a Comparative Study with their Integer Order Counterparts
5	Lalu Saben (Part time)	Prof. Binoy Krishna Roy	Applications of Orthonormal Basis Function Models in Some Aspects of Plantwide Process Control
6	Jay Prakash Singh	Prof. Binoy Krishna Roy	Development, analyses and applications of various type of new chaotic and hyperchaotic systems
7	Manashita Borah	Prof. Binoy Krishna Roy	Design, Control, Synchronisation and Applications of Fractional-order Chaotic Systems
8	Rohit Lorenzo	Dr. Saurabh Chaudhury	Design and Simulation of Some Leakage Minimization Schemes for CMOS VLSI Circuits and Systems
9	Joyesh D. Ruikar	Dr. Saurabh Chaudhury & Prof. (late) A. K. Sinha	Some Studies on Perceptual Image Quality Assessment Techniques
10	Subhojit Dawn	Dr. P. K. Tiwari Dr. A. K. Goswami	Study and Analysis the Impacts of Uncertain Renewable Power Penetration in Competitive Power Market.
11	Sadhan Gope	Dr. A. K. Goswami Dr. P. K. Tiwari	Transmission Congestion Management Considering Wind Farm and Energy Storage System in Competitive Electricity Market.
12	Hema Kumar Reddy	Dr. A. K. Goswami Dr. N. B. Dev Choudhury	Comprehensive approach for reliability assessment and improvement of electrical distribution systems.
13	Suman Sutradhar	Prof. N. B. Dev Choudhury Prof. N. Sinha	Some Studies on Intelligent Algorithms for Optimal Operation of Power System under Conventional and Deregulated Environment
14	Subir Datta	Dr. Jyoti Prakash Mishra and Dr. A.K. Roy (Retd. Prof)	Simulation of Grid Connected Speed Sensor-less DFIG-based Wind Energy Conversion System with its Power Quality Improvement
15	Abhishek Rajan	Dr. T. Malakar	Solution of Active and Reactive Power Dispatch Using a Meta-Heuristic Exchange Market Algorithm
16	Israfil Hussain	Prof. N. Sinha Dr. D. C. Das	Performance Analysis of Automatic Generation Control of Integrated Hybrid Power System based on Renewable Energy Sources/Energy Storage System
17	Subhojit Dawn	Dr. Prashant Kumar Tiwari (Supervisor), Dr. Arup Kumar Goswami (Cosupervisor)	Study and Analysis the Impacts of Uncertain Renewable Power Penetration in Competitive Power Market
18	Mr. Sadhan Gope	Dr. Arup Kumar Goswami (Supervisor), Dr. Prashant Kumar Tiwari (Cosupervisor)	Transmission Congestion Management Considering Wind Farm and Energy Storage System in Competitive Electricity Market
19	Chayan Bhattacharjee (Part time)	Prof. Binoy Krishna Roy	Dynamic Power Management and Power Quality Improvement of a Grid Tied Hybrid Distribution System

**1. Name of the Department:**

**Electronics & Communication Engineering**



**1.1 Academic Staff:**

**HEAD :** Prof. Fazal Ahmed Talukdar

**Name of Faculty members:**

Professor	Associate Professor	Assistant Professor	Trainee Teacher
Prof. Fazal Ahmed Talukdar	Dr. Madhuchhanda Choudhury	Dr. Wasim Arif	Mr. Anupal Deka
Prof. Srimanta Baishya	Dr. Madhumita Paul	Dr. Koushik Guha	
	Dr. Prashanta Kumar Paul	Dr. Trupti Ranjan Lenka	
	Dr. Krishna Lal Baishnab	Dr. Ashraf Hossain	
	Dr. Rabul Hussain Laskar	Dr. Ram Kumar Karsh	
	Dr. (Mrs.) Brinda Bhowmick (Shome)	Dr. Ganesh Prasad Keshri	
		Dr. Taimoor Khan	
		Dr. Banani Basu	
		Dr. Susanta Kumar Tripathi	
		Dr. Arnab Nandi	
		Dr. Ujjal Chakraborty	
		Dr. Chandrajit Choudhury	
		Dr. Robin Khosla	
		Dr. Prabina Pattanayak	



		Dr. R. Murugan	
		Dr. Kavicharan Mummaneni	
		Dr. Pukhrambam Puspa Devi	
		Dr. Gaurav Singh Baghel	
		Dr. M. V. Swati	
		Dr. Tripti Goel	
		Dr. Devendra Singh Gurjar	

**Visiting Professor (If any): NIL**

## 1.2 Distinction Achieved

**a) By Student: NIL**

**b) By Faculty Member:**

1. Dr. Kaushik Guha was elevated to IEEE Senior Member
2. Dr. Kaushik Guha was resource person in National Workshop on “Emerging Trends in High Frequency Electronics Devices and Communication Technology” from 25th-29th March, 2019 in Mizoram University.
3. Dr. Kaushik Guha was awarded OUTSTANDING FACULTY IN ENGINEERING under VIFA 2018
4. Dr. Kaushik Guha was awarded prestigious IRDP award ‘Sardar Vallabhbhai Patel National Reformer Award 2018’.
5. Dr. Robin Khosla awarded Alexander von Humboldt Foundation post doc fellowship, at University of Stuttgart, Germany
6. Dr. Trupti Ranjan Lenka was Faculty Advisor- ED NIT Silchar Student Branch Chapter: Received Funding of 1000 USD in Feb 2019.
7. Dr. Trupti Ranjan Lenka was Faculty Advisor- ED NIT Silchar Student Branch Chapter: Received Funding of 1000 USD in Apr 2018.
8. Dr. Trupti Ranjan Lenka was PhD Thesis Examiner of Manipal University, Jaipur, Rajasthan held on 22<sup>nd</sup> Nov 2018.
9. Dr. Trupti Ranjan Lenka was PhD Thesis Indian Examiner of Anna University, Chennai held on 08<sup>th</sup> Oct 2018.
10. Dr. Trupti Ranjan Lenka was PhD Thesis Indian Examiner of Anna University, Chennai held on 28<sup>th</sup> Sept 2018.

## 1.3 SEMINARS, SYMPOSIA, SHORT TERM COURSES, WORKSHOPS

**a) Conducted by Faculty Member**

Sl. No.	Name(s) of the Coordinator	Title	Funding Agency	Duration
1.	Dr. Arnab Nandi Dr. Nirmala Soren	Outcome Based Education & Accreditation (WOBEA 2018)	TEQIP III	30 Sep – 1 Oct 2018
2.	Dr. S. K. Tripathy	INSPIRE Internship Science Camp	DST	05 days
3.	Dr. S. K. Tripathy	National Workshop on Modeling of Novel Nanoelectronic Devices and Circuits for ULSI Technology	DST+TEQIP	05 days

4.	Dr. Koushik Guha	3 Days workshop on “CMOS-MEMS Integration: From Devices to Applications”	DSTSERB	12-14 April 2018
5.	Dr. Koushik Guha and Dr. K. L. Baishnab	15 Days Hands on Training on CADENCE	Self-Sponsored	1 <sup>st</sup> -15 <sup>th</sup> June 2018
6.	Dr. Koushik Guha and Dr. K. L. Baishnab	Six week Summer Internship Program on VLSI	Self-Sponsored	1 <sup>st</sup> June - 15 <sup>th</sup> July 2018
7.	Dr. Koushik Guha	2 -Day Familiarization Workshop on Nanofabrication Technologies organized by INUP IIT Bombay and NIT Silchar	INUP, IIT Bombay and NIT Silchar jointly	28 <sup>th</sup> -29 <sup>th</sup> January 2019
8.	Dr. Koushik Guha, Dr. K. L. Baishnab, Dr. Wasim Arif, Dr. T. R. Lenka	International Conference on Recent Trends in Electronics & Computer Science (ICRTECS- 2019)	TEQIP-III	18 <sup>th</sup> -19 <sup>th</sup> March 2019
9.	Dr. Koushik Guha	3 Days workshop on “CMOS-MEMS Integration: From Devices to Applications”	DSTSERB	12 <sup>th</sup> -14 <sup>th</sup> April 2018
10.	Dr. Koushik Guha and Dr. K. L. Baishnab	15 Days Hands on Training on CADENCE	Self-Sponsored	1 <sup>st</sup> -15 <sup>th</sup> June 2018
11.	Dr. Koushik Guha and Dr. K. L. Baishnab	Six week Summer Internship Program on VLSI	Self-Sponsored	1 <sup>st</sup> June - 15 <sup>th</sup> July 2018
12.	Dr. Koushik Guha	2 -Day Familiarization Workshop on Nanofabrication Technologies organized by INUP IIT Bombay and NIT Silchar	INUP, IIT Bombay and NIT Silchar jointly	28 <sup>th</sup> -29 <sup>th</sup> January 2019
13.	Dr. Koushik Guha, Dr. K. L. Baishnab, Dr. Wasim Arif, Dr. T. R. Lenka	International Conference on Recent Trends in Electronics & Computer Science (ICRTECS- 2019)	TEQIP-III	18 <sup>th</sup> -19 <sup>th</sup> March 2019
14.	Dr. Prabina Pattanayak	Recent trends in wireless communications: Challenges and Opportunities	TEQIP III	05 days
15.	Covener: Dr. Rabul Hussain Laskar Coordinators: Dr. Ram Kumar Karsh Dr. R. Murugan Dr. Tripti Goel	One week training program “Biomedical Imaging & Image Processing	TEQIP-III	28 <sup>th</sup> July to 1 <sup>st</sup> August 2018
16.	Dr. Brinda Bhowmick (Convener) Dr. U Chakraborty (Coordinator)	Emerging Devices, Circuits and Systems (EDCS 2019)	TEQIP-III	21 <sup>st</sup> to 25 <sup>th</sup> January 2019
17.	Dr. T. R. Lenka	IEEE EDS Mini Colloquium (MQ) on “Recent Trends in Microelectronics & VLSI Design” at NIT Silchar.	IEEE Electron Devices Society (EDS)	3 <sup>rd</sup> Nov 2018

**b) Participated by Faculty Member**

Sl. No.	Name of Faculty	Details of the Program	Organizing Institute
1	Dr. Arnab Nandi	4th World Summit on Accreditation (WOSA 2018), 7-9 Sep 2018	National Board of Accreditation
2	Dr. Banani Basu	Outcome Based Education & Accreditation (WOBEA 2018)	NIT Silchar
3	Dr. S. K. Tripathy	International Conference on Advanced Research in Applied Science and Engineering (RASECONF)	Virje University Amsterdam
4	Dr. Devendra Singh Gurjar	Outcome Based Education & Accreditation (WOBEA 2018),	NIT Silchar, 30 Sep - 1 Oct, 2018
5	Dr. Devendra Singh Gurjar	Networks & Software Architecture	IIT Kanpur, 15-16 Sep 2018
6	Dr. Devendra Singh Gurjar	One-week Summer School on Antenna and Microwave Engineering (SUSAME-2018)	NIT Silchar, 23 - 27 July, 2018
7	Dr. Koushik Guha	Attended and presented a paper in "6th International Conference on Computing, Communication and Sensor Network", October, 27 <sup>th</sup> -28 <sup>th</sup> , 2018, Kolkata, India	Applied Computer Technology
8	Dr. Koushik Guha	Attended and presented papers in "IEEE Sponsored 2019 5th International Conference for Convergence in Technology", March 29th -31st, 2019, Pune, India	IEEE Bombay Section
9	Dr. Pukhrambam Puspa Devi	Workshop on Intellectual Property Rights and Technological Development	NIT Silchar
10	Dr. Pukhrambam Puspa Devi	Workshop on outcome based education and accreditation	NIT Silchar
11	Dr. Pukhrambam Puspa Devi	Summer school of antenna and microwave engineering	NIT Silchar
12	Dr. Pukhrambam Puspa Devi	Stress Management and Leadership Development	Art of Living International Centre, Bengaluru
13	Dr. Taimoor Khan	TEQIP III Sponsored, <i>One Week</i> , "Summer School on Antenna and Microwave Engineering (SUSAME-2018)", Department of Electronics and Communication Engineering, NIT Silchar.	TEQIP III

**1.4 Research Development****a) Ph.D. Programme (Specializations):**

Medical Image Processing, Wireless Sensor Networks, 4G and 5G Communication, Design of Antenna and Metamaterials Structure, Soft Computing Techniques in Antenna Array Optimization, Wireless Communications, Microwave Engineering, Microelectronics

**b) Ph.D. Produced/Ongoing (in number):**

Completed	Submitted	Ongoing
16	04	43

**c) Research Lab/ Workshop:**

Sl. No.	Name of Lab/Workshop	Purpose/Linkage to an existing/new programme
1	Green Communication Systems Lab	New Lab for Green Communications
2	Speech and Image Processing Lab	Research

3.	Image Processing and Computer Vision Lab	Research
4	Optical Communications Lab	Research
5	Photonics Research Lab	Research

**d) Ongoing/Completed Sponsored Research Project:**

Sl. No.	Project Title	Principal Investigator(s)	Funding Agency	Cost in lakhs	Duration
1	Design of Reconfigurable Defected Ground Structure Resonator for Wireless Application	Dr. Arnab Nandi	SERB, GoI	23.4	3 Years
2	Effect of metal doped TiO <sub>2</sub> on photoanode and lead free organic-inorganic metal halide perovskite on photovoltaic performance of perovskite solar cell: experimental and theoretical approach	Dr. S. K. Tripathy	SERB	42.38	2017-2020
3	High Pressure Phase Transitions, Electronic, Elastic and Optical Properties of Selected Defect Chalcopyrite Semiconductors for Optoelectronic Application	Dr. S. K. Tripathy	CSIR	11.42	2019-2022
4	Chips to System Design- Special Manpower Development Project (C2SD- SMDP) in IIT Madras cluster	Dr. K. L. Baishnab Dr. Koushik Guha	MeitY, Govt. of India	160 approx.	5 Years (2015 - 2020)
5	Development of prototype facial biometric based on video surveillance system	Prof. F. A. Talukdar (PI) Dr. Rabul Hussin Laskar (Co-PI)	BARC	<b>24.98</b>	3 years
6	Development of prototype of disabled friendly automatic virtual text-entry keyboard interface system under practical environment conditions	Dr. Rabul Hussain Laskar (PI) Dr. Taimoor Khan (Co-PI)	DST	89.45/-	3 years
7	Multimodal user interface for assisting elderly people in indoor environment	Dr. Joyeeta Singh (PI) LNMIIT, Jaipur Dr. Rabul Hussin Laskar (Co-PI)	DST	32.2	3 years
8	Development of EBG-Structured Printed Antennas for Ultra Wideband Communication and Futuristic Modeling for Prediction of Performance of Parameters using Computational Intelligence Techniques	Dr. Taimoor Khan (PI) Dr. Rabul Hussin Laskar (Co-PI)	DST	18.4	3 Years
9	Sir Visvesvaraya Young Faculty Research Fellowship Award	Dr. T. R. Lenka	Ministry of Electronics and Information Technology (MeitY), Govt. of India	32.00	5 Years

e) Research Paper Reviewed

Sl. No.	Faculty Name	Journal Name	No. of Paper	Year
1	Dr. R. Murugan	International Ophthalmology (INTE)	01	2019
2		Practical Applications and Implementations of Machine Learning Techniques	02	2019
3		Computer Networks and Cyber Security: Principles and Paradigms	06	2019
4	Dr. S. K. Tripathy	The Journal of Physical Chemistry	02	2018
5	Dr. Ganesh Prasad	CSI Transactions on ICT, Springer	01	2019
6	Dr. Gaurav Singh Baghel	IEEE Transactions on Plasma Science	03	2018-19
7	Dr. Koushik Guha	Microsystem Technologies, Springer	05	April 2018 - March 2019
8		IEEE Access Journal	02	April 2018 - March 2019
9		IEEE Sensor Journal	01	April 2018 - March 2019
10		IEEE Transactions on Electron Device	01	April 2018 - March 2019
11		IETE Journal of Research	01	April 2018 - March 2019
12		International Journal of Electronics, Taylor & Francis	02	April 2018 - March 2019
13		International Journal of Modelling and Simulation, Taylor & Francis	02	April 2018 - March 2019
14		Solid state Electronics, Elsevier	01	April 2018 - March 2019
15	Dr. Prabina Pattanayak	Elsevier AEU	02	2018-2019
16	Dr. Brinda Bhowmick	IEEE Transction on Electron Devices, International Journal of Electronics, Silicon, Journal of Computational electronics, Electronics letters	05	2018-2019
17	Dr. Pukhrambam Puspa Devi	Optical Fiber Technology	01	August,2019
18	Dr. Taimoor Khan	IEEE Microwave theory and Techniques	01	Dec 2018
19		IET Microwave Antennas and Propagation	01	Sept 2019
20		International Journal of RF and Microwave computer Aided Engineering	01	Sept 2019
21	Dr. Robin Khosla	IEEE Transaction on Electron Devices	01	2019

f) Chairing of Technical Section

Sl. No.	Faculty Name	Details
1	Dr. R. Murugan	Delivered a technical talk on cyber security, laws and frauds in ONGC Srikona, Assam on 17/12/2018
2	Dr. R. Murugan	Delivered a technical talk on psychology of Specially Abled Students, physical barriers and responsibilities of Stakeholders towards such students in Barak

		valley Engineering College, Nirala, Karimganj Assam on 22/08/2019
3	Dr. Koushik Guha	Session chair in International Conference on Recent Trends in Electronics & Computer Science (ICRTECS-2019), NIT Silchar, Assam, India during 18-19 March 2019.
4	Dr. Prabina Pattanayak	IEEE International Conference on Applied Electromagnetics, Signal Processing & Communication, 2018
5	Dr. Rabul Hussain Laskar	International Conference on Recent Trends in Electronics and Computer Science (ICRTECS 2019) (18-19 March, 2019)
6	Dr. Brinda Bhowmick	Recent Trends on Electronics & Computer Science (ICRTECS-2019) 18th 19th March 2019, NIT Silchar

## 1.5 PUBLICATION

### a) International Journal(s):

1. Murugan, R., 2018. An optic disc localization in retinal images using two dimensional correlation coefficient approaches-a fast method. International Journal of Pure and Applied Mathematics, 118(10), pp.191-198.
2. R. Murugan, Deepak Kumar Nayak, Dr.Anitha Juliette, 2018 Particle Analysis in Metallurgical Inclusion for Defence Applications using LABVIEW. International Journal of Engineering Technology Science and Research, 5(4),pp.787-793
3. Amiya Dey and Arnab Nandi, "gold-MUSIC based DOA Estimation and Multiuser Detection of DS-CDMA System with Optimal Beam-former ULA Antenna," Wireless Personal Communications, Accepted for Publication. Impact Factor 1.2. SCI Indexed
4. Ashish Pandey, Abhishek Ranjan, Arnab Nandi and Valentina E. Balas, "On Lifetime Enhancement of Super Nodes based Wireless Sensor Networks by using Sine Cosine Algorithm," Journal of Information Science and Engineering, Accepted for Publication. Impact Factor 0.468. SCI Indexed
5. Ashish Pandey, Shashank Shekhar, Arnab Nandi and Banani Basu, "On Lifetime Enhancement of Wireless Sensor Network using Particle Swarm Optimization," International Journal of Advanced Intelligence Paradigms (IJAIP), Accepted for Publication. SCOPUS Indexed
6. J. Kumar, B. Basu, F. A. Talukdar and A. Nandi, "Stable-multiband frequency reconfigurable antenna with improved radiation efficiency and increased number of multiband operations," IET MAP. Vol. 13, Issue 5, pp. 642-648, 2019. IF 1.739. SCI indexed
7. J. Kumar, B. Basu, F. A. Talukdar and A. Nandi, "Multimode-inspired Low Cross-polarization Multiband Antenna Fabricated using Graphene-based Conductive Ink," IEEE Antennas and Wireless Propagation Letters, Vol. 17, Issue 10, pp. 1861-1865, 2018. IF 3.448 SCI Indexed
8. Bidisha Hazarika, Jayendra Kumar and Banani Basu, "A Multi-Layered Dual-Band On-Body Conformal Integrated Antenna for WBAN Communication," AEU - International Journal of Electronics and Communications (Elsevier), Volume 95, October 2018, Pages 226-235. Impact Factor 2.115. SCI Indexed
9. J. Kumar, B. Basu and F. A. Talukdar, "Modeling of a PIN Diode RF Switch for Reconfigurable Antenna Application," Scientia Iranica (Elsevier), In Press. Impact Factor 1.025. SCIE Indexed
10. Pratistha Brahma and Banani Basu, "Optimization of Sparse Linear Array Using State Transition Algorithm," International Journal of Advanced Intelligence Paradigms (IJAIP), Accepted for Publication. SCOPUS Indexed
11. Jayendra Kumar, Ram Kumar, Banani Basu, Fazal Ahmed Talukdar and Ajai Kumar, "Design Challenges of Rectenna for Wireless Energy Harvesting," Asian Journal of Water, Environment and Pollution, Accepted. SCOPUS Indexed

12. R. Mayengbam, A. Srivastava, S. K. Tripathy and G. Palai, "Electronic Structure and Optical Properties of Gallium-Doped Hybrid Organic-Inorganic Lead Perovskites from First-Principles Calculations and Spectroscopic Limited Maximum Efficiencies" J. Phys. Chem. C, (Accepted).
13. P. Sarkar, R. Mayengbam, S. K. Tripathy, K. L. Baishnab, "Cubic methylammonium lead chloride perovskite as a transparent conductor in solar cell applications: An experimental and theoretical study" Ind. J. Pure Appl. Phys. (Accepted)
14. I.S. Amiri, S. K. Sahoo, G.Palai, S.K.Tripathy, "Generation of '16' type of biomedical laser using a single photonic structure: A new paradigm to operation in medical science" Optik 197 (2019) 163227.
15. I.S. Amiri, G.Palai, S.K.Tripathy, S. R. Nayak, "Realisation of all photonic logic gates using plasmonic-based photonic structure through bandgap analysis", Optik194 (2019) 163123 (1-6).
16. P. Sarkar, J. Mazumder, S. K. Tripathy, K. L. Baishnab, G. Palai, "Structural, optoelectronic, and morphological study of indium-doped methylammonium lead chloride perovskites", Appl. Phys. A 125 (2019) 580 (1-12).
17. I.S. Amiri, G.Palai, Jafar A.Al-Zubi, S.K.Tripathy, "Controlling of optical fiber bending losses through 'WARN' parameter and machine learning direction at three communication windows", Optik 194 (2019) 163054 (1-6).
18. I.S.Amiri, P.Yupapin, Bandana Mahapatra, S.K. Tripathy, G.Palai, "Computation of PUG concentration in human blood using the combination of photonics and machine learning", Optik 192 (2019) 162968 (1-6).
19. Iraj Sadegh Amiri, P.Yupapin, G.Palai and S.K. Tripathy, "A proposal to identify live cancer cell by naked eye: Realization of biomedical application using 1D photonic structure", Optik 183 (2019) 818-821.
20. D. Dash, C. K. Pandey, S. Chaudhury, and S. K. Tripathy, "Structure, Stability and Electronic Properties of Thin TiO<sub>2</sub> Nanowires of Different Novel Shapes: An Ab- initio Study" J. Scientia Iranica 26 (3) (2019) 1951-1961.
21. G. Palai, Anand Nayyar, Arun Solanki, S. K. Tripathy, "Generation of Ultra Violet signal from visible light using Photonic Crystal Fiber: A realization of PCF based UV torch", Optik 180 (2019) 913-916.
22. R. Mayengbam, S. K. Tripathy and G. Palai, "First principle Insights of Electronic and Optical properties of Cubic Organic-Inorganic MAg<sub>x</sub>Pb<sub>(1-x)</sub>I<sub>3</sub> Perovskites for Photovoltaic applications", J. Phys. Chem. C, 122 (49) (2018) 28245–28255.
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24. D. Dash, C. K. Pandey, S. Chaudhury, and S. K. Tripathy, "Determination of Different Optical Properties for Cubic Titanium Di-oxide: An ab-initio Approach", Advances in Science and Technology Research Journal, Vol. 12(3) (2018) 223-232.
25. G. Palai, B. Nayak, S. K. Sahoo, S R Nayak, S. K. Tripathy, "Metamaterial based photonics crystal fiber memory for optical computer", Optik 171 (2018) 393-396.
26. D. S. Gurjar, H. H. Nguyen, and P. Pattanayak, 2019, "Performance of wireless powered cognitive radio sensor networks with nonlinear energy harvester," IEEE Sensors Letters, vol. 3, no. 8, pp. 1-4, Aug. 2019, Art no. 7500704. doi: 10.1109/LSENS.2019.2928024
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29. G. Prasad, D. Mishra, and A. Hossain, "Joint Optimization Framework for Operational Cost Minimization in Green Coverage-Constrained Wireless Networks", IEEE Transactions on Green Communications and Networking, Vol. 2, No. 3, pp. 693-706, Apr., 2018.



30. G. S. Baghel and M. V. Kartikeyan, "Output System of A 220-/247.5-/275-GHz, 1.0-MW, Triple-Frequency Regime Gyrotron," in *IEEE Transactions on Electron Devices*, vol. 65, no. 4, pp. 1558-1563, April 2018. doi: 10.1109/TED.2018.2808380
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45. K. Srinivasa Rao, B.V.S. Sailaja, K.V. Vineetha, P.Ashok, Koushik Guha and K. Girija Sravani, "Design and Analysis of Asymmetric structure based Capacitive RF MEMS Shunt Switch", *Journal of Microsystems Technologies*, Springer, <https://doi.org/10.1007/s00542-018-4039-3> (SCI) August 2018.
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106. D. Panda, G. Amarnath, T. R. Lenka, "Small-Signal Model Parameter Extraction of E-Mode N-Polar GaN MOS-HEMT using Optimization Algorithms and its Comparison," *Journal of Semiconductors (IOP Science)*, Vol. 39, No. 7, pp. 074001-8, 2018. DOI:10.1088/1674-4926/39/7/000000. [Scopus]
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108. D. Panda, T. R. Lenka, "Investigation of Gate Induced Noise in E-mode GaN MOS-HEMT and its Effect on Noise Parameters," *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields (Wiley)*, Vol. 31, Issue. 5, pp.1-15, 2018, DOI: 10.1002/jnm.2318. [Scopus, SCI]

**b) National Journal(s): NIL**

**c) International Conference(s):**

1. Murugan R., Devi R.K., Albert A.J., Nayak D.K. (2019) An IOT Based Weather Monitoring System to Prevent and Alert Cauvery Delta District of Tamilnadu, India, Lecture Notes on Data Engineering and Communications Technologies, vol 31. Springer, Cham, pp.462-469
2. Murugan R.(2019), The Retinal Blood Vessel Segmentation Using Expected Maximization Algorithm, Lecture Notes on, Computer Vision and Machine Intelligence in Medical Image Analysis, Advances in Intelligent Systems and Computing pp.992-1000.
3. R. Murugan (2019), Retinal Optic Nerve Head Segmentation, proceedings of IEEE International Conference on Innovations in Engineering, Technology and Sciences, Bangalore
4. R. Murugan(2019), An Automatic Classification of Magnetic Resonance Brain Images using Machine Learning Techniques, Lecture Notes of Electrical Engineering.
5. R. Murugan, Anitha Juliette Albert, Deepak Kumar Nayak, An Automatic Localization of Microaneurysms in Retinal Fundus Images, Proceedings of 2019 IEEE International Conference on Smart Structure and Systems.
6. R. Murugan, Reeba Korah, Aby K. Thomas,(2019) The Blood Vessel Segmentation in Retinal Fundus Images using Deep Learning, Proceedings of Alliance International Conference on Artificial Intelligence and Machine Learning, April 2019 .
7. Anitha Juliette Albert, Murugan R Muthammal R (2019), Full Swing Gate Diffusion Input Based NCL Threshold Gates, proceedings of International Conference In Recent Trends on Electronics & Computer Science, NIT Silchar.
8. R. Hepsibah, Deepak Kumar Nayak, R Murugan (2019), Channel Estimation Techniques for OFDM Based Wireless Channel, proceedings of International Conference In Recent Trends on Electronics & Computer Science, NIT Silchar.
9. Jegan Mohan, R.Murugan, Tripti Goel, (2019), Investigations of diabetic retinopathy algorithms in retinal fundus images, proceedings of International Conference In Recent Trends on Electronics & Computer Science, NIT Silchar.
10. Amiya Dey and Arnab Nandi, "Spatial Estimation of Signals in Non-overlapping Time for ULA Antenna based Six User DS-CDMA," International Conference on Recent Innovations in Electrical, Electronics & Communication Engineering (ICRIEECE 2018), 27<sup>th</sup> - 28<sup>th</sup> July 2018, India
11. Ashish Pandey, Abhishek Rajan and Arnab Nandi, "On Lifetime Enhancement of Wireless Sensor Networks by using Sine Cosine Optimization Algorithm," IEEE 7<sup>th</sup> International Conference on Reliability, Infocom Technologies and Optimization (ICRITO 2018), Amity University, 29<sup>th</sup> – 31<sup>st</sup> Aug 2018, India
12. Ashish Pandey, Abhishek Rajan and Arnab Nandi, "Lifetime Enhancement of Wireless Sensor Network by using Moth Flame Optimization Algorithm," International Conference on Computing, Power and Communication Technologies (GUCON 2018), 28<sup>th</sup> -29<sup>th</sup> Sep, 2018, India.
13. Amit Roy, Atanu Santra, Somnath Mahato, Sukabya Dan, Arnab Nandi and Anindya Bose, "A Cost-effective GNSS data Collection and Analysis Technique using Raspberry Pi," International Conference in Recent Trends on Electronics & Computer Science (ICRTECS-2019), March 18th- 19th, 2019, India.
14. Ashish Pandey and Arnab Nandi, "Lifetime enhancement of super node based WSNs with optimal size cluster formation by using Gravitational Search Algorithm," 2nd International Conference on Communication, Devices and Computing (ICCDC 2019), March 14-15, 2019, India
15. Pratistha Brahma and Banani Basu, "Design of Unequally Excited Two Elements Antenna Array using Gysel Power Divider," 2nd International Conference on Communication, Devices and Computing (ICCDC 2019), March 14-15, 2019, India.
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17. R. Mayengbam, S. K. Tripathy, "First principles investigation of electronic and optical properties of cubic perovskite  $\text{CH}_3\text{NH}_3\text{PbX}_3$  (X=I, Cl) materials", Int. Conf. on Advances in Nanomaterials and Devices for Energy and Environment (ICAN), IIT Gwalior, India, Jan 27-29, 2019.
18. Paramita Sarkar, S. K. Tripathy, K. L. Baishnab, "Comparison of synthesized methylammonium lead chloride powders using halide and non-halide source of lead via co-precipitation method", International Meeting on Energy Storage Devices (IMESD), IIT Roorkee, India, Dec 10-12, 2018.
19. Rishikanta Mayengbama, S. K. Tripathy, "First-Principles Calculation of Structural, Electronic and Optical Properties of  $\text{CuInTe}_2$  Semiconductor", Nano/Micro 2D-3D Fabrication, Manufacturing of Electronic–Biomedical Devices & Applications" (IWNEBD-2018), IIT Mandi, India, Oct 31<sup>st</sup> –Nov 2, 2018.
20. S. Singh, S. Yuvaraj, G. S. Baghel and M. V. Kartikeyan, "Design studies of a RF interaction cavity for a 4 MW, 170 GHz triangular corrugated coaxial cavity gyrotron," 2018 IEEE International Vacuum Electronics Conference (IVEC), Monterey, CA, 24-26 April 2018, pp. 35-36. doi: 10.1109/IVEC.2018.8391539
21. K.Girija Sravani and Koushik Guha "Investigation of Uniform and Non-uniform serpentine design of RF-MEMS switch for low actuation voltage," presented in 5th International Conference on Microelectronics , Circuits and Systems, 19-20<sup>th</sup> May, 2018 in Bhubaneswar, Odisha, India.
22. K.Girija Sravani, G.Sai Lakshmi,K.V.Vineetha, Koushik Guha, K.Srinivasa Rao, "Design, Analysis of a MEMS Based Micro Fluidic Mixer Device," presented in 5th International Conference on Microelectronics , Circuits and Systems, 19-20<sup>th</sup> May, 2018 in Bhubaneswar, Odisha, India.
23. K. Girija Sravani, D.Prathyusha, Ch..Gopi Chnad, Koushik Guha and k.Srinivasa Rao "Electromechanical Analysis of RF MEMS Switches for Reconfigurable Antenna," 5th International Conference on Microelectronics, Circuits and Systems, 19-20<sup>th</sup> May, 2018 in Bhubaneswar, Odisha, India.
24. K. Srinivasa Rao, T. Vamsi Aravind Swamy, P.Naveena, P.Ashom Kumar, Koushik Guha and K.Girija sravani "Design of Self - Similar Reconfigurable antenna based on Cantilever type RF MEMS Switch," presented in 5th International Conference on Microelectronics, Circuits and Systems, 19-20<sup>th</sup> May, 2018 in Bhubaneswar, Odisha, India.
25. K.Srinivasa Rao, BVS Sailaja,G.Shanti, Koushik Guha, KV Vineetha and K.Girija Sravani "New Analytical Capacitance Modeling of Perforated RF MEMS Switch," presented in 5th International Conference on Microelectronics , Circuits and Systems, 19-20<sup>th</sup> May, 2018 in Bhubaneswar, Odisha, India.
26. U.Pandey, K. Guha, K.L.Baishnab, B.Bhowmick, "Ferroelectric FET as a low power device with reduced SCEs and RDF effect," presented in 5th International Conference on Microelectronics, Circuits and Systems, 19-20<sup>th</sup> May, 2018 in Bhubaneswar, Odisha, India.
27. A. Majumdar, A. Biswas, S. Sood, K. Guha, K.L. Baishnab, "Web-based e-Healthcare Framework for Kyasanur Forest Disease Monitoring and Classification," 5th International Conference on Microelectronics , Circuits and Systems, 19-20<sup>th</sup> May, 2018 in Bhubaneswar, Odisha, India .
28. A. Biswas, A. Majumdar, K. Guha, K.L. Baishnab, "An Improved Energy Efficient IoT-Cloud Transmission Framework using Novel Clustering Scheme," presented in 5th International Conference on Microelectronics , Circuits and Systems, 19-20<sup>th</sup> May, 2018 in Bhubaneswar, Odisha, India.
29. N.M.Laskar, K.Guha, K.L.Baishnab, P.K.Paul, K.Srinivasa Rao, "Optimizing the random offset voltage in Two Stage OpAmp considering Noise-Power trade-off using HWPSO algorithm", presented in 7th International conference on Computing, Communication and Sensor Network, 27-28th October, 2018 at Kolkata.
30. Jasti Sateesh, Koushik Guha, K. L. Baishnab, Arindam Dutta and K.Srinivasa Rao, "Design of Microfluidic Kidney-on-Chip for Analysis of  $\text{Na}^+$  and Water Re-Absorption", presented in 7th International conference on Computing, Communication and Sensor Network, 27-28th October, 2018 at Kolkata.
31. K. Srinivasa Rao, P. Ashok Kumar, J.Sateesh, Koushik Guha, K. Girija Sravani, "Design of Novel Structured RF MEMS Switch for 5G Reconfigurable Antenna", presented in 7th International conference on Computing, Communication and Sensor Network, 27-28th October, 2018 at Kolkata.



32. K.Girija Sravani, D.Prathyusha, Surya Manoj Maturi, Koushik Guha, K.Srinivasa Rao, "Design, Analysis and Simulation of RF MEMS Shunt switch using Different Uniform meanders and Dimples", presented in 7th International conference on Computing, Communication and Sensor Network, 27-28th October, 2018 at Kolkata.
33. Ihechiluru Anya, Mustafa Elfeitouri, Chitta Saha, Nazmul Huda and Koushik Guha, "Performance Comparison of Maximum Power Point Tracking of Solar PV for Different Converters" presented in International Conference in Recent Trends on Electronics & Computer Science (ICRTECS 2019), 18-19 March 2019 at NIT Silchar.
34. Richa Neog, Naushad Manzoor Laskar, Koushik Guha, Saurav Nath and K.L. Baishnab, "Design of Low Power Preamplifier for Hearing Aid Applications", presented in International Conference in Recent Trends on Electronics & Computer Science (ICRTECS 2019), 18-19 March 2019 at NIT Silchar.
35. K.Girija Sravani K, Sailaxmi G, Koushik Guha and Srinivasa Rao K, "Design and Performance Analysis of Micro Fluidic Mixer Device", presented in International Conference in Recent Trends on Electronics & Computer Science (ICRTECS 2019), 18-19 March 2019 at NIT Silchar.
36. Srinivasa Rao K, Gopi Chand, Koushik Guha, Baishnad K L, Maity N.P, Girija Sravani K and Reshmi Maity, "Optimization and Analysis of Bridge Type RF MEMS Switch for X-Band", presented in International Conference in Recent Trends on Electronics & Computer Science (ICRTECS 2019), 18-19 March 2019 at NIT Silchar.
37. Girija Sravani K, Prathyusha D, Ameen Elsinawi, Koushik Guha and Srinivasa Rao K, "Design, Modeling and Performance Analysis of a perforated Capacitive Shunt RF MEMS Switch", presented in International Conference in Recent Trends on Electronics & Computer Science (ICRTECS 2019), 18-19 March 2019 at NIT Silchar.
38. Jasti Sateesh, Maturi Surya Manoj, Shaik Shahrukh Sohail, Koushik Guha, Arindam Dutta, Pratim Sengupta and K Srinivas Rao, "Design and Simulation of Proximal Convolute Tubule Flow Kinetics for Kidney-on-chip Applications", presented in International Conference in Recent Trends on Electronics & Computer Science (ICRTECS 2019), 18-19 March 2019 at NIT Silchar.
39. Koushik Guha, Priyanka Brahma, N.M.Laskar, K. L. Baishnab, K. Srinivasa Rao, "A Novel Analytical Model of MEMS Shunt Switch considering Temperature dependency with beam Perforation Effect", presented in IEEE 5<sup>th</sup> International Conference for Convergence in Technology (i2CTPune), 29-31 March 2019 at Pune (indexing in IEEE explore soon).
40. Saurav Chanda, Koushik Guha, Santu Patra, Anupam Karmakar, Loukrakpam Merin Singh, Krishna Lal Baishnab, "A 32-bit Energy Efficient Exact Dadda Multiplier", presented in IEEE 5th International Conference for Convergence in Technology (i2CT Pune), 29-31 March 2019 at Pune (indexing in IEEE explore soon).
41. P. Pattanayak, Limited Feedback Scheduling for MIMO Broadcast Channels with 2 Bit SINR Quantization, IEEE International Conference on Applied Electromagnetics, Signal Processing & Communication, 2018, KIIT Deemed to be University, Bhubaneswar, 22-24, October, 2018.
42. M. Ahmed, R. Ahmed, A. J. Thakuria and R. H. Laskar, 2019 "Eye Center Guided Constrained Local Model for Landmark Localization in Facial Image," In 2019 9th Annual Industrial Automation and Electromechanical Engineering Conference (IEMECON). IEEE. (Accepted)
43. M. Ahmed, R. K. Karsh, and R. H. Laskar, 2019 "Analyzing the Effect of Eye Center Localization on Accurate Landmark Localization in a Facial Image" International Conference on Automation, Computational and Technology Management, ICACTM 2019, London. IEEE.
44. S. Misra, and R. H. Laskar, 2019, ' Multi-Level Analysis of Bit-Plane Based GLAC Feature and other Existing Texture Features for a Robust Hand Detection System' 2018 International Conference on Advances in Computing, Communications and Informatics (ICACCI).

45. U Bhatt, S Singh, B Bhowmick "Portable System for Real Time Detection of P, QRS and T Waves from ECG Signals " IEEE 5th International Conference for Convergence in Technology 2019, India Pune, 29-31<sup>st</sup> March.
46. S. Kothapalli, U Pandey, B. Bhowmick, "Optimisation of electrical characteristics of Tunnel FET incorporating Gate Engineering," MOS-AK India 2019 International Conference on Modeling of Systems Circuits and Devices, IIT Hyderabad, 25th to 27th February 2019
47. D. Bisharad, D. Dey, B. Bhowmick, " Fast Detection of P,Q,S and T waves from Normal ECG signals using local context windows", IEEE RCAR IEEE International Conference on Real-time Computing and Robotics, Maldives, Aug1-5, 2018
48. Partha Pratim Shome, Taimoor Khan, "Novel Design of Printed Antenna Integrated with Bandpass Filter for C-band Applications", 2019 URSI-Asia Pacific Radio Science Conference (URSI AP-RASC 2019), New Delhi, India, 09-15 March 2019.
49. Saurabh Kumar and Taimoor Khan, "EBG-Loaded Dielectric Resonator Antenna for Triple Band-Notch Characteristics", 2019 URSI-Asia Pacific Radio Science Conference (URSI AP-RASC 2019), New Delhi, India, 09-15 March 2019.

**d) National Conference(s): NIL**

**e) Book/Chapter:**

**Book Published**

1. Naveen Karunya, R. Murugan, T. Pearson, Kanaga Durga, Modern Embedded Computing, An Approach to Software Applications, Bonfring Publishers, 2019.
2. Taimoor Khan and Samineni Peddakrishna, "Development in Compact EBG and FSS Structures for Antenna Applications", LAP Lambert Academic Publishing, European Union, ISBN: 978-3-659-85302-9, ISBN-10: 365985302x, EAN: 978365983029, 2018.
3. Taimoor Khan and Sounik Kiran Kumar Dash, "Dielectric Resonator Antennas: Modeling and Optimization" LAP Lambert Academic Publishing, European Union, ISBN: 978-613-9-91211-7, 2018.
4. D. K. Panda and T. R. Lenka, "Device Optimization of E-Mode N-Polar GaN MOS-HEMT for Low Noise RF & Microwave Applications," The Physics of Semiconductor Devices, Springer Proceedings in Physics, Vol 215, pp.171-176, 2019. DOI: 10.1007/978-3-319-97604-4\_27. Book ISBN: 978-3-319-97603-7, Springer Nature Switzerland.
5. R. Paswan, D. K. Panda and T. R. Lenka, "Dielectric Modulated AlGaAs/GaAs HEMT for Label Free Detection of Biomolecules," The Physics of Semiconductor Devices, Springer Proceedings in Physics, Vol. 215, pp 709-715, 2019. DOI: 10.1007/978-3-319-97604-4\_110. Book ISBN: 978-3-319-97603-7, Springer Nature Switzerland.

**Book Chapters Published**

1. Murugan, R. "A Cloud-Based Patient Health Monitoring System Using the Internet of Things." Handbook of Research on Cloud Computing and Big Data Applications in IoT. IGI Global, 2019, pp. 188-201. doi:10.4018/978-1-5225-8407-0.ch010
2. Murugan, R. "Implementation of Deep Learning Neural Network for Retinal Images." Handbook of Research on Applications and Implementations of Machine Learning Techniques. IGI Global, 2019, pp.77-95, doi:10.4018/978-1-5225-9902-9.ch005
3. G. Prasad, D. Mishra, and A. Hossain, "QoS-Aware Green Communication Strategies for Optimal Utilization of Resources in 5G Networks", Chapter-7 in Paving the Way for 5G Through the Convergence of Wireless Systems, IGI Global, 2019.
4. Durga Bhavani, D. Indra Jagadeesh, K. Girija Sravani, P. Ashok Kumar, Koushik Guha, K. Srinivasa Rao, "Design and Implementation of MEMS Baseless Mouse", in Microelectronics, Electromagnetics and

Telecommunications. Lecture Notes in Electrical Engineering, vol 521. Springer, Singapore, 2018, DOI: [https://doi.org/10.1007/978-981-13-1906-8\\_60](https://doi.org/10.1007/978-981-13-1906-8_60)

5. P. Pattanayak, P. Kumar, Computationally Efficient Scheduling Schemes for Multiple Antenna Systems Using Evolutionary Algorithm and Swarm Optimization, Wiley Evolutionary Computation in Scheduling.
6. B.Bhowmick, R.Goswami, " Band gap modulated Tunnel FET", as book chapter in " Field Effect Transistors - Materials, Fabrication and Application" Publisher: InTech - open science | open minds, July 2018. ( DOI: 10.5772/intechopen.76098)
7. R.Goswami, B.Bhowmick, "DIELECTRIC MODULATED TFETs AS LABEL-FREE BIOSENSORS" as book chapter in " Field Effect Transistors - Materials, Fabrication and Application" Publisher: InTech - open science | open minds, July 2018 ( doi.org/10.5772/intechopen.76000)
8. B.Bhowmick, " Design of a novel tunnel FET for low-power applications" as BOOK chapter of Book "VLSI and Post-CMOS Devices, Circuits and Modelling", IET, 2019.
9. P. Das, T. R. Lenka, S. S. Mahato and A. K. Panda, "Chapter 8: Polarization Effects in AlGaN/GaN HEMTs," Handbook for III-V High Electron Mobility Transistor Technologies, CRC Press, 2019, Chapter-8, pp. 211-225. Hardback: 9781138625273, pub: 2019-05-31.
10. D. K. Panda, G. Amarnath, T. R. Lenka, "Chapter 15: Metal Oxide Semiconductor High Electron Mobility Transistors," Handbook for III-V High Electron Mobility Transistor Technologies, CRC Press, 2019, Chapter 15, pp.391-400. Hardback: 9781138625273, pub: 2019-05-31.
11. P. Das, T. R. Lenka, S. S. Mahato and A. K. Panda, "Chapter 4: Source/Drain, Gate and Channel Engineering in HEMTs," Handbook for III-V High Electron Mobility Transistor Technologies, CRC Press, 2019. Chapter-4, pp.81-95, Hardback: 9781138625273, pub: 2019-05-31.

#### 1.6 CONSULTANCY SERVICES : NIL

#### 1.7 MAJOR EQUIPMENT ACQUIRED : NIL

#### 1.8 PATENT

Sl. No.	Details	Year
1	Indian Patent filed and Published on System, Method and Apparatus for generating true random number for identification and verification :No.201731000942, dated 31/08/2018	2018
2	Indian patent filed on Portable system for fast detection of PQRS and T wave ECG signals, application no.201931027301	2019

#### 1.9 Visits To Abroad

Sl. No.	Name of the Faculty	Name of the Conference/ Programme	Place	Date
1	Dr. S. K. Tripathy	International Conference on Advanced Research in Applied Science and Engineering (RASECONF)	Virje University Amsterdam	12-14 July 2019
2	Dr. Devendra Singh Gurjar	16 <sup>th</sup> IEEE Asia Pacific Wireless Communications Symposium-2019	Singapore	28-30 August 2019
3	Dr. Robin Khosla	Alexander von Humboldt Foundation Post Doc Fellowship, Germany	Stuttgart, Germany	Aug, 2019 to Jul, 2020
4	Dr. T. R. Lenka	Visiting Researcher to Solar Energy Research Institute of Singapore (SERIS), National University of Singapore (NUS), Singapore	Singapore	14 June 2018-10 Sept 2018

### 1.10 M.Tech. / M.Sc. (Thesis/Project)

Sl. No.	Name of the Scholar	Name of the Supervisor	Title of the Thesis/Project
1	Abhishek Kumar	Dr. S. K. Tripathy	Some studies on electronic, optical and thermal properties of ternary chalcopyrite semiconductors using machine learning
2	Suman Saha	Dr. Rabul Hussain Laskar	A Face Frontalization Technique using GAN
3	Susmitha Kothapalli	Dr. Brinda Bhowmick	Optimization of Electrical Parameters of Gate Engineered Tunnel FET
4.	Saurabh Kumar	Dr. Taimoor Khan	Design and Development of Triple Band EBG-Loaded UWB Antennas
5	Anuj Kumar	Dr. T. R. Lenka	Design and Comparative Analysis of Enhancement Mode Double Gate Double Channel 0.5 umAlGaIn/GaN MOS-HEMT Structure

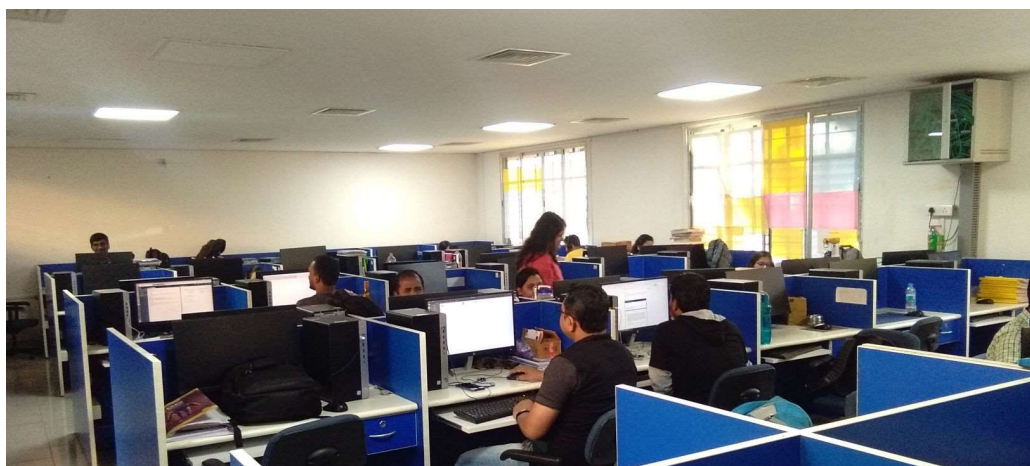
### 1.11 Ph.D. Thesis

Sl. No.	Name of the Scholar	Name of the Supervisor	Title of the Thesis
1	C.Geetha	Dr. M. N. Giriprasad & Dr. K. Manjunathachari, Dr. R. Murugan	A New Method For Digital Image Recovery From The Print-Scan Channel With Digital Auxiliary Information
2	Balamurali R	Dr. Chandrasekar, Dr. R. Murugan	An intelligent Statistical Algorithms Approach For Objectionable Image Discretion
3	Amiya Dey	Dr. Arnab Nandi	gold-MUSIC DOA Estimation Based Optimal Beamforming ULA Antenna for Multiuser DS-CDMA Detection in Near-Far Effect
4	Abhijyoti Ghosh	Dr. Banani Basu	Design and Analysis of Some Polarization Purity Techniques of Rectangular Microstrip Antenna
5	D. Dash	Dr. S. K. Tripathy (Co-Supervisor)	Some Studies of Anatase and Cubic Titanium Dioxide using DFT Approach
6	Mohiul Islam	Dr. Rabul Hussain Laskar	Design and Development of Robust Imperceptible Watermarking Techniques for Copyright Protection of Digital Images
7	Ram Kumar Karsh	Dr. Rabul Hussain Laskar	Perceptually Robust and Secure Image Hashing Techniques for Content Authentication
8	Ujwala Baruah	Dr. Rabul Hussain Laskar	A Speaker Verification System for Text Dependent Telephone Based Data set.
9	Songhita Misra	Dr. Rabul Hussain Laskar	Design and Development of a Virtual Text- Entry Interface System Based on Dynamic Hand Gestures
10	Chuya China Bhanja	Dr. Rabul Hussain Laskar	Development of an Automatic Hierarchy-based Spoken Language Identification System
11	Mohiul Islam	Dr. Rabul Hussain Laskar	Design and Development of Robust Imperceptible Watermarking Techniques for Copyright Protection of Digital Images
12	Ram Kumar Karsh	Dr. Rabul Hussain Laskar	Perceptually Robust and Secure Image Hashing Techniques for Content Authentication
13	Suman Kr. Mitra	Dr. Brinda Bhowmick	Simulation, Modeling and Reliability issues of Gate-on-Source/Channel SOI TFET with Back Gate
14	Prashanth Kumar	Dr. Brinda Bhowmick	Modeling, Simulation and Optimization of Hetero Junction Schottky Barrier FET and RF/linearity Performances for Low Power applications

15	Rajesh Saha	Dr. S Baishya & Dr. Brinda Bhowmick	Modeling and Simulation of Electrical Parameters in FINFET Structures and the Effects of Statistical Variability of Metal Gate Workfunction
16	Partha Pritam Shome	Dr. Taimoor Khan	Design and Development of Printed Microwave Components
17	Surender Daasari	Dr. Taimoor Khan	Design and Development of Efficient Microstrip Antennas for RF Energy Harvesting Applications,
18	Sumon Modak	Dr. Taimoor Khan	Band Notch Characteristics in UWB Antennas
19	Debanjali Sarkar	Dr. Taimoor Khan	Computational Intelligence Modeling in Electromagnetics
20	Soumya Ranjan Routray ( <i>Visvesvaraya PhD Scheme</i> )	Dr. T. R. Lenka	Modeling and Simulation of GaN/InGaN/GaN based Core/Shell/Shell Nanowire Solar Cell for Next Generation Photovoltaics Technology
21	Deepak Kumar Panda	Dr. T. R. Lenka	Compact Model Development of Low Noise E-mode GaN MOS-HEMT for RF Front-end Transceiver Circuit Design
22	M. Krishnasamy	Dr. T. R. Lenka	Modeling and Simulation of Distributed Parameters based Segmented Piezoelectric Energy Harvester for Wideband Low-Frequency Vibrations

**1. Name of the Department:**

# Computer Science & Engineering



**1.1 Academic Staff:**

**HEAD :** Dr. Arup Bhattacharjee

**Name of Faculty members:**

Professor	Associate Professor	Assistant Professor
Prof. Sivaji Bandyopadhyay	Dr. Biswajit Purkayastha	Dr. Arup Bhattacharjee
		Ms. Ujwala Baruah
		Dr. Pinki Roy
		Dr. Samir Kumar Borgohain
		Mr. Prabhakar Sharma Neog
		Mr Biswanath Dey
		Mr. Pantha Kanti Nath
		Dr. Saroj Kumar Biswas
		Dr. Dalton Meitei Thounaojam
		Dr. Badal Soni
		Dr. Ripon Patgiri
		Mr. Umakanta Majhi
		Dr. Shyamosree Pal
		Dr. Shyamaapada Mukherjee
		Dr. Laiphrakpam Dolendro Singh
		Dr. Malaya Dutta Borah
		Dr. Anish Kumar Saha
		Dr. Thoudam Doren Singh
		Dr. Anupam Biswas
		Dr. Partha Pakray
		Dr. Suganya Devi K

**Visiting Professor (If any):** NIL

## 1.2 Distinction Achieved

### a) By Student:

Event: Smart India Hackthon 2019

**Problem Statement:** Health Alert application for a region to track epidemics (Software)

Winners: Satashree Roy (17-1-5-010), Khushbu Maloo (16-1-5-030), Samim Jahin (16-1-5-046), Navneet Gangwar (16-1-5-053), Prakash Jha (16-1-5-054), Himanshu Mani Tripathi (16-1-5-051).

### b) By Faculty Member: NIL

## 1.3 SEMINARS, SYMPOSIA, SHORT TERM COURSES, WORKSHOPS

### a) Conducted by Faculty Member

Sl. No.	Name(s) of the Coordinator	Title	Funding Agency	Duration
1.	Dr. Shyamapada Mukherjee, Dr. S. K. Biswas	One Week Workshop on Design and Deployment of Cyber Physical Systems	TEQIP III	17-21 Sep. 2018
2.	Dr. Shyamapada Mukherjee	One Week International Workshop on Modeling, Simulation and Soft Computing	TEQIP III	10-14 Aug. 2018
3.	Dr. Pinki Roy	One Week Workshop on Recent Research Trends & Future Perspective of Machine Learning in Academics & Industry	TEQIP III	01-05 Oct. 2018

### b) Participated by Faculty Member

Sl. No.	Name of Faculty	Details of the Program	Organizing Institute
1.	Dr. Anish Kumar Saha, Dr. Partha Pakray	Emerging Technologies, Innovation, Incubation and Entrepreneurship Development, 25 Feb. to 01 Mar. 2019.	CDAC, NIT Silchar Branch,
2.	Dr. Anish Kumar Saha	Recent Advances in Applied Optimization, 24-28 Dec. 2018.	IIT Guwahati
3.	Dr. Shyamosree Pal, Dr. Anish Kumar Saha, Dr. Samir Kumar Borgohain, Dr. Partha Pakray, Dr. Malaya Dutta Borah, Dr. Badal Soni, Dr. Thoudam Doren Singh.	Outcome Based Education and Accreditation (WOBEA 2018), 30-Sep. to 01-Oct 2018.	NIT Silchar with GUIST
5.	Dr. Partha Pakray, Dr. L. Dolendro Singh, Dr. K. Suganya Devi	Intellectual Property Rights and Technological Development (IRPD-2019) 21-25 Jan. 2019.	NIT Silchar
6.	Dr. Malaya Dutta Borah, Dr. Dalton Meitei Thounaojam, Dr. Thoudam Doren Singh.	TEQIP-III sponsored One Week Workshop on "Recent Research Trends & Future Perspective of Machine Learning in Academics and Industry" 01-05 Oct. 2018.	NIT Silchar and GUIST, Guwahati, Assam.
7.	Dr. Pinki Roy	IEMGRAPH-2018, "Automatic Speech Recognition based on Clustering technique", 6 – 7 Sep. 2018.	Kolkata, India



8.	Dr. Thoudam Doren Singh	Workshop on Teaching Computer Networks and Software Architecture, IIT Kanpur, 15-16 Sep. 2018	IIT Kanpur
9.	Dr. Thoudam Doren Singh	TEQIP III: Orientation Workshop for Student Learning Assessment (SLA), 5th Mar. 2019	NPIU, New Delhi
10.	Dr. Saroj Kr. Biswas	4th World Summit On Accreditation: Challenges & Opportunities in Outcome Based Accreditation, 7-9 Sep. 2018	National Board of Accreditation, New Delhi

## 1.4 Research Development

### a) Ph.D. Programme (Specializations):

Natural Language Processing, Networking, Data Mining, Machine Learning, Malware Detection, Temporal Video Segmentation, Image Hashing, Fingerprint Recognition, VLSI Physical Design, Blockchain Technology, Machine learning application in agriculture, Internet of Things, Medical Image Processing, Computational Geometry, Digital Geometry, Mathematical Imaging, Cloud Computing, Speech Processing, Information Retrieval, Semantic Network, Artificial Immune System, Image Hashing, Shot boundary detection, Video Indexing.

### b) Ph.D. Produced/Ongoing (in number):

Completed	Submitted	Ongoing
02	02	74

### c) Research Lab/ Workshop: NIL

### d) Ongoing/Completed Sponsored Research Project:

Sl. No.	Project Title	Principal Investigator(s)	Funding Agency	Cost in lakhs	Duration
1.	An Application of Textual Entailment and Semantic Textual Similarity in Scientific Document Retrieval System"	Dr. Partha Pakray	SERB, DST	-	3 years
2.	Leveraging Machine Learning and Soft Computing Techniques to Investigate Raag Formation in Indian Classical Music	Dr. Anupam Biswas	SERB	Approved	3 years
3.	Multimodal Machine Translation – Convergence of Multiple Modes of Input	Prof. Sivaji Bandyopadhyay and Dr. Thoudam D. Singh	SPARC	49.58	2 years

### e) Research Paper Reviewed

Sl. No.	Faculty Name	Journal Name	No. of Paper	Year
1.	Dr. L. Dolendro Singh	IEEE Access	2	2018
2.		Computers & Security	1	2018
3.		IEEE Transactions on Knowledge and Data Engineering	1	2018
4.	Dr. Anupam Biswas	IEEE Transaction of Fuzzy System	1	2019
5.	Dr. Shyamapada Mukheree	IEEE Transaction on Computer Aided Design of Integrated Circuits and Systems	1	2018

6.	Dr. Badal Soni	Multimedia Systems, Springer Journal	1	2019
7.		Computer Methods in Biomechanics and Biomedical Engineering: Imaging & Visualization	1	2019
8.	Dr. K. Suganya Devi	Imaging Science Journal	1	2019
9.		PLOS ONE	1	2019
10.		Sensor Letters	1	2019`
11.	Dr. Malaya D Borah	International Journal of Agricultural and Environmental Information Systems	2	2018
12.		International Journal of Information Systems and Social Change	2	2019
13.	Dr. Saroj Kr. Biswas	Neurocomputing	1	2018
14.		Applied Computing and Informatics	1	2018
15.		JACIII	1	2018
16.		New Generation Computing	1	2018
17.		Journal of Experimental & Theoretical Artificial Intelligence	1	2019
19.	Dr. Thoudam Doren Singh	ACM Transactions on Asian and Low-Resource Language Information Processing (TALLIP)	1	2019
20.		CSI Transactions on ICT (Springer)	1	2018

#### f) Chairing of Technical Section

Sl. No.	Faculty Name	Details
1.	Dr. Badal Soni	Session chair in IEEE International Conference on Vision Towards Emerging Trends in Communication and Networking (ViTECoN'19), VIT Vellore, 30-31 Mar. 2019.
2.	Dr. Pinki Roy	Session chair in "International Conference on Recent Trends in Electronics and Computer Science (ICRTECS)", 18-19 Mar. 2019, ECE Deptt., NIT Silchar, Assam. Session chair in "6th International Conference on Advanced Computing, Networking and Informatics (ICACNI)," 04-06 Jun. 2018, CSE Deptt., NIT Silchar, Assam. Session chair in "Emerging Trends in Machine Learning with special emphasis towards Speech processing, Computer Vision and IOT" in the International Conference on Computational Intelligence and Internet of Things (ICCIoT), 14-15 Dec. 2018, CSE Deptt., NIT Agartala, India.
3.	Dr. Saroj Kr. Biswas	Session chair in "International Conference on Recent Trends in Electronics and Computer Science (ICRTECS)", 18-19 Mar. 2019, ECE Deptt., NIT Silchar, Assam. Session chair in "6th International Conference on Advanced Computing, Networking and Informatics (ICACNI)," 04-06 Jun. 2018, CSE Deptt., NIT Silchar, Assam. IEEE Sponsored 5th International Conference for Convergence in Technology (I2CT), 29-31 Mar. 2018, Pune.
4.	Dr. Samir Kumar Borgohain	Session chair in "6th International Conference on Advanced Computing, Networking and Informatics (ICACNI)," 04-06 Jun. 2018, CSE Deptt., NIT Silchar, Assam.
5.	Mr. Biswanath Dey	Session chair in "6th International Conference on Advanced Computing, Networking and Informatics (ICACNI)," 04-06 Jun. 2018, CSE Deptt., NIT Silchar, Assam.
6.	Dr. Shyamapada Mukherjee	Session chair in "6th International Conference on Advanced Computing, Networking and Informatics (ICACNI)," 04-06 Jun. 2018, CSE Deptt., NIT Silchar, Assam.

## 1.5 PUBLICATION

### a) International Journal(s):

1. S Warjri, P Pakray, S Lyngdoh, A K Maji, "Khasi Language as dominant Part-Of-Speech (POS) ascendant in NLP", International Journal of Computational Intelligence & IoT, Vol. 1, No. 1, ISSN: 1556-5068, Pp. 109-115, 2018.
2. A Pathak and P Pakray. "Binary Vector Transformation of Math Formula for Mathematical Information Retrieval", Journal of Intelligent & Fuzzy Systems, Vol 36, Issue 5, pp. 4685-4695, 2019, DOI: 10.3233/JIFS-179018, SCIE, IF 1.426, 2019.
3. S K Dash, S Saha, P Pakray and A Gelbukh. "Generating Image Captions Through Multimodal Embedding", Journal of Intelligent and Fuzzy Systems, Vol 36, Issue 5, pp. 4787-4796, DOI: 10.3233/JIFS-179027, SCIE, IF 1.426, 2019.
4. G Majumder, P Pakray and David Eduardo Pinto Avendaño. "Measuring interpretability using a token to chunk multi aligner", Journal of Intelligent and Fuzzy Systems, Vol 36, Issue 5, pp. 4797-4808, DOI: 10.3233/JIFS-179028, SCIE, IF 1.426, 2019.
5. A Pathak, P Pakray, A Gelbukh. "A Formula Embedding Approach to Math Information Retrieval", Computación y Sistemas Journal, Vol. 22, No. 3, pp. 819–833 doi: 10.13053/CyS-22-3-3015, ISSN: 2007-9737. Scopus, 2018.
6. R. Patgiri, S. Nayak, and S K Borgohain, "scaleBF: A high scalable membership filter using 3D Bloom filter," Int. J. Adv. Comput. Sci. Appl., vol. 9, no. 12, pp. 1–7, 2018. doi: 10.14569/IJACSA.2018.091277.
7. R. Patgiri, S. Nayak, and S. Kumar, "Role of Bloom Filter in Big Data Research: A Survey," International Journal of Advanced Computer Science and Applications, vol. 9, no. 11, pp. 655-661, 2018.
8. R. Patgiri, S. Nayak, and S. K. Borgohain, "Hunting the Pertinency of Bloom Filter in Computer Networking and Beyond: A Survey," Journal of Computer Networks and Communications, vol. 2019, pp. 1–10, Feb. 2019, Scopus.
9. R. Patgiri, S. Nayak, and S. Borgohain, "Preventing DDoS using Bloom Filter: A Survey," ICST Transactions on Scalable Information Systems, vol. 5, no. 19, p. 155865, Dec. 2018.
10. B Soni, P K. Das, D M Thounaojam, "Geometric transformation invariant block based copy-move forgery detection using fast and efficient hybrid local features", Published in Elsevier, Journal of Information Security and Applications, Vol. 45, pp. 44-5, DOI: <https://doi.org/10.1016/j.jisa.2019.01.007>, 2019.
11. B Soni, P K. Das, D M Thounaojam, "Keypoints based enhanced multiple copymove forgeries detection system using density-based spatial clustering of applications with noise clustering algorithm", Published in IET Journal of Image Processing, vol. 12, no. 11, pp. 2092-2099, 11 2018.
12. B Soni, P K. Das, and D M Thounaojam, "Dual System for Copy-move Forgery Detection using Block-based LBP-HF and FWHT Features," Engineering Letters, vol. 26, no.1, pp. 171-180, 2018.
13. N D Gharde, D M Thounaojam, B Soni and S K Biswas, "Robust perceptual image hashing using fuzzy color histogram," Multimedia Tools and Applications, Volume 77, Issue 23, pp 30815–30840, Dec. 2018.
14. A K Trivedi, D M Thounaojam and S Pal, "A robust and non-invertible fingerprint template for fingerprint matching system," Forensic science international, Vol 288, pp 256-265, 2018.
15. M P Vaishnnave, K S Devi, P Srinivasan, 'A Survey on Cloud Computing and Hybrid Cloud, International Journal of Applied Engineering Research, Vol. 14(12), pp.429-434, 2018
16. M P Vaishnnave, K S Devi, P Srinivasan, "A Study on Deep Learning models for Satellite Imagery," International Journal of Applied Engineering Research, Vol. 14(4), pp.881-887, 2018.
17. S K Biswas, D Devi, M Chakraborty, "Hybrid Case Based Reasoning System by Under Sampling and Cost Sensitive Neural Network for Classification", Journal of Organizational and End User Computing, IGI Global, vol. 30, no. 4, pp. 104-122, Oct. 2018.
18. S K Biswas, M Bordoloi, S Jacob, "A Graph Based Keyword Extraction Model using Collective Node Weight," Expert Systems with Applications, Elsevier, Vol. 97, pp. 51-59.
19. M Chakraborty, S K Biswas, B Purkayastha, "Recursive Rule Extraction from Neural Network using Reverse Engineering Technique", New Generation Computing, Vol. 36, No. 2, pp. 119-142, Springer.
20. M Bordoloi, S. K. Biswas, "Sentiment Analysis of Product using Machine Learning Technique: A Comparison among NB, SVM and MaxEnt", International Journal of Pure and Applied Mathematics. vol. 118, No. 19, pp. 71-83, 2018.

21. H R Singh, S K Biswas, "Transparent Neuro-fuzzy model for Linguistic variables selection and rule-based classification", *International Journal of Pure and Applied Mathematics*. vol. 118, No. 19, pp. 85-100, 2018.
22. S K Biswas, "Intrusion Detection Using Machine Learning: A Comparison Study", *International Journal of Pure and Applied Mathematics*. Volume 118, No. 19, vol. 118, No. 19, pp. 101-114, 2018.
23. N D Gharde, D M Thounaojam, B Soni, S K Biswas, "Robust perceptual image hashing using fuzzy color histogram," *Multimedia Tools and Applications*, Vol. 77, No. 23, pp. 30815-30840, Springer.
24. S Kumar, S K Biswas, D Devi, "TLUSBoost Algorithm: A Boosting Solution for Class Imbalance Problem", *Soft Computing*, <https://doi.org/10.1007/s00500-018-3629-4>, Springer, 2018.
25. M Bordoloi, S. K. Biswas, "Keyword Extraction from Microblogs using Collective Weight", *Social Network Analysis and Mining*, Vol. 8, No. 1, 58, Springer.
26. R Ghosh, V Kumar, N Sinha, S K Biswas, "Motor imagery task classification using intelligent algorithm with prominent trial selection", *Journal of Intelligent and Fuzzy Systems*, Vol. 35, No. 1, pp. 1-10, 2018 , IOP Press.
27. M Chakraborty, S K Biswas, B Purkayastha, "Rule Extraction from Neural Network using Input Data Ranges Recursively", *New Generation Computing*, Vol. 37, No.1 pp. 67-96, Springer.
28. H. S. Das and P. Roy, "Optimal prosodic feature extraction and classification in parametric excitation source information for Indian language identification using neural network based Q-learning algorithm," *International Journal of Speech Technology*, vol. 22, no. 1, pp. 67–77, Dec. 2018, ESCI, Scopus.
29. S K Das, A K Mishra, and P Roy. "Automatic Diabetes Prediction Using Tree Based Ensemble Learners." *International Journal of Computational Intelligence & IoT* 2, no. 2 , 2019, Scopus.

**b) National Journal(s): NIL**

**c) International Conference(s):**

1. R. Patgiri, S. Nayak, and S. K. Borgohain, "Shed more light on bloom filter's variants," *Proceedings of the 2018 International Conference on Information and Knowledge Engineering*. CSREA Press, pp. 14–21, 2018.
2. R. Patgiri, S. Nayak, and S. K. Borgohain, "Impact of Metadata Server on a Large Scale File System," *2018 IEEE Colombian Conference on Communications and Computing (COLCOM)*, May 2018.
3. R. Patgiri, S. K. Borgohain, and A. Bhattacharjee, "rFilter: A Scalable and Space-efficient Membership Filter," *2018 5th International Conference on Signal Processing and Integrated Networks (SPIN)*, Feb. 2018.
4. R. Patgiri, S. K. Borgohain, and S. Pal, "Elastica a Large Scale Elastic Array Data Structure," *2018 International Conference on Computer Communication and Informatics (ICCCI)*, Jan 2018.
5. D Biswas and B Soni, "Image Dehazing using Contrast Limited Adaptive Histogram Equalization and Guided Filter", Accepted in *IEEE International Conference on Vision Towards Emerging Trends in Communication and Networking (ViTECoN'19)*, Vellore Institute of Technology, India, 30-31 Mar. 2019.
6. P Mathur and B Soni, "Hybrid Underwater Image Enhancement Technique: A Comparative Study using Different Color Models", Accepted in *IEEE International Conference on Vision Towards Emerging Trends in Communication and Networking (ViTECoN'19)*, Vellore Institute of Technology, India, 30-31 Mar. 2019,
7. D Biswas and B Soni, "Foggy Image Enhancement using Modified Adaptive Histogram Equalization and Guided Filter", Accepted in Springer, *International Conference on Machine Learning, Image Processing, Network Security and Data Sciences*, NIT Kurukshetra, India, 3-4 Mar. 2019.
8. P Mathur, K Monica and B Soni, "Improved Fusion-based Technique for Underwater Image Enhancement", Published in IEEE, *4th International Conference on Computing Communication and Automation (ICCCA)*, India, 14-15 Dec. 2018.
9. M P Vaishnnave, K Suganya Devi, G Arutperumjothi, P Srinivasan, 'Analysis of Castor Plant Diseases Using SVM & deep CNN Technique', *IEEE international Conference on Recent Advances in Energy-efficient Computing and Communication (ICRAECC 2019)*, 7-8 Mar. 2019.
10. M P Vaishnnave, K Suganya Devi, P Srinivasan, G Arutperumjothi, 'Detection and Classification of Groundnut Leaf Diseases using KNN classifier', *2nd IEEE International Conference on systems, Computation, Automation and Networking (ICSCAN 2019)*, 29-30 Mar. 2019.

11. Laldusaka and P Roy, "A study of Machine Learning Techniques in Health Informatics", International Conference on Computational Intelligence and IOT (ICCIOT), NIT Agartala, India, 14-15 Dec 2018.
12. S K Das, A K Mishra and P Roy, "Automatic Diabetes Prediction Using Tree Based Ensemble Learners", International Conference on Computational Intelligence and IOT (ICCIOT), NIT Agartala, India, 14-15 Dec. 2018.
13. A Goel, M Chakraborty, S K Biswas, "A Survey on Crisis Management using Social Media", IEMIS2018, Kolkata (Accepted).
14. H R Singh, S K Biswas, "Transparent Neuro-fuzzy Rule-based Classification System", International Conference on Recent Innovations in Electrical, Electronics & Communication Engineering (ICRIEECE), KIIT Bhubaneswar, 2018.
15. R Ghosh, N Sinha, S K Biswas, Removal of Eye-blink Artifact from EEG using LDA and Pre-trained RBF Neural Network, ICACNI 2018, NIT Silchar.

**d) National Conference(s): NIL**

**e) Book/Chapter:**

1. B. Soni, P. K. Das, and D. M. Thounaojam, "An Efficient Block Phase Correlation Approach for CMFD System," Progress in Computing, Analytics and Networking, pp. 41–49, 2018.
2. K. Suganya Devi, 'Programming in C', VK Publishers, 2019, ISBN: 978-8-190-856780.
3. M Bordoloi, S K Biswas, "Graph Based Sentiment Analysis Model for E- Commerce websites' data", International Conference on Cognitive Informatics & Soft Computing (CISC-2017), Book: Cognitive Informatics and Soft Computing, pp. 453-462, Springer 2019.
4. A Goel, M Chakraborty, S K Biswas, The role of social media in Crisis situation management: A survey, International Conference on Electrical, Electronics, Computers, Communication, Mechanical and Computing (EECCMC 2017), Book: Emerging Technologies in Data Mining and Information Security, pp. 439-448, Springer 2019.
5. H R Singh, S K Biswas, B Purkayastha, "A Neuro-fuzzy Classification System using Dynamic Clustering", MISP-2017, In Book: Machine Intelligence and Signal Analysis, pp. 157-170, Springer 2019.
6. S K Biswas, "Keyword Extraction from Tweets using Weighted Graph", International Conference on Cognitive Informatics & Soft Computing (CISC-2017), In Book: Cognitive Informatics and Soft Computing, pp. 475-483, Springer 2019.
7. S Debnath, P Roy, A Gupta and A Gurjar, "Automatic Speech Recognition based on Clustering technique", Advances in Intelligent Systems and Computing (AISC Series Springer) The First International Conference on Emerging Technology in Modelling and Graphics (IEMGraph'18), 06-07 September 2018, Kolkata, India.
8. H. S. Das and P. Roy, "A Deep Dive Into Deep Learning Techniques for Solving Spoken Language Identification Problems," Intelligent Speech Signal Processing, pp. 81–100, 2019.

**1.6 CONSULTANCY SERVICES : NIL**

**1.7 MAJOR EQUIPMENT ACQUIRED**

Desktop PC- 226 Quantity

Multi Function Photocopier- 1 Quantity.

**1.8 PATENT : NIL**

**1.9 VISITS TO ABROAD : NIL**

### 1.10 M.Tech. / M.Sc. (Thesis/Project)

Sl. No.	Name of the Scholar	Name of the Supervisor	Title of the Thesis/Project
1.	Loitongbam Sanayai Meetei (16-25-101)	Dr. Samir Kumar Borgohain	Sentiment Analysis for Manipuri Language focused on Social Issues
2.	Dipanwita Sengupta (16-25-102)	Dr. Shyamosree Pal	Cubic Approximation of Digital Curves and its Application
3.	Vishwajeet Singh (16-2-5-103)	Prof. Nidul Sinha Dr. Badal Soni	Automated Human Emotion Detection from EEG Signals using Convolution Neural Network
4.	Manas Jyoti Gogoi (16-25-104)	Dr. Dalton Meitei Thounaojam	Minutiae Based Fingerprint Indexing Systems
5.	Sabuzima Nayak (16-2-5-106)	Dr. Ripon Patgiri	JumboMDS: A Large Scale Metadata Server
6.	Ashish Kumar (16-2-5-108)	Dr. Shyamapada Mukherjee	Placement Solution for Homogeneous FPGA Using Tree-Based Algorithm
7.	Akanksha Goel (16-2-5-109)	Dr. Saroj Kumar Biswas	Sentiment Analysis in Situational Awareness for Flood Management
8.	Subhasish Roy Chowdhury (16-2-5-110)	Dr. Biswajit Purkayastha	Design of Medical Expert System to Prevent Diseases using P-Rules
9.	Sanjay Kumar Das (16-25-111)	Mr. Prabhakar S Neog	Computational Aspects of Gene Expression Analysis: Data Fusion for Cancer Classification

### 1.11 Ph.D. Thesis

Sl. No.	Name of the Scholar	Name of the Supervisor	Title of the Thesis
1.	Dr. Suyel Namasudhra	Dr. Pinki Roy	Efficient and Secure Data Accessing in the cloud Computing Environment
2.	Dr. Badal Soni	Prof. Pradip K. Das, Dept. of CSE, IIT Guwahati	Improved Geometric Transformation Invariant Copy-Move Forgery Detection Techniques.

**1. Name of the Department :**

# **Electronics and Instrumentation Engineering**



**1.1 Academic Staff:**

**HEAD :** Dr. Rajdeep Dasgupta (01.04.2018 – 16.01.2019)

Dr. S. H. Laskar (16.01.2019 – onwards)

**Name of Faculty members:**

Professor	Associate Professor	Assistant Professor
	Dr. Shahedul Haque Laskar	Dr. Jupitara Hazarika
		Dr. Lalu Seban
		Dr. Rajdeep Dasgupta
		Dr. Sudarsan Sahoo
		Dr. Arun Sunaniya
		Dr. Munmun Khanra
		Dr. Manas Kumar Bera
		Dr. Ranjay Hazra
		Dr. Shivendra Kumar Pandey
		Dr. Koena Mukherjee

**Visiting Professor (If any):** NIL



## 1.2 Distinction Achieved

### a) By Student:

Students taken admission for higher education:

- 1) Mr. Tushar Vatsa (UG): MS, Carnegie Melon University, USA
- 2) Mr. Debasish Nath (UG): Ph.D, IIT Delhi
- 3) Mr. Saras Mani Mishra (PG): Ph.D, IIT Guwahati
- 4) Mr. Suraj Saha (PG), Ph.D, IIT (ISM) Dhanbad

### b) By Faculty Member:

1. Dr. Shivendra Kr. Pandey received Early Career Research (ECR) Award 2019 from Science and Engineering Research Board, Department of Science and Technology, Govt. of India
2. Lalu Seban defended PhD thesis titled 'Applications of Orthonormal Basis Function Models for Plantwide Process Control' on 13 July 2018

## 1.3 SEMINARS, SYMPOSIA, SHORT TERM COURSES, WORKSHOPS

### a) Conducted by Faculty Member

Sl. No.	Name(s) of the Coordinator	Title	Funding Agency	Duration
1	Dr. Manas Kumar Bera	Winter School On Control & Estimation of Cyber Physical Systems	TEQIP-III	1 <sup>st</sup> to 5 <sup>th</sup> December, 2018
2	Dr. Ranjay Hazra, Dr. Arun K. Sunaniya	Innovation & Technology Enterprise: Idea to Entrepreneurship	GIAN, MHRD, GOI	30 <sup>th</sup> July -10 <sup>th</sup> Aug. 2018 (Two Week)
3	Dr. Munmun Khanra	Technology and the (Post-) Human Condition	TEQIP-III	03-07 Dec. 2018
4	Dr. Sudarsan Sahoo, Dr. S.H. Laskar, Dr. Ranjay Hazra and Dr. A.K. Sunaniya	Hands-on training on Matlab applications in control system & signal processing	TEQIP-III	Feb 18-Feb 22, 2019
5	Dr. Ranjay Hazra and Dr. A.K. Sunaniya	GIAN course on "Innovation and Technology Enterprise: Idea to Entrepreneurship	GIAN, MHRD, GOI	July 30-August 10, 2018

### b) Participated by Faculty Member

Sl. No.	Name of Faculty	Details of the Program	Organizing Institute
1	Dr. Manas Kumar Bera	Professional Development Training (PDT) for Board of Governors – November 19 & 20, 2018	IIM Udaipur
2	Dr. Ranjay Hazra	One Week Faculty Development Programme on 'Curriculum Design and Implementation for Outcome-Based Education (CuDIOBE-2019)', May 27-May 31, 2019	NIT Silchar

3	Dr. Shivendra Kumar Pandey	Two Days Familiarization Workshop on Nanofabrication Technologies under Indian Nanoelectronics Users Program (INUP), January 28-29, 2019	NIT Silchar & IIT Bombay
4	Dr. Shivendra Kumar Pandey	Five Days workshop on Intellectual Property Rights and Technological Development (IPRTD) 2019	NIT Silchar
5	Dr. Shankar.K.	GIAN course on "Innovation and Technology Enterprise: Idea to Entrepreneurship"	NIT Silchar, Assam (30th July to 10th August 2018)

#### 1.4 Research Development

##### a) Ph.D. Programme (Specializations):

Biomedical Instrumentation, Objective Pain Measurement, Human Factors Engineering / Automation, Environmental Instrumentation

##### b) Ph.D. Produced/Ongoing (in number):

Completed	Submitted	Ongoing
-	-	Regular = 29 Part-time = 05

##### c) Research Lab/ Workshop:

Sl. No.	Name of Lab/Workshop	Purpose/Linkage to an existing/new programme
01.	Energy and Controls	<ul style="list-style-type: none"> <li>New research</li> <li>To support existing Power Electronics Lab</li> </ul>
02.	Research lab I,II, III and IV	Research and innovations leading to ongoing PhD programmes

##### d) Ongoing/Completed Sponsored Research Project:

Sl. No.	Project Title	Principal Investigator(s)	Funding Agency	Cost in lakhs	Duration
1	Development of battery supercapacitor hybrid energy storage for standalone solar photovoltaic power systems	Dr. Munmun Khanra	Department of Science & Technology, Govt. of India.	22.21816	2016-2019
2.	Design and development of multi-bit phase change memory devices for next-generation high density non-volatile memory applications	Dr. Shivendra Kumar Pandey	SERB-DST, Govt. of India	44.77	3 years (2019-2022)

e) Research Paper Reviewed

Sl. No.	Faculty Name	Journal Name	No. of Paper	Year
1	Dr. S. H. Laskar	IEEE Int. Conf. on Power Electronics, Control and Automation (ICPECA, 2019)	03	2019
2	Dr. Manas Kumar Bera	ISA Transactions	01	2019
3	Dr. Koena Mukherjee	Elsevier, Ocean Engineering	04	2018-2019
4	Dr. Munmun Khanra	IEEE Trans on Industrial Electronics	01	Feb 2019.
5		IEEE/CAA Journal of Automatica Sinica	01	Dec 2018
6		IEEE Trans on Circuits and Systems -II	01	Oct 2018
7		ISA Transactions	03	Apr. Jul. Sept. 2018
8		Engineering Review	01	Nov. 2018
9	Dr. Ranjay Hazra	IET Communications	1	2019
10		Transactions on Emerging Telecommunication Technologies, Wiley	1	2019
11		IET Signal Processing	1	2018
12	Dr. Sudipta Chakraborty	ISA Transactions	02	2019
13	Ms. Jupitara Hazarika	International Journal of speech technology	1	2019

f) Chairing of Technical Section

Sl. No.	Faculty Name	Details
1	Dr. Ranjay Hazra	Image Analysis & Understanding I Session, October 29, 2018, IEEE TENCON 2018

## 1.5 PUBLICATION

a) International Journal(s):

- Asifa Yesmin, Manas Kumar Bera, "Design of Event-triggered Sliding Mode Controller Based on Reaching Law With Time Varying Event Generation Approach ", European Journal of Control, Elsevier, 48, pp. 30-41, 2019, <https://doi.org/10.1016/j.ejcon.2018.12.003>.
- Manas Kumar Bera, Pintu Kumar, Rajkumar Biswas, "Robust Control of HIV Infection by Antiretroviral Therapy: A Super-twisting Sliding Mode Control Approach", IET Systems Biology, vol. 13, no. 3, pp. 120-128, 6 2019. doi: 10.1049/iet-syb.2018.5063
- Rhittwikraj Moudgollya, Abhishek Midya, Arun Kumar Sunaniya, Jayasree Chakraborty "Dynamic background modeling using intensity and orientation distribution of video sequence" Multimedia Tools and Applications, Springer Nature, Volume 78, Issue 16, pp 22537–22554, ISSN: 1380-7501 (Print), 1573-7721 (Online), <https://doi.org/10.1007/s11042-019-7575-7>, I.F 1.541. (2019).
- Jupitara Hazarika, Piyush Kant, Rajdeep Dasgupta, Shahedul Haque Laskar, 2019, EEG Wavelet coherence based analysis of neural connectivity in action video game players in attention inhibition and short-term memory-retention task, Recent Advances in Electrical & Electronic Engineering, Volume 12 , Issue 4 , Bentham Science, DOI : 10.2174/2352096511666180821111536
- Jupitara Hazarika and Rajdeep Dasgupta, 2018, Neural correlates of action video game experience in a visuospatial working memory task, Neural Computing and Applications, pp. 1-10, Springer, DOI: 10.1007/s00521-018-3713-9

6. Jupitara Hazarika, Piyush Kant, Rajdeep Dasgupta, and Shahedul Haque Laskar, 2018, Neural modulation in action video game players during inhibitory control function: An EEG study using discrete wavelet transform, Biomedical Signal Processing and Control, volume 45, pp. 144-150, Elsevier.
7. P. Saha, S. Dey, and M. Khanra, "Modelling and State-of-charge estimation of supercapacitor considering leakage effect," IEEE Trans. on Industrial Electronics, Feb. 2019 (accepted).
8. S. Biswas and R. Hazra, 2018, "Robust edge detection based on Modified Moore-Neighbor", Optik: International Journal for Light and Electron Optics, Vol. 168, pp. 931-943, Elsevier. <https://doi.org/10.1016/j.ijleo.2018.05.011>
9. P. Khuntia and R. Hazra, 2019, "An efficient Deep reinforcement learning with extended Kalman filter for device-to-device communication underlying cellular network", Transactions on Emerging Telecommunication Technologies, Wiley, 2019. <https://onlinelibrary.wiley.com/doi/abs/10.1002/ett.3671>
10. P. Khuntia and R. Hazra, 2019, "QOS aware channel and power allocation scheme for D2D enabled cellular networks", Telecommunication Systems, Springer, 2019. <https://link.springer.com/article/10.1007/s11235-019-00582-8>
11. MM Hussain, MMS Beg, MS Alam, S. H. Laskar, "Big Data Analytics Platforms for Electric Vehicle Integration in Transport Oriented Smart Cities: Computing Platforms for Platforms for Electric Vehicle Integration in Smart Cities", International Journal of Digital Crime and Forensics (IJDCF), Vol.11, Issue-3, pages 23-42(2019).
12. J. Hazarika, P. Kant, R. Dasgupta, S. H. Laskar, 2019, "EEG Wavelet coherence based analysis of neural connectivity in action video game players in attention inhibition and short-term memory-retention task", Recent Advances in Electrical and Electronic Engineering, Vol. 12, Issue 4, Bentham Science, DOI : 10.2174/2352096511666180821111536
13. J. Hazarika, P. Kant, R. Dasgupta, and S. H. Laskar, 2018, "Neural modulation in action video game players during inhibitory control function: An EEG study using discrete wavelet transform, Biomedical Signal Processing and Control", volume 45, pp. 144-150, Elsevier.

**b) National Journal(s):**

1. B. Mali, S. H. Laskar, 2018, "Soft Sensor for Estimation and Identification of Reduced Dimensional Quality Control Inputs", Journal of Instrumentation Technology and Innovations, Vol. 7, No.3, pp. 24-29, STM Journals.

**c) International Conference(s):**

1. Siddhartha Ganguly, Manas Kumar Bera, Prasanta Roy, "Robust Tracking and Model Following Controller based on Sliding Mode: An Experimental Validation with Magnetic Levitation System", IEEE Sponsored 5th International Conference for Convergence in Technology (I2CT) 2019, Pune, Maharashtra, India, 29-31 March, 2019.
2. Bhabani Shankar Dey, Manas Kumar Bera and Binoy Krishna Roy, "Super Twisting Sliding Mode Control of Cancer Chemotherapy", VSS 2018, Graz, Austria, pp. 343 - 348, 9-11 July, 2018
3. R. Haloi, D. Chandra, J. Hazarika, Selection of an appropriate denoising technique for EEG signals of Parkinson's disease patients, 2nd International Conference on Innovations in Electronics, Signal Processing and Communication (IESC 2019), IEEE, 1-2, March 2019, NIT Meghalaya, India
4. P. Kant, J. Hazarika, S.H. Laskar, Wavelet transform based approach for EEG feature selection of motor imagery data for brain-computer interfaces, 3rd International Conference on Inventive Systems and Control (ICISC 2019), IEEE, 10-11, January 2019, Coimbatore, India.

5. S. Bansal, P. Nambisan, and M. Khanra, "Optimal sizing and cost analysis of battery/supercapacitor alone and in combination for E-rickshaw application," 2019 5th Indian Control Conference (ICC), IIT Delhi, Jan. 2019.
6. P. Khuntia, R. Hazra, "An Actor-Critic Reinforcement Learning for Device-to-Device Communication Underlying Cellular Network," IEEE Region 10 Conference, TENCON, 2018, Jeju, Korea.
7. S. Biswas and R. Hazra, "A Hybrid Technique for Blood Cell Detection," IEEE Region 10 Conference, TENCON, 2018, Jeju, Korea.
8. S. Biswas and R. Hazra, "A novel level set method for medical image segmentation," IEEE Region 10 Symposium, TENSYP, 2019, Kolkata, India.
9. Subhra S. Sarmah and R. Hazra, "Interference mitigation methods for D2D communication in 5G network", in proceedings of International Conference on Intelligent System and Control Communication, Springer, Bangkok, 2019.
10. P. Kant, J. Hazarika, S.H. Laskar, Wavelet transform based approach for EEG feature selection of motor imagery data for brain-computer interfaces, 3rd International Conference on Inventive Systems and Control (ICISC 2019), IEEE, 10-11, January 2019, Coimbatore, India.
11. S. S. Pattanayak, S. H. Laskar, and Swagatadeb Sahoo, "A Review on Microwave Absorber Using Agricultural Residues", International Conference In Recent Trends on Electronics & Computer Science (ICRTECS-2019), NIT Silchar, 18-19th March 2019 (Accepted and Presented).
12. M. N. Anwar, M. A. Siddiqui, S. H. Laskar, and A. Yadav, "PIDA Controller Design for Higher Order Stable Process with Inverse Response Characteristic," in 2018 International Conference on Computational and Characterization Techniques in Engineering and Sciences, CCTES 2018, 2019, pp. 236–240. (Accepted and Presented).
13. M. A. Siddiqui, M. N. Anwar, and S. H. Laskar, "A Simple Tuning Approach for PID Controller based on Direct Synthesis and Root locus," 3rd International Conference on Computing Methodologies and Communication (ICCMC 2019), Erode, India, 27-29, March 2019.
14. R. Mahamune and S. H. Laskar, "A review on artefacts removal techniques for Electroencephalogram signals", IEEE/2nd International Conference on Innovations in Electronics, Signal Processing and Communication (IESC), organized by NIT Meghalaya, Shillong, March 01-02, 2019.
15. S. Sahoo, R. A. Laskar, J.K. Das, S. H. Laskar, "Gear Fault Diagnosis and Classification Using Machine Learning Classifier", 3rd International Conference on Intelligent Systems, Metaheuristics and Swarm Intelligence (ISMSI 2019), Male, Maldives, 23-24 February 2019. (ACM & Thomson Reuters).
16. Nisha, Vipin Chandra Pal, Richa Negi and Avadh Pati, "Stability analysis of continuous time-delayed system with input saturation," 2018 5th IEEE Uttar Pradesh Section International Conference on Electrical, Electronics and Computer Engineering (UPCON), MMMUT Gorakhpur-India, 02-04, Nov, 2018 pp 1-6, 2018, DOI: 978-1-5386-5002-8/18/\$31.00 ©2018 IEEE

**d) National Conference(s): NIL**

**e) Book/Chapter:**

1. S. H. Laskar, PQ Issues and Monitoring, Published by LA Publishing, Germany; ISBN: 978-613-6-72490-4 (2018)
2. S. H. Laskar, A RT Power Quality Monitoring using Virtual Instrumentation, Published by Shree Publishers & Distributors, New Delhi; ISBN No. 978-81-8329-937-4 (2018).
3. Mali B., Laskar S.H. (2020), PLS-Based Multivariate Statistical Approach for Soft Sensor Development in WWTP. In: Shreesha C., Gudi R. (eds) Control Instrumentation Systems. Lecture Notes in Electrical Engineering, vol 581. Springer, Singapore. Print ISBN: 978-981-13-9418-8

4. Sharma A.K., Sharma S. (2019) Effect of Diameter and Doping on Electronic Band Structure of Single-Walled Carbon Nanotubes. In: Sharma R., Rawal D. (eds) The Physics of Semiconductor Devices. IWPSD 2017. Springer Proceedings in Physics, vol 215. Springer, Cham

#### 1.6 Consultancy Services : NIL

#### 1.7 Major Equipment Acquired : NIL

#### 1.8 Patent : NIL

#### 1.9 Visits To Abroad

Sl.No.	Name of the Faculty	Name of the Conference/ Programme	Place	Date
1	Dr. Manas Kumar Bera	15th International Workshop on Variable Structure Systems and Sliding Mode Control (VSS18)	Graz University of Technology, Graz, Austria	9 <sup>th</sup> -11 <sup>th</sup> July 2018
2	Dr. Ranjay Hazra	IEEE Region 10 Conference, TENCON 2018	Jeju, South Korea	28 <sup>th</sup> October-31 <sup>st</sup> October, 2018.
3	Dr. S. H. Laskar	Visit to Michigan State University, Michigan and University of Illinois, Chicago, USA	USA	June-July 2018

#### 1.10 M.Tech. / M.Sc. (Thesis/Project)

Sl. No.	Name of the Scholar	Name of the Supervisor	Title of the Thesis/Project
1	Vivek Kumar Soni	Mrs. J. Hazarika	Automatic Detection Of Parkinson's Disease Using EEG Signal Processing During Bilateral, Cyclic Ankle Movements
2	Javed Akhter	Dr. Ranjay Hazra	Resource Allocation for energy harvesting powered D2D Communication
3	Gautham V. S.	Dr. Manas Kumar Bera	Event-triggered sliding mode based trajectory tracking control of robotic manipulators in a cyber-robotic space
4	Deep Pal	Dr. Rajdeep Dasgupta	Inductively coupled wireless power transfer technique for cochlear implant
5	Suraj Saha	Mr. Sudarsan Sahoo	Gear and Bearing Fault Diagnosis and Classification using Machine Learning Techniques
6	Ila Deori	Dr. S. H. Laskar	Performance Comparison Of Denoising Methods Of Motor Imagery Eeg Signal
7	Saras Mani Mishra	Dr. Shivendra Kumar Pandey	Understanding the effect of conducting filament variation on electrical characteristics of Memristor devices
8	Neha Fegde	Dr. Arun Kumar Sunaniya	FPGA Implementation of Efficient VLSI Architecture for Improved Reversible Watermarking Algorithms
9	Kakali Roy	Dr. Munmun Khanra	Empirical and Equivalent Circuit Modelling of Supercapacitors.

10	Ammu Prameela Nandakumar	Dr. Lalu Seban	Control of Launch Vehicles
11	Kunal Kanti Das	Dr. Manas Kumar Bera, Prof. Nidul Sinha	State feedback control and sliding mode control of rotary inverted pendulum
12	Siddhartha Ganguly	Dr. Manas Kumar Bera, Dr. Prasanta Roy	Robust tracking and model following controller based on higher order sliding mode control and observations: with some experimental validations

#### 1.11 Ph.D. Thesis : NIL

**1. Name of the Department:**

**Mathematics**



**1.1 Academic Staff:**

**HEAD:** Dr. Santanu Roy (01.04.2018 – 31.10.2018)  
Dr. Mausumi Sen (31.10.2018 – onwards)

**Name of Faculty members:**

Associate Professor	Assistant Professor
Mr. Bijan Nath	Dr. Ganti Ramesh
Dr. Pijus Kanti De	Dr. Kedar Nath Das
Dr. Santanu Roy	Dr. Praveen Kumar Gupta
Dr. Mausumi Sen	Dr. Md. Maqbul
	Dr. Pankaj Biswas
	Dr. Juthika Mahanta
	Dr. Subrata Bera
	Dr. B. Hema Sundar Raju

**Visiting Professor (If any):** NIL



## 1.2 Distinction Achieved

- a) By Student: Nil  
b) By Faculty Member: Nil

## 1.3 SEMINARS, SYMPOSIA, SHORT TERM COURSES, WORKSHOPS

### a) Conducted by Faculty Member

Sl. No.	Name(s) of the Convener	Name(s) of the Coordinator	Title	Funding Agency	Duration
1	Dr. P.K. De	Dr. Subrata Bera Dr. Md. Maqbul Dr. B.H.S. Raju Dr. S.P. Mukherjee	International Workshop on Modeling, Simulation and Soft Computing 2018 (IWMSSC-2018)	TEQIP-III, NIT Silchar	August 10-14, 2018.
2	Dr. P. Biswas, Dr. P.K. Gupta	Dr. W. Arif, Dr. S. Bhowmik, Dr. S. Nath	Mathematical modelling using high performance numerical computation	TEQIP-III, NIT Silchar	29 Sept.– 03 Oct., 2018

### b) Participated by Faculty Member

Sl. No.	Name of Faculty	Details of the Program	Organizing Institute
1	Dr. P.K. Gupta	8 <sup>th</sup> International Conference on Soft Computing for Problem Solving (SocProS 2018) during December 17-19, 2018.	Vellore Institute of Technology, Vellore, Tamil Nadu, India
2	Dr. Subrata Bera	TEQIP-III Short Term Course On Scientific Computing and Applications to Industrial Problems, November 19-23, 2018.	Indian Institute of Technology Kharagpur.
3	Dr. Subrata Bera	International Conference on Applied and Computational Mathematics, November 23-25, 2018.	Indian Institute of Technology Kharagpur.
4	Dr. Subrata Bera	2nd International Conference on Information Technology and Applied Mathematics (ICITAM 2019), March 07-09, 2019.	Haldia Institute of Technology, India.

## 1.4 Research Development

### a) Ph.D. Programme (Specializations):

- Integral equations
- Fuzzy set theory and fuzzy optimization
- Inverse eigenvalue problem
- Operations research
- Fuzzy optimization
- Mathematical modeling
- Elasto-dynamics
- Mathematical modelling of biological problems
- Fractional calculus
- Numerical methods for ODE and PDE's
- Functional differential equations
- Computational fluid dynamics: Micro and nanofluidic Modelling
- Fuzzy set theory and fuzzy topology
- Computational fluid dynamics

b) **Ph.D. Produced/Ongoing (in number):**

Completed	Submitted	Ongoing
01	01	15

c) **Research Lab/ Workshop:**

Sl. No.	Name of Lab/Workshop	Purpose/Linkage to an existing/new programme
1.	Numerical Computation Laboratory	Ph.D. Program

d) **Ongoing/Completed Sponsored Research Project:**

Sl. No.	Project Title	Principal Investigator(s)	Funding Agency	Cost in lakhs	Duration
1	A study on measure theoretical approach to convergence of sequences in probabilistic normed spaces.	Dr. M. Sen	DST(SERB)	15.35520	3 Years (2015-2018)
2	Numerical Study on Electrokinetic flow through Polyelectrolyte coated Nanopore	Dr. S. Bera	Science and Engineering Research Board (SERB), Govt. of India.	25.4714	March 10, 2017- March 09, 2020

e) **Research Paper Reviewed**

Sl. No.	Faculty Name	Journal Name	No. of Paper	Year
1.	Dr. P. K. Gupta	Journal of Advances in Mathematics and Computer Science	01	August, 2018
2.	Dr. P. K. Gupta	Sadhana	01	September, 2018
3.	Dr. P. K. Gupta	Journal of Applied Mathematics	01	November, 2018
4.	Dr. P. K. Gupta	International Journal of Mathematics and Mathematical Sciences	01	January, 2019

f) **Chairing of Technical Section**

Sl. No.	Faculty Name	Details
1	Dr. P.K. Gupta	Chaired the session (PS-2: Soft Computing for biological systems) in 8 <sup>th</sup> International Conference on Soft Computing for Problem Solving (SocProS 2018), Vellore Institute of Technology, Tamil Nadu, India during December 17-19, 2018.

## 1.5 PUBLICATION

a) **International Journal(s):**

- 1) S. Saha and S. Roy, 2018, New Classes of Statistically Pre- Cauchy Triple Sequences of Fuzzy Numbers defined by Orlicz Function, Journal of the Indian Math. Soc., Vol. 85, Nos. 3-4, pp. 01-11.
- 2) A. Esi, S. Saha and S. Roy, 2018, On Fuzzy Real-valued Triple Sequence Space  ${}_3I_p^F(\Delta_m)''$ , The Journal of Fuzzy Mathematics, Los Angeles, Vol. 26, No. 3, pp. 669-680.

- 3) P. Mahapatra, K.N. Das, S. Roy, R. Kumar and A. Kumar, 2019, CSO Technique for solving the Economic Dispatch Problem considering the Environmental Constraints, Asian Journal of Water, Environment and Pollution, Vol. 16, No. 2, pp. 43–50.
- 4) S. Saha, B. Nath and S. Roy, 2018, New Classes of Statistically Convergent Difference Triple Sequence Spaces of Fuzzy Real numbers, Journal of Engineering and Applied Sciences, Vol. 13, No. 7, pp. 5649-5654.
- 5) A. Esi, S. Saha and S. Roy, 2019, Classes of Multiplier Ideal Convergent Triple Sequence Spaces of Fuzzy Real Numbers defined by Orlicz Function, Palestine Journal of Mathematics (Accepted).
- 6) D. Sarma and M. Sen, 2018, Inverse eigenvalue problems for acyclic matrices whose graph is a dense centipede, Spec. Matrices (De Gruyter), 6, 77-92.
- 7) P.K. Gupta and A. Dutta, 2019, A mathematical model on HIV/AIDS with fusion effect: Analysis and homotopy solution, The European Physical Journal Plus, Vol. 134, Issue 6, Article 265.
- 8) Md. Maqbul, 2018, Stepanov-almost periodic solutions of non-autonomous neutral functional differential equations with functional delay, Mediterranean Journal of Mathematics, Vol. 15, no. 4, Art.179, pp. 1-16.
- 9) N. Gupta and Md. Maqbul, 2019, Solutions to Rayleigh-Love equation with constant coefficients and delay forcing term, Applied Mathematics and Computation, Vol. 355, 123-134.
- 10) J. Mahanta and S. Panda, 2019, Fuzzy expert system for prediction of prostate cancer, New Mathematics and Natural Computation, World Scientific (Accepted).
- 11) B.H.S. Raju, D. Nath and S. Pati, 2018, Effect of Prandtl number on thermo-fluidic transport characteristics for mixed convection past a sphere, International Communications in Heat and Mass Transfer, 98, Elsevier.
- 12) D. Nath., S. Pati and B.H.S. Raju, 2019, Analysis of mixed convection past a heated sphere. Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering, 233, SAGE Publications Sage UK: London, England.

**b) National Journal(s):**

- 1) D. Dutta and M. Sen, 2018, Type-2 Fuzzy Equivalence Relation on A Groupoid under Balanced and Semibalanced Maps, Journal of Informatics and Mathematical Sciences, Vol. 10, No. 1 & 2, pp. 133–151, RGN publication.

**c) International Conference(s):**

- 1) A. Dutta, A. Adak and P.K. Gupta, Analysis of fractional order deterministic HIV/AIDS model during drug therapy treatment, 8<sup>th</sup> International Conference on Soft Computing for Problem Solving (SocProS 2018), Vellore Institute of Technology, Tamil Nadu, India, December 17-19, 2018.
- 2) P. Biswas, Performance of Spectral Method for Parabolic Problems, ICM (International Congress of Mathematicians, Rio-de-Janeiro, Brazil, August 1-9, 2018.
- 3) B.H.S. Raju, Fourth Order Computations of mixed convection past a sphere for liquid lithium, ICRIDME 2018, NIT Meghalaya, November 8-10, 2018.
- 4) B. H.S. Raju and M.S.S. Raju, Forced convection past a sphere for liquid metals, ICRIDME 2018, NIT Meghalaya, November 8-10, 2018.

**d) National Conference(s): Nil**

**e) Book/Chapter:**

- 1) R. Haloi and M. Sen: “ $\mu$ -Statistical Convergent Multiple Sequences in Probabilistic Normed Spaces.”, in: V. Madhu, A. Manimaran, D. Easwaramoorthy, D. Kalpanapriya, M. Mubashir Unnissa (eds), Advances in Algebra and Analysis, Trends in Mathematics, Birkhäuser, Cham, 2018, 353-360, doi:https://doi.org/10.1007/978-3-030-01120-8\_40.

- 2) P.K. Gupta (2018) Local and Global Stability of Fractional Order HIV/AIDS Dynamics Model. In: Ghosh D., Giri D., Mohapatra R., Savas E., Sakurai K., Singh L. (eds) Mathematics and Computing. ICMC 2018. Communications in Computer and Information Science, Vol. 834. Springer, Singapore.

## 1.6 CONSULTANCY SERVICES: NIL

## 1.7 MAJOR EQUIPMENT ACQUIRED: NIL

## 1.8 PATENT: NIL

## 1.9 VISITS TO ABROAD

Sl.No.	Name of the Faculty	Name of the Conference/ Programme	Place	Date
1	Dr. Pankaj Biswas	ICM (International Congress of Mathematicians)	Rio-de-Janerio, Brazil	August 1-9, 2018

## 1.10 M.Sc. (Thesis/Project)

Sl. No.	Name of the Scholar	Name of the Supervisor	Title of the Thesis/Project
1	Mridanga Dekka	Dr. P. K. De	A study on a dual-channel supply chain model under selling price and delivery time dependent demand
2	Manajer Kumar Rana	Dr. M. Sen	Numerical solution of Abel's integral equation by using Lagrange collocation method
3	Ayushi Goel	Dr. K. N. Das	4X-GA for course timetabling problem – A case study on NIT Silchar
4	Ravindra Kumar	Dr. S. Bera	A study on the electro-osmotic flow in a micro-channel
5	Souvik Nandi	Dr. B. H. S. Raju	Fourth order compact finite difference scheme for steady two dimensional convection diffusion equation with variable coefficients

## 1.11 Ph.D. Thesis

Sl. No.	Name of the Scholar	Name of the Supervisor	Title of the Thesis
1	Prabhujit Mahapatra	Dr. Santanu Roy & Dr. Kedar Nath Das	Tri Competitive Swarm Optimizer for Solving Large Scale Optimization Problems

1. Name of the Department:

# Physics



1.1 Academic Staff:

**HEAD:** Dr. Rupak Dutta (01.04.2018 – 07.08.2018)  
Prof. Asim Roy (07.08.2018 – onwards)

Name of Faculty members:

Professor	Associate Professor	Assistant Professor
Dr. Asim Roy		Dr. Subrat Kumar Barik
		Dr. Avijith Chowdhury
		Dr. Ranjith G.Nair
		Dr. Rupak Dutta
		Dr. Saumya R.Mohapatra
		Dr. Subhasis Panda
		Dr. P.Srinivasan

Visiting Professor (If any): NIL

## 1.2 Seminars, Symposia, Short Term Courses, Workshops

### a) Conducted by Faculty Member

Sl. No.	Name(s) of the Coordinator	Title	Funding Agency	Duration
1	Dr. A. Chowdhury	DST INSPIRE SCIENCE CAMP-2018	DST, Govt. of India	10-14 December, 2018
2	Dr. Ranjith G Nair	ANVESHAN 2019	TEQIP-III	12 <sup>th</sup> to 13 <sup>th</sup> January, 2019
3	Dr. R. G. Nair Dr. S. R. Mohapatra Dr. Avijit Chowdhury	Industry-Academia Workshop on Advanced Materials Fabrication and Characterization Techniques (Amfct 2019)	TEQIP-III	04-08 February, 2019

### b) Participated by Faculty Member

Sl. No.	Name of Faculty	Details of the Program	Organizing Institute
1	Dr. Ranjith G Nair	National conference on hard and soft condensed matter physics, NCHSCMP-2019 (4 <sup>th</sup> to 6 <sup>th</sup> March, 2019)	Tezpur University
2	Dr. S. Panda	Curriculum Design and Implementation for Outcome Based Education (CuDIOBE-2019)	NIT Silchar & PMMM-NMTT
3	Dr. P. Srinivasan	Curriculum Design and Implementation for Outcome Based Education (CuDIOBE-2019) May 27-31 2019	NIT Silchar & PMMM-NMTT
4.	Dr. P. Srinivasan	Industry-academia workshop on Advanced materials fabrication and characterization techniques (AMFCT 2019)	NIT SILCHAR
5.	Dr. P. Srinivasan	Familiarization Workshop on Nanofabrication Technologies, National Institute of Technology (INUP -2019) Jan 28-29 2019	NIT SILCHAR
6.	Dr. P. Srinivasan	One week workshop on "Intellectual Property Rights & Technological Development (IPRTD) January 21-25, 2019	NIT SILCHAR

## 1.3. Research Development

a) **Ph.D. Programme (Specializations):** Solar photocatalysis, Solar photovoltaics, solar energy materials, Energy storage materials and devices, Nanoionic resistive switching memory, Theoretical Condensed Matter Physics, Perturbation Theory (Quantum Mechanics), Nonlinear Optics, Crystal Growth

b) **Ph.D. Produced/Ongoing (in number):**

Completed	Submitted	Ongoing
00	00	15

**c) Research Lab/ Workshop:**

Sl. No.	Name of Lab/Workshop	Purpose/Linkage to an existing/new programme
1.	Organic Electronics and Sensors Laboratory (Dr. Avijith Choudury)	MSc in Applied Physics
2	Solar energy materials research and testing laboratory (SMaRT Lab) (Dr R G Nair)	Research: M.Sc. and Ph.D.
3	Solid State Ionics lab (Dr.S R Mohapatra)	Research (new lab)

**d) Ongoing/Completed Sponsored Research Project:**

Sl. No.	Project Title	Principal Investigator(s)	Funding Agency	Cost in lakhs	Duration
1	Energetic Ion beam assisted synthesis of Ag/Au ion implanted Titania/ZnO thin film and investigation of their Utility as Photoanode for Dye Sensitized Solar Cell	Dr. Ranjith G Nair	Inter University Accelerator Centre, New Delhi	6.75	4 <sup>th</sup> January 2016 to 3 <sup>rd</sup> January 2019
2	Fabrication and Testing of Tandem Layered Quantum Dot Sensitized Solar Cell with Elevated Absorption	Dr. Ranjith G. Nair Dr. Avijit Chowdhury (Co PI)	Department of Science and Technology, New Delhi	25.14	27 <sup>th</sup> December 2016 to 26 <sup>th</sup> December 2019
3	Development of Physics Research Laboratories ( FIST)	HOD	DST	118	2017 to 2022

**e) Research Paper Reviewed**

Sl. No.	Faculty Name	Journal Name	No. of Paper	Year
1.	Dr. S. K. Barik	Journal of Physics and Chemistry of Solids	01	2018
2.	Dr. S. K. Barik	Applied Physics A: Materials Science & Processing	01	2018
3.	Dr. S. K. Barik	Applied Physics A: Materials Science & Processing	05	2019
4.	Dr. S. K. Barik	ACS Omega	01	2019
5.	S. R. Mohapatra	Applied Physics Letters	01	2019
6.	Dr. Avijit Chowdhury	The Journal of Physical Chemistry (ACS Publishing)	01	2019
7.	Dr. Avijit Chowdhury	Materials Research Express (IOP Publishing)	01	2019
8	Dr. P. Srinivasan	Optik (Elsevier)	01	2018
9.	Dr. P. Srinivasan	Laser Physics (IOP Publishing)	01	2018
10.	Dr. P. Srinivasan	Spectrochimica Acta Part A (Elsevier)	01	2019

**f) Chairing of Technical Section**

Sl. No.	Faculty Name	Details
1	Dr. Ranjith G. Nair	Given an invited talk in the National conference on hard and soft condensed matter physics, NCHSCMP-2019 held during 4th to 6th March, 2019 organized by Tezpur University.
2	Dr. P. Srinivasan	Invited Talk on Research Avenues in Nanofibres , International Conference on Advances in Biotechnology, Chemistry and Physics (ICABCP-19)" on 22-23 <sup>rd</sup> February 2019organised by Sri Vinayaga Arts and Science College, Tiruvalluvar University, Tamilnadu
3	Dr. P. Srinivasan	Session Chair in the International Conference on Materials Engineering and Characterization organized by Department of Mechanical Engineering, Aadhi College of Engineering, Chennai during 08-10 May 2019

**3 PUBLICATION**

**a) International Journal(s):**

1. Rupak Dutta, Predictions of  $B_c \rightarrow (D, D^*) \tau \nu$  decay observables in the standard model and beyond, J.Phys. G46 (2019) no.3, 035008.
2. N. Rajeev & Rupak Dutta, Impact of vector new physics couplings on  $B_s \rightarrow (K, K^*) \tau \nu$  and  $B \rightarrow \pi \tau \nu$  decays, Phys.Rev. D98 (2018) no.5, 055024.
3. S. K. Barik, S. Ahmed, S. Hajra, Studies of dielectric relaxation and impedance analysis of new electronic material:  $(Sb_{1/2}Na_{1/2})(Fe_{2/3}Mo_{1/3})O_3$ , Applied Physics A 125 (2019) 200 (Springer).
4. S. Nath, S.K. Barik, S. Hajra, R.N.P. Choudhary, Relaxation mechanism, conductivity and multiferroic property studies in  $(La_{1/2}Li_{1/2})(Fe_{2/3}W_{1/3})O_3$ , Physica B: Condensed Matter 567 (2019) 100-108 (Elsevier).
5. S. Ahmed, S. K. Barik and S. K. Barik, A comparative study on structure and electrical properties of antimony ferrite and bismuth ferrite, Applied Physics A 124 (2018) 523 (Springer).
6. S. Nath, S.K. Barik, S. Hajra, R.N.P. Choudhary, Studies of Structural, Impedance spectroscopy and Magnetoelectric Properties of  $(SmLi)_{1/2}(Fe_{2/3}Mo_{1/3})O_3$  Electroceramics, Journal of Materials Science: Materials in Electronics, 29 (2018) 12251–12257 (Springer).
7. Manjula G. Nair, Saumya R Mohapatra (2019) Perchloric acid functionalized nano-silica and protic ionic liquid based non-aqueous proton conductive polymer electrolytes, Materials Letters, 251, 148-151
8. Abinash Das, P Malakar, Ranjith G Nair, 2018, Engineering of ZnO nanostructures for efficient solar photocatalysis, Materials letters, 219, 76-80, Elsevier.
9. Ranjith G Nair, Swapna Ojah, P Mathan Kumar, SK Nikhil, S K Samdarshi, 2018, Role of copper and silver modified titaniaphotoanode on performance engineering of dye sensitized solar cells, Materials letters, 221, 313-317, Elsevier
10. S. Rafi Ahamed, P. Srinivasan, J. Balaji, C. Balakrishnan & G. Vinitha, ' Structural, theoretical and third-order nonlinear optical investigations of N'-[(E)- bromopheny 4 (phenyl)methylidene]-4-methylbenzene sulfonohydrazide' Molecular Crystals and Liquid crystals 2018, vol. 665, no. 1, 194–206 Taylor and Francis
11. S. Sathiyamoorthi & P. Srinivasan Synthesis, spectral, thermal, optical and dielectric studies of new arylidene NLO crystal: 2,6 – Bis (2,6- dichlorobenzylidene) cyclohexanone, Materials Research Innovations 2018 Taylor and Francis
12. Satish Kumar Satti, Suganya Devi K, Prasenjit Dhar, Srinivasan P (2019), 'An Efficient Noise Separation technique for Removal of Gaussian and Mixed Noises in monochrome and color Images', International Journal of Innovative Technology and Exploring engineering, Vol.8(9), pp.588-601



13. Satish Kumar Satti, Suganya Devi K, Vishnu Murthy, Srinivasan P (2019), 'Efficient Technique for removal of white and mixed noises in gray-scale images', International journal of Innovative engineering and Management Research, Vol.8(9), pp.22-36.

**b) National Journal(s):**

1. S. Nath, S.K. Barik, R.N.P. Choudhary, Relaxation mechanism, conductivity and magnetoelectric property studies in  $(\text{NdLi})_{1/2}(\text{Fe}_{2/3}\text{Mo}_{1/3})\text{O}_3$  multiferroic, Indian Journal of Physics 93 (8) (2019) 1001-1007 (Springer).

**c) International Conference(s):**

1. Koustav Kashyap Gogoi and Avijit Chowdhury, Highly stable write-once-read-many times switching behavior of graphene oxide-polymer nanocomposites, AIP Conference Proceedings, 2142, 150028 (2019).

Name of conf.: International Conference on Advances in Basic Sciences (ICABS19).

Place: GDC Memorial College, Bahal, Haryana.

Date: 7-9 February, 2019

2. Nipom Sekhar Das, Koustav Kashyap Gogoi, Rakesh Ch. Das, Avijit Chowdhury, Studies on Electrical Characteristics of Organic-Inorganic Heterostructures, AIP Conference Proceedings (Accepted In press).
3. Koustav Kashyap Gogoi, and Avijit Chowdhury\*, Electric field induced tunable electrical hysteresis in poly(methyl methacrylate)/graphene oxide heterostructures, AIP Conference Proceedings 2100, 020022 (2019).

Name of conf.: Prof. Dinesh Varshney memorial National Conference on Physics and Chemistry of Materials (NCPCM-2018).

Place: Department of Physics, Government Holkar Science College and School of Physics, Devi Ahilya University, Indore. Date: 27-28 December, 2018

4. M P Vaishnnave, K Suganya Devi, G Arutperumjothi, P Srinivasan, 'Analysis of Castor Plant Diseases Using SVM & deep CNN Technique',

Name of conf.: IEEE international Conference on Recent Advances in Energy-efficient Computing and Communication (ICRAECC 2019), Date: 7-8 Mar. 2019.

5. M P Vaishnnave, K Suganya Devi, P Srinivasan, G Arutperumjothi, 'Detection and Classification of Groundnut Leaf Diseases using KNN classifier', Name of conf.: 2nd IEEE International Conference on systems, Computation, Automation and Networking (ICSCAN 2019), 29-30 Mar. 2019

6. V.Suganthi and P.Srinivasan Studies on the electrospun composite Picric acid PVA nanofibers International Conference on Recent Trends in Nanomaterials for Energy, Environmental and Engineering Applications (ICONEEEA-2K19) 28–29 March 2019 K Ramakrishnan College of Engineering, Tiruchirappalli, India

**d) National Conference(s): NIL**

**e) Book/Chapter:**

1. P. Srinivasan "Physics for Electronics Engineering" Sri Krishna Publishers Vishnu Print Media, 2019 Chennai ISBN No 978-93-85374-63-0
2. P. Srinivasan "Engineering Physics" Sri Krishna Publishers Vishnu Print Media, 2019 Chennai ISBN No 978-93-85374-74-6
3. P. Srinivasan and Dr. S. Muthukumaran "Materials Science" Sri Krishna Publishers Vishnu Print Media, 2019 Chennai ISBN No 978-93-85374-84-5.

**4 Consultancy Services: NIL**

**5 Major Equipment Acquired**

1. Spectrofluorometer
2. Horizontal tube furnace

**6. Patent**

Sl. No.	Details	Year
1	Patent filed on ONLINE PAYMENT SYSTEM AND METHOD Ref No : 201931025522 Inventors : Dr.K.Suganya Devi and Dr.P.Srinivasan	2019

**7. Visits To Abroad : NIL**

**8. M.Sc. (Thesis/Project)**

Sl. No.	Name of the Scholar	Name of the Supervisor	Title of the Thesis/Project
1.	A. R. Atique Ulla	Dr. S. K. Barik	Dielectric and impedance spectroscopy study of $\text{Fe}_{1/2}(\text{NaLi})_{1/4}\text{TiO}_3$
2.	Prashanta Pathak	S. R. Mohapatra	Electrical bistability in $\text{MoS}_2$ nanosheets doped polymeric nanocomposite films
3.	Satish Kumar	Dr. Avijit Chowdhury	Design, Simulation and Electrical Studies of Metal–Oxide–Semiconductor Field-Effect Transistor (MOSFET)
4	Riu Riu Wary	Dr. Ranjith G Nair	Cationic doped ZnO: An efficient nanophotocatalyst for solar energy applications
5	Moumita Patra	Dr. Ranjith G Nair	Performance engineering of $\text{ZnO-In}_2\text{O}_3$ and $\text{ZnO-CeO}_2$ nanocomposites as an efficient photocatalyst for solar energy application
6	Koppad Basavaraj	Dr. S. Panda	Ab-initio study of structural Phase transition in $\text{TiO}_2$
7.	Barnali Mahato	Dr. Asim Roy	Chemical Vapor deposition Grown $\text{WS}_2$ Based Resistive Switching Device
8.	Kunal Gupta	Dr. Rupak Dutta	Neutrino Oscillation: An experimental Perspective

1. Name of the Department:

# Chemistry



1.1 Academic Staff: 08

HEAD: Dr. B. H. Shambharkar

Name of Faculty members:

Professor	Associate Professor	Assistant Professor
	Dr. Siddhartha S. Dhar	Dr. R. Rano
	Dr. M. A. Zaman	Dr B. H. Shambharkar
	Dr. P. Barman	Dr. L. Rokhum
		Dr. N. S. Moyon
		Dr. Biswa Nath Ghosh

Visiting Professor (If any): NIL

1.2 Distinction Achieved

a) By Student: NIL

b) By Faculty Member : NIL

### 1.3 SEMINARS, SYMPOSIA, SHORT TERM COURSES, WORKSHOPS

#### a) Conducted by Faculty Member

Sl. No.	Name(s) of the Coordinator	Title	Funding Agency	Duration
1	Dr. P. Barman	A Lecture Workshop on "Innovative Trends and techniques in Chemistry"	Indian National Science Academy	27 <sup>th</sup> - 29 <sup>th</sup> August 2018

#### b) Participated by Faculty Member : NIL

### 1.4 Research Development

#### a) Ph.D. Programme (Specializations):

Synthesis of nanostructured metal, metal oxides and metal composites grafted on graphitic carbon nitride, grapheme oxide or reduce grapheme oxide and their catalytic and/ or photocatalytic application synthetically useful organic transformations and environmental remediation. Organic Synthesis, Organo-Sulfur compounds and their Applications, Synthesis of nanocomposites for environmental remediation. Nanoscience and Nanotechnology, Nanocatalysts, Synthesis and characterization of inorganic nanostructured materials. Adsorption/Interfacial Phenomenon, Development of low-cost and synthetic nano-adsorbents for wastewater treatment, Waste plastics recycling, Co-processing of petroleum vacuum residue with plastics and biomass, Cracking or pyrolysis of biomass Polymer composites and nano-composites, Polymers, Desulfurization, Solid waste Management, Characterization and Utilization of Environmental Solid Waste Materials, Studies on Coal and Coal Combustion Residues.

#### b) Ph.D. Produced/Ongoing (in number):

Completed	Submitted	Ongoing
07	00	20

#### c) Research Lab/ Workshop: NIL

#### d) Ongoing/Completed Sponsored Research Project:

Sl. No.	Project Title	Principal Investigator(s)	Funding Agency	Cost in lakhs	Duration
1	Nanostructured Metal Oxides Immobilized Ionic Liquids as Green Catalysts for Selective Organic Transformations	Dr. S. S. Dhar	DST-SERB	28,64,430/-	3 years
2	Metal Complexes of New Chiral Schiff Bases: Design, Structure Evaluation, Reactivity and Synthetic Applications	Dr. P. Barman	DST-SERB	23,00,000	3 years
3	Spectrofluorimetric Studies on Representative Nitrogen Heterocyclic Drugs and Their interaction with DNA-Nucleotides	Dr. N. S. Moyon	SERB	33.09	3 years

#### e) Research Paper Reviewed

Sl. No.	Faculty Name	Journal Name	No. of Paper	Year
1	Dr. S. S. Dhar	Journal of Photochemistry and Photobiology B: Biology	01	2018
		ChemCatChem	01	2019
		Materials Chemistry and Physics	01	2018
		Journal of Chemical Technology and Biotechnology	01	2018
		Inorganic and Nano-metal Chemistry	01	2018
2	Dr. M. A. Zaman	Journal of Environmental Chemical Engineering	01	2018
		Journal of Environmental Management	04	2019
		ChemistrySelect	01	2019
3	Dr. L. Rokhum	Green Chemistry (RSC)	3	2019
		Current Pharmaceutical Biotechnology (Bentham Science)	1	2019
		Artificial Cells, Nanomedicine, and Biotechnology (Taylor and Francis)	1	2019
		Advances in Natural Sciences: Nanoscience and Nanotechnology (IOP)	1	2019
		Catalysis Letters (Springer)	2	2019
		Energy & Fuels (ACS)	1	2019
		Energy Sources, Part A: Recovery, Utilization and Environmental Effects (Taylor and Francis)	1	2019
		Organic & Biomolecular Chemistry	1	2019
		New Journal of Chemistry(RSC)	1	2019
4	Dr. P. Barman	Journal of Organic Chemistry	1	2018
		Advance Synthesis and Catalysis	1	2018
		Research on Chemical Intermediate	1	2018
		Polyhedron	1	2018
		New Journal of Chemistry	1	2018

#### f) Chairing of Technical Section

Sl. No.	Faculty Name	Details
1	Dr. P. Barman	OrganiX - An International Conference in Chemistry, 20-21 December-2018 at Tezpur University, Assam, India.

## 1.5 PUBLICATION

### a) International Journal(s):

- Arijita Paul, Meghali Devi and Siddhartha Sankar Dhar, 2019, Incorporation of nanosized ZnWO<sub>4</sub> and Fe<sub>3</sub>O<sub>4</sub> on graphitic carbon nitride to fabricate a novel, highly active magnetically recoverable catalyst in Claisen–Schmidt condensation, Journal of Physics and Chemistry of Solids, 10.1016/j.jpcs.2019.109117.
- Bappi Paul, Sachin Kumar Sharma, Shubhadeep Adak, Rubinakhatun, Gurmeet Singh, Dipak Das, Vedant Joshi, Sahil Bhandari, Siddhartha Sankar Dhar and Rajaram Bal, 2019, Low Temperature

- Catalytic Oxidation of Aniline to Azoxybenzene Over Ag/Fe<sub>2</sub>O<sub>3</sub> Nanoparticle Catalyst Using H<sub>2</sub>O<sub>2</sub> as an Oxidant, *New Journal of Chemistry*, 43, 8911-8918.
3. Arijita Paul, Bishal Bhuyan, Siddhartha S Dhar 219, Study of core-shell  $\alpha$ -Fe<sub>2</sub>O<sub>3</sub>@Au nanohybrid and their high catalytic performances in aerial oxidation of benzyl alcohols, *Chemical Engineering Communications*, 10.1080/00986445.2019.1641491
  4. Bappi Paul, S Vadivel, N Yadav, Siddhartha S Dhar, 2019, Room temperature catalytic reduction of nitrobenzene to azoxybenzene over one pot synthesised reduced graphene oxide decorated with Ag/ZnO nanocomposite, *Catalysis Communications*, 237, 113-117.
  5. Meghali Devi, Sreejeeb Ganguly, Bishal Bhuyan, Siddhartha Sankar Dhar and SethumathavanVadivel, 2018, A Novel [Fe(acac)<sub>3</sub>] Interspersed g-C<sub>3</sub>N<sub>4</sub> Heterostructure for Environmentally Benign Visible-Light-Driven Oxidation of Alcohols, *European Journal of Inorganic Chemistry*, 4815-4825.
  6. Bishwajit Changmai, Ikbāl B Laskar, Lalthazuala Rokhum. Microwave-assisted synthesis of glycerol carbonate by the transesterification of glycerol with dimethyl carbonate using *Musa acuminata* peel ash catalyst. *J Taiwan Inst Chem Eng.*, 2019, 102, 276-282 (Elsevier) Impact Factor 3.834.
  7. Lalthazuala Rokhum, Gunindra Pathak. Synthesis, Characterization and Catalytic Activity of Magnetic KI@Fe<sub>3</sub>O<sub>4</sub> Nanoparticles for Henry Reaction under Solvent Free Conditions, *Catalysis Lett.*, 2019, 1-12 (Springer) Impact Factor 2.9
  8. Aayushi Biswas; R Lalfakzuala; Partha Adhikari; C Vanlalveni; Lalthazuala Rokhum. Biosynthesis, characterization and antibacterial activity of *Mikania micrantha* leaf extract mediated silver nanoparticles. *Micro & Nano Lett.*, 2019, 14 (7), 799-803, Impact Factor 0.975
  9. Kalyani Rajkumari, Diparjun Das, Gunindra Pathak and Lalthazuala Rokhum. Waste-to-useful: Biowaste-derived heterogeneous catalyst for a green and sustainable Henry reaction. *New J. Chem.*, 2019, 43, 2134-2140 (Royal Society of Chemistry (RSC), Impact Factor-3.277).
  10. Kalyani Rajkumari, Bittu Lama, Lalthazuala Rokhum. A microwave-assisted highly stereoselective one-pot Wittig reaction under solvent-free condition. *Turk J Chem.* 2019, 43: 705-712 (Scientific and Technological Research Council of Turkey (TÜBİTAK), IF-1.377)
  11. Ikbāl B. Laskar, Kalyani Rajkumari, Rajat Gupta and Lalthazuala Rokhum. Acid-functionalized mesoporous polymer-catalyzed acetalization of glycerol to solketal, a potential fuel additive under solvent-free conditions. *Energy & Fuels*. 2018, 32, 12567-12576 (American Chemical Society (ACS), IF-3.024.
  12. Gunindra Pathak, Kalyani Rajkumari, Lalthazuala Rokhum. Wealth from waste: *M. acuminata* peel waste-derived magnetic nanoparticles as a solid catalyst for Henry reaction. *Nanoscale Adv.*, 2019, 1, 1013-1020 (RSC, IF- Pending).
  13. Lalthazuala Rokhum and Ghanashyam Bez. Recent Application of Polystyrene-Supported Triphenylphosphine in Solid Phase Organic Synthesis. *Current Organic Chemistry*, 2018, 23, 643-67. (Bentham Science Publisher, IF-2.193) Publication as Guest Editor of the Special Issue- "Recent Advances in Solid Phase Organic Synthesis (SPOS)".
  14. Ikbāl Bahar Laskar, Kalyani Rajkumari, Rajat Gupta, Sushovan Chatterjee, Bappi Paul, Lalthazuala Rokhum. Waste snail shell derived heterogeneous catalyst for biodiesel production by transesterification of soybean oil. *RSC Adv.*, 2018, 8, 20131-20142 (RSC, IF-2.936).
  15. Gunindra Pathak, Diparjun Das, Kalyani Rajkumari, Lalthazuala Rokhum. Exploiting waste: Towards a sustainable production of biodiesel using *Musa acuminata* peel ash as a heterogeneous catalyst. *Green Chem.*, 2018, 20, 2365-2373. (RSC, IF-8.586)
  16. C. Vanlalveni, Kalyani Rajkumari, Aayushi Biswas, Partha Pradip Adhikari, R. Lalfakzuala, Lalthazuala Rokhum. Green synthesis of silver nanoparticles using *Nostoc linckia* and its antimicrobial activity: a novel biological approach. *BioNanoscience*, 2018, 8, 624-631 (Springer, IF-Pending).
  17. Aayushi Biswas, C. Vanlalveni, Partha Pradip Adhikari, R. Lalfakzuala, Lalthazuala Rokhum. Green biosynthesis, characterization and antimicrobial activities of silver nanoparticles using fruit extract of *Solanum viarum*. *IET Nanobiotechnology*. 2018, 12, 933-938 (IET/ IEEE, IF-2.059).
  18. Aayushi Biswas, Lalrampani Chawngthu, C. Vanlalveni, Remruattluanga Hnamte, R. Lalfakzuala, Lalthazuala Rokhum. Biosynthesis of silver nanoparticles using *Selaginella bryopteris* plant extracts and

studies of their antimicrobial and photocatalytic activities. *Journal of Bionanoscience*. 2018, 8, 624–631 (American Science Publisher, IF-Pending).

19. Th. Babita Devi, Dipyaman Mohanta, Md. Ahmaruzzaman, 2019, Biomass derived activated carbon loaded silver nanoparticles: An effective nanocomposites for enhanced solar photocatalysis and antimicrobial activities, *Journal of Industrial and Engineering Chemistry*, 76, 160-172.
20. Dipyaman Mohanta, Sauvik Raha, Shaswat Vikram Gupta, Md. Ahmaruzzaman, 2019, Bioinspired green synthesis of engineered  $\text{CuSnO}_3$  quantum dots: An effective material for superior photocatalytic degradation of Rabeprazole, *Materials Letters*, 240, 193-196.
21. Dipyaman Mohanta, Sauvik Raha, Md. Ahmaruzzaman, 2018, Biogenic green synthetic route for Janus type  $\text{Ag:SnO}_2$  asymmetric nanocomposite arrays: Plasmonic activation of wide band gap semiconductors towards photocatalytic degradation of Doripenem *Materials Letters*, 230, 203-206.
22. Archita Bhattacharjee, M. Ahmaruzzaman, 2018,  $\alpha$ -Amino acid assisted facile synthesis of two-dimensional  $\text{ZnO}$  nanotriangles for removal of noxious pollutants from water phase, *Journal of Environmental Chemical Engineering*, 6 (4), 4970-4979.
23. Shamima Begum, Md. Ahmaruzzaman, 2018, Green synthesis of  $\text{SnO}_2$  quantum dots using *Parkia speciosa* Hassk pods extract for the evaluation of anti-oxidant and photocatalytic properties, *Journal of Photochemistry and Photobiology B: Biology*, 184, 44-53.
24. Pamreishang Kasar, Md. Ahmaruzzaman, 2018, Catalytic co-cracking of waste polypropylene and residual fuel oil, *Petroleum Science and Technology*, 36 (18), 1455-1462.
25. Th. Babita Devi, Md. Ahmaruzzaman, 2018, Green synthesis of silver nanoparticles using *Coccinia grandis* fruit extract and its application toward the reduction of toxic nitro compounds, *Indian Journal of Chemical Technology*, 25(5), 475-481.
26. Th. Babita Devi, Md. Ahmaruzzaman, 2018, Removal of perilous nitrocompound from aqueous phase using biogenic copper nanoparticles as a catalyst, *Indian Journal of Chemical Technology*, 25(6), 561-564.
27. Namita Devi, Sukanya Hazarika, Prasanta Gogoi, Pranjit Barman, 2018, A novel dual-nano assisted synthesis of symmetrical disulfides from aryl/alkyl halides, *Synthetic Communications*, Volume 48, 2018 - Issue 15.
28. Rajjakfur Rahaman, Shivashish Das, Pranjit Barman, 2018, Visible-light-induced regioselective sulfenylation of imidazopyridines with thiols under transition metal-free conditions, *Green Chem.* 2018, 20, 141-147.
29. Anamika Khaskel, Pranjit Barman, Subir Kumar Maiti, Utpal Jana: Nebivolol nanoparticles: A first catalytic use in Biginelli and Biginelli-like reactions. *Canadian Journal of Chemistry*, 96(12)-2018
30. Baban H. Shambharkar, Arpita Paul Chowdhury, 2018,  $\text{BiOCl-Ag}_8\text{SnS}_6$  heterostructure: Facile preparation and photocatalytic applications. *J Environ Chem Eng*. Vol. 6 (2) 2085-2094. Science direct.
31. Arpita Paul Chowdhury, Baban H. Shambharkar, 2018, Synthesis and characterization of  $\text{BiOCl-Cu}_2\text{ZnSnS}_4$  heterostructure with enhanced photocatalytic activity. *Appl. Water Sci*. Vol 8, 202 Springer.

### c) International Conference(s):

1. Pranjit Barman, Namita Devi, Iodine Catalysed Regioselective Sulfenylation of Unsymmetrical Ketones from substituted Phenyl Disulfides. *OrganiX - An International Conference in Chemistry*, 20-21 December. 2018 at Tezpur University, Assam, India
2. Aditi Bora, Pranjit Barman: Synthesis and Characterization of New Chiral Schiff Base Ligand (1S,2R)-1-E[3-(Bromo-5-chloro-2-hydroxybenzylidene) amino-2,3-dihydro-1H-indene-2-0l] and its metal complexes. *OrganiX - An International Conference in Chemistry*, 20-21 December.
3. Subir Kr Maiti, Pranjit Barman: Study on Synthesis, characterization of ONS donor Schiff Base Complexes of Ruthenium and its Applications. *OrganiX - An International Conference in Chemistry*, 20-21 December.

d) **National Conference(s): NIL**

e) **Book/Chapter:**

Ruma Rano, Characterization of Magnetic and Non-Magnetic Components from a Low Carbon Fly Ash: a Solid Air Pollutant, Chapter 2, (pages 46-67) DOI: 10.4018/978-1-5225-7289-3.ch002

## 1.6 CONSULTANCY SERVICES : NIL

## 1.7 MAJOR EQUIPMENT ACQUIRED

- a. UV-Visible Spectrophotometer
- b. Merck MilliQ Ultrapure water purification system

## 1.8 PATENT : NIL

## 1.9 VISITS TO ABROAD : NIL

## 1.10 M.Tech. / M.Sc. (Thesis/Project)

Sl. No.	Name of the Scholar	Name of the Supervisor	Title of the Thesis/Project
1	Sreejeeb Ganguly	Dr. S. S. Dhar	Fe(acac) <sub>3</sub> grafted graphitic carbon nitride hybrid for visible light controlled oxidation of alcohols
2	Anand K Meher	Dr. L. Rokhum	Solvent-free synthesis of fuel additives solketals using silica coated magnetic nanoparticles Fe <sub>3</sub> O <sub>4</sub> functionalized with sulfuric acid
3	Prince Thapar	Dr. L. Rokhum	A facile Hantzsch reaction using acid-functionalized polymer catalyst
4	Ayesha Samanta	Dr. P. Barman	Studies on the Synthesis, Characterization of ONS Donor Schiff base Complex of Ruthenium and its Application
5	Shaswat Vikram Gupta	Dr. M. A. Zaman	Development of efficient low cost sorbent from polymer based waste materials and synthesis of novel magnetic nanocomposite sorbent for dye remediation from water
6	Chinmaya Kumar Patel	Dr. N.S.Moyon	Fluorescence quenching study of bovine serum albumin in presence of hesperetin
7	Abhinay Wasnik	Dr. B. H. Shambharkar	Synthesis and characterization of Ag <sub>8</sub> SnS <sub>6</sub> -polyaniline nanocomposites
8	Himangshu Sekher Hazarika	Dr. R. Rano	Synthesis and Characterization of Mesoporous Silica from Coal Combustion Residue.
9	Indraneel Debnath	Dr. R. Rano	Fabrication of Diethanolamine Impregnated Coal Combustion residue for Enhanced Adsorption of Malachite Green Dye from Aqueous Solution.



### 1.11 Ph.D. Thesis

Sl. No.	Name of the Scholar	Name of the Supervisor	Title of the Thesis
1	Bishal Bhuyan	Dr. S. S. Dhar	Studies on a few chosen nanostructured metals, metal ox-ides and composites and their catalytic and biological applications
2	Gunindra Pathak	Dr. L. Rokhum	Synthesis, characterization and application of selected heterogeneous catalyst/reagents in esterification, transesterification and Henry reactions
3	Razzakpur Rahman	Dr. P. Barman	Studies on the Synthesis and Characterization of Bivalent Organosulfur Compounds of Heterocycles and Active Methylenes.
4	Namita Devi	Dr. P. Barman	Studies on the Synthesis of Bivalent Organosulfur Compounds and Metal Complexes and Catalytic Applications towards Synthesis of Regioselective C-S/N-S Bond
5	Shamima Begum	Dr. M. A. Zaman	Tailored Metal Oxide Nanostructured Materials and Their Composites: Characterization and Prospective Applications
6	Nurul Alam Mazumder	Dr. R. Rano	Synthesis and Characterisation of Surface Modified Flyash and their Applications in Selective Organic Reactions and Photocatalytic Degradations.
7	Firoza Sultana	Dr. R. Rano	Comparative Study of Coal Combustion Residues from Pulp and Paper Mills of Assam for their Potential Applications.

1. Name of the Department:

## Humanities & Social Sciences



1.1 Academic Staff:

HEAD: Dr. N. B. Singh

Name of Faculty members:

Professor	Associate Professor	Assistant Professor
Gurudas Das	N. B. Singh	Avishek Ray
	Reena Sanasam	

Visiting Professor (If any): NIL

## 1.2 Distinction Achieved

### a) By Student:

Amlan Baisya, was awarded a fully sponsored research grant by the Deutsche Literary Archive, Marbach, Germany under the project “1968: Conflict of Ideas in Global Archives” to visit their archives during Oct 3- Oct 17, 2018.

### b) By Faculty Member:

Avishek Ray has delivered invited talks and public lectures at:

1. Dept. of Arts, Languages & Literature, American University in Bulgaria, Blagoevgrad | 12 Feb 2019
2. Centre for Advanced Study (CAS), Sofia, Bulgaria | 7 Feb 2019
3. Institute of Ethnology & Folklore Studies, Bulgaria Academy of Sciences (BAS), Sofia | 5 Feb 2019
4. Department of Foreign Languages & Cultures, New Bulgarian University, Sofia | 24 Jan 2019
5. Centre for Studies in Science Policy, Jawaharlal Nehru University (JNU), India | 20 Nov 2018

## 1.3 SEMINARS, SYMPOSIA, SHORT TERM COURSES, WORKSHOPS

### a) Conducted by Faculty Member

Sl. No.	Name(s) of the Coordinator	Title	Funding Agency	Duration
1	Dr. Avishek Ray (with Dr. Munmun Khanra)	Workshop on ‘Technology and the (Post-)Human Condition’	TEQIP III, NIT Silchar	3-7 Dec 2018
2	Dr. Avishek Ray	Global Initiative of academic Network (GIAN) Course on ‘Introduction to Design Thinking’	MHRD	5-11 Oct 2018

### b) Participated by Faculty Member

Sl. No.	Name of Faculty	Details of the Program	Organizing Institute
1.	Prof. Gurudas Das	Seminar on “Enhancing Trade and Connectivity between India and Myanmar” held on April 23, 2018	ICRIER, New Delhi
2	Prof. Gurudas Das	Workshop on “Myanmar: Opportunities and Risks for Indian Businesses” held on May 19, 2018.	Centre for Studied in International Relations and Development (CSIRD), Kolkata.
3	Prof. Gurudas Das	Research Methodology for Social Sciences held During October 1-9, 2018	Department Of Economics, Assam University, Silchar
4	Prof. Gurudas Das	Policy Dialogue on Act East and India’s North East held on October 28, 2018	DoNER, NEC and IIC New Delhi
5	Prof. Gurudas Das	Kolkata Dialogue 2018, Indo-ASEAN Partnership: Ensuring peace and prosperity in the Indo-Pacific region and beyond” held on Nov 29, 2018	Indian Chamber of Commerce (ICC), Kolkata In collaboration ASEAN India Centre and Ministry of External Affairs, GOI
6	Dr. Avishek Ray	International Conference on The Cultural Industries in Asia: Into the Digital Age, 30 Nov-1 Dec 2018	Hong Kong University, Hong Kong

7	Dr. Avishek Ray	International Workshop on Recalibrating Culture: Reconfiguring the (Trans-)Cultural, 22-23 Nov 2018	Heidelberg Centre for Transcultural Studies, Heidelberg University, Germany
8	Dr. Avishek Ray	National Seminar on Contemporary Debates on Science, Technology and Nationalism in India, 31 Oct-2 Nov 2018	Indian Institute of Technology (IIT) Guwahati

## 1.4 Research Development

### a) Ph.D. Programme (Specializations):

Agricultural Economics, Economics, Development Economics, International Trade, Regional Development, Political Economics, Post – Colonial Literature, Indian Writing in English, Feminist Literature, Cultural Studies, Literature, Literary Theory, Film Sociology, Comparative Literature, Cultural Studies & Media Studies.

### b) Ph.D. Produced/Ongoing (in number):

Completed	Submitted	Ongoing
1	1	24

### c) Research Lab/ Workshop: NIL

### d) Ongoing/Completed Sponsored Research Project:

Sl. No.	Project Title	Principal Investigator(s)	Funding Agency	Cost in lakhs	Duration
1	The Third Generation's Inheritance of the Memory of Partition (1947): A Comparative Study across Spatial Axes	Dr. Avishek Ray	Indian Council of Social Science Research (ICSSR)	2	2017-18

### e) Research Paper Reviewed

Sl. No.	Faculty Name	Journal Name	No. of Paper	Year
1	Prof. Gurudas Das	Journal of Social and Economic Development (JSED)	1	2018
2	Prof. Gurudas Das	Sage Open	1	2018

### a) Chairing of Technical Section : NIL

## 1.5 Publication

### a) International Journal(s):

- Gurudas Das (with Sanjib Banik), 2019, "Role of Economic Development and Governance in Mitigating Insurgency: A Case Study of Tripura, India", *International and Multidisciplinary Journal of Social Sciences*, Vol. 8 No.1, Hipatia Press, DOI: 10.17583/rimcis.2019.4053
- Avishek Ray, 'Is the University Universalizable? A View from India', in *Multicultural Education Review*, Vol. 10: 3 (2018), pp. 246-50

3. Reena Sanasam (with Thounaojam Caesar), "The Oral Folk Literature of the Ancient Meiteis of Manipur: An Analysis of its Cultural Significance" Journal Space and Culture, India, vol. 6i1.307(2018), ACCB Publishing, England. pp. 29-37 (<https://doi.org/10.20896/saci.v6i1.307>)

**b) National Journal(s): NIL**

**c) International Conference(s): NIL**

**d) National Conference(s): NIL**

**e) Book/Chapter:**

1. Das, Gurudas, 2019, "Development of India's North East: Cross-Border Market, Trade and Sub-regional Cooperation", in Bhattacharya, Rakhee, (ed) , in Developmentalism as Strategy: Interrogating Post-Colonial Narratives on India's North East, Sage Publications India, New Delhi
2. Das, Gurudas, 2019, "Indo-Myanmar Trade: Potential and Outlook", in Assam Rifles, (ed), Compendium on Indo-Myanmar Border Management, EBH Publishers, Guwahati

## 1.6 CONSULTANCY SERVICES : NIL

## 1.7 Major Equipment Acquired : NIL

## 1.8 Patent : NIL

## 1.9 Visits To Abroad

Sl. No.	Name of the Faculty	Name of the Conference/ Programme	Place	Date
1	Prof. Gurudas Das	China's Belt and Road Initiative in South Asian and Nepal: Trade, Investment and Connectivity Dynamics	Kathmandu, Nepal	Nov 18-19, 2018
2	Dr. Avishek Ray	International Conference on The Cultural Industries in Asia: Into the Digital Age	Hong Kong University, Hing Kong	Nov 30 – Dec 1, 2018
3	Dr. Avishek Ray	International Workshop on Recalibrating Culture: Reconfiguring the (Trans-) Cultural	Heidelberg Centre for Transcultural Studies, Heidelberg University, Germany	Nov 22-23, 2018
4	Dr. Avishek Ray	Advanced Academic Fellowship	Centre for Advanced Study (CAS), Sofia, Bulgaria	Dec 2018-Feb 2019

## 1.10 M.Tech. / M.Sc. (Thesis/Project) : NIL

## 1.11 Ph.D. Thesis

Sl. No.	Name of the Scholar	Name of the Supervisor	Title of the Thesis
1.	Mr. Thounaojam Caesar (Ph.D awarded in march 2019)	Dr. Reena Sanasam	Polemics of Ancient Meitei Literature: A Cultural Perspective

**1. Name of the Department:**

# Management Studies



**1.1 Academic Staff:**

**HEAD:** Prof. Gurudas Das (01.04.2018 – 10.07.2018)

Dr. Ashim Kumar Das (10.07.2018 – onwards)

**Name of Faculty members:**

Professor	Associate Professor	Assistant Professor
		Dr. Ashim Kumar Das
		Dr. Soma Panja
		Dr. Saurabh Verma
		Dr. Binoti Patro
		Mr. Subhadeep Mukherjee
		Mr. Saroj Kumar Koiri
		Dr. Rajshree Dutta Purkyastha

**Visiting Professor (If any):** NA

## 1.2 Distinction Achieved

### a) By Student:

1. A.R.Das (Research Scholar), "Exploring Green Investment on the Dynamics of Behavioral Finance and Stock Performance" in the 2<sup>nd</sup> International Conference on Business, Economics & Sustainable Development (ICBEDS 2019) organized by TERI School of Advanced Studies in collaboration with the Government of India Rooftop Solar Technical Assistance Program supported by the World Bank held during 17-18 January 2019.
2. A.R.Das. (Research Scholar), "Understanding Behavioral Finance" in the 5<sup>th</sup> Management Doctoral Colloquium and VGSOM Research Scholars' Day (MDC & VRS 2019) organized by Vinod Gupta School of Management, Indian Institute of Technology Kharagpur during February 6-7, 2019
3. A.R.Das (Research Scholar) "Role of CSR in Reducing Regional Disparity" in the Adhyatma: A journal of Management, Spirituality and Human values" Vol. 2(2) 2018, pp. 9-13, ISSN: 2581-7809 (online).
4. A.R.Das (Research Scholar) Attended 5 days workshop on Intellectual Property Rights and Technological Development (IPRTD-2019) from 21<sup>st</sup>-25<sup>th</sup> January 2019 organized by the Department of Management Studies, National Institute of Technology Silchar.
5. P. Roy (Research Scholar), "Forensic Accounting- A Literature Survey" in the 5<sup>th</sup> Management Doctoral Colloquium and VGSOM Research Scholars' Day (MDC & VRS 2019) organized by Vinod Gupta School of Management, Indian Institute of Technology Kharagpur during February 6-7, 2019
6. P. Roy (Research Scholar) Attended 5 days workshop on Intellectual Property Rights and Technological Development (IPRTD-2019) from 21<sup>st</sup>-25<sup>th</sup> January 2019 organized by the Department of Management Studies, National Institute of Technology Silchar.
7. A. Chakraborty, (Research Scholar) International Conference on Advances in Business Management from December 14<sup>th</sup>-15<sup>th</sup>, 2018, organized by Symbiosis Institute of Business Management, Pune.
8. A. Chakraborty, (Research Scholar) Workshop on Intellectual Property Rights & Technological Development organized by Department of Management Studies, NIT Silchar from 21<sup>st</sup> to 25<sup>th</sup> January, 2019
9. A. Chakraborty, (Research Scholar) Third Annual Conference in Banking and Finance organized by International Management Institute, Bhubaneswar, from August 16th-17th, 2019.
10. A. Chakraborty, (Research Scholar) Book Chapter in Advances in Business Management- A contemporary perspective, p 378-404, Emerald Publishing.
11. A. Chakraborty, (Research Scholar) Research Paper in Adhyatma: A Journal of Management, Spirituality and Human Values, July-Dec, 2018, p 21-26.

### b) By Faculty Member: NA

## 1.3 Seminars, Symposia, Short Term Courses, Workshops

### a) Conducted by Faculty Member

Sl. No.	Name(s) of the Coordinator	Title	Funding Agency	Duration
1	Dr. Ashim Kr. Das and Dr. Saurabh Verma	One Week Workshop on Intellectual Property Rights and Technological Development (IPRTD-2019)	TEQUIP III	21 <sup>st</sup> - 25 <sup>th</sup> January 2019

**b) Participated by Faculty Member**

Sl. No.	Name of Faculty	Details of the Program	Organizing Institute
1.	Dr. Soma Panja	Outcome Based Education & Administration, 30 <sup>th</sup> September-1 <sup>st</sup> October, 2018	NIT Silchar
2	Dr. Soma Panja	Intellectual Property Rights and Technological Development, 21-25 <sup>th</sup> January, 2019	NIT Silchar
3	Dr. Binoti Patro	Three day FDP on "Time series analysis using R" on Dec 13-15, 2018	IMI Bhubaneswar
4	Dr. Binoti Patro	Five day workshop on "Curriculum Design and Implementation for Outcome Based Education" (CuDIOBE-2019) on May 27-31, 2019.	NIT Silchar
5	Dr. Rajashree Dutta Purkayastha	Summer Research School on Empirical Finance	IIM Calcutta

## 1.4 Research Development

a) **Ph.D. Programme (Specializations):** General Management, HR, Marketing, Finance

b) **Ph.D. Produced/Ongoing (in number):**

Completed	Submitted	Ongoing
		08

c) **Research Lab/ Workshop:** NIL

d) **Ongoing/Completed Sponsored Research Project:**

Sl. No.	Project Title	Principal Investigator(s)	Funding Agency	Cost in lakhs	Duration
1	Innovation & Entrepreneurship Development Centre (IEDC) Started Since F.Y 15-16 (On-Going)	Dr. Ashim Kr. Das	DST, Govt. of India	50,00,000/-	5 years

e) **Research Paper Reviewed**

Sl. No.	Faculty Name	Journal Name	No. of Paper	Year
1.	Dr. Ashim Kumar Das	Vision: The Journal of Business Perspective	01	2019

f) **Chairing of Technical Section : NIL**

## 1.5 Publication

a) **International Journal(s):**

- Ashim Kumar Das (2018), 'Application of RIDIT Analysis in Prioritizing Perceived Service Quality Dimensions of Management Graduates in Indian Universities, Indian Journal of Marketing, Vol: 48, No: 02 pp. 23-35.
- Ashim Kumar Das (2018) Ethical Sales Behaviour in Insurance Business: A Study in Indian Context, Adhyatma: A Journal of Management, Spirituality and Human Values, July – December 2019 Vol: 2, No: 1 pp: 21-26.
- Ashim Kumar Das (2019) Lower Boundary Conditions and pricing efficiency testing of Indian Index Options Market: Empirical Evidence from Nifty 50 Index, Indian Journal of Finance Vol: 13, No:3, pp:26-38.



**b) National Journal(s):**

1. Ashim Kumar Das (2018), Efficiency Testing on the Indian Index Options Market : Empirical Evidence from S & P CNX Nifty Index Options, Book of Abstracts: International Conference on Advance in Business Management – ICABM, Emerald Group Publishing Pvt.Ltd, , pp. – 71.
2. Ashim Kumar Das (2018) Testing Efficiency of Indian Index Options Market by Employing the Box – Spread Strategy : Empirical Evidence from S & P CNX Nifty Index, Indian Journal of Finance, Vol: 12, No: 10 p.p.: 21-32.
3. Soma Panja, 2019, Designing the Conceptual Flow Model from Csikszentmihalyi to Gurdjieff: The Mystic Revelations, Purushartha, Vol.XI,No.2, SMS Varanasi.

**c) International Conference(s):**

1. Soma Panja, Sustainable Investment: Market Led or Value Driven – An Analytical Exposition, International Conference on Sustainability, IIM Shillong, 29<sup>th</sup> Nov.-1<sup>st</sup> Dec, 2018.
2. Soma Panja, Quantifying Perception of MBA (Finance) Graduates Sustainable Development: An Application of FAHP, International Conference on Business, Economics & Sustainable Development, TERI School of Advanced Studies, New Delhi, 17-18<sup>th</sup> January, 2019.
3. Soma Panja, Abhijit Das, Exploring Green Investment on the Dynamics of Behavioural Finance and Stock Performance, International Conference on Business, Economics & Sustainable Development, TERI School of Advanced Studies, New Delhi, 17-18<sup>th</sup> January, 2019.
4. Soma Panja, Rajib Deb, Framework form Mutual Fund Manager Performance in the Digital Economy: A Conceptual and Analytical Intervention, International Conference on Digital Economy, IIM Raipur, 8-9<sup>th</sup> February, 2019.
5. Soma Panja, Understanding Academic Creativity: An Application of 'Flow' Concept in Spiritual Perspective, International Conference on Spirituality beyond Repertoire: A Leadership Key to Societal Happiness and Sustained Harmony, School of Management Science, Varanasi, 23-24<sup>th</sup> February, 2019
6. Soma Panja, Behavioural Dimension in Portfolio Optimization, International Conference on Recent Trends in Electronics & Computer Science, NIT Silchar, 18-19<sup>th</sup> March, 2019.

**d) National Conference(s): NIL**

**e) Book/Chapter:**

Soma Panja, Heuristic Optimisation of Portfolios Considering Sharpe's Single Index Model: an Analytical Approach, Metaheuristic Approaches to Portfolio Optimization, IGI Global, 2019

**1.6 Consultancy Services : NIL**

**1.7 Major Equipment Acquired : Minitab**

**1.8 Patent : NIL**

**1.9 Visits to Abroad : NIL**

### 1.10 M.Tech. / M.Sc./ MBA (Thesis/Project)

Sl. No.	Name of the Scholar	Name of the Supervisor	Title of the Thesis/Project
1.	Prabhu Dutta Mohanty	Dr. Ashim Kumar Das	Factors Influencing the Consumer Behaviour Intention Towards Electric Vehicle : A Case Study of Silchar Assam
2	Surabhi Dubey	Dr. Soma Panja	A Study on Multi Factor Model for Portfolio Construction in Indian Stock Market.
3	Partha Pratim Deka	Dr. Soma Panja	The Relationship between NPA and Profitability Trend of Indian Scheduled Commercial banks.
4	Subhadeep Singha	Dr. Soma Panja	A Study on the Consistency of the Equity Mutual Fund Schemes in India.
5	Pankaj Saikia	Dr. Soma Panja	A Comparative Study on the Financial Performance of Selected Non banking Financial Corporations- Asset Financing Companies
6	Shivangini Pandey	Dr. Soma Panja	Performance of Balanced Mutual Fund Schemes in India.
7	Kishlay Tomar	Dr. Saurabh Verma	To Analyze the Role of demographic determinants in Affecting Consumer Ethnocentrism: A Study of FMCG Products in Silchar
8	Uddipta Rajkhowa	Dr. Saurabh Verma	The Impact of Celebrity Endorsement on Consumer Buying Intentions: A Study of FMCG Products in Assam
9	Nayanmani Deka	Dr. Saurabh Verma	The Role of Product Mix in Defining Consumer Buying Intentions of Purchasing Carbonated Drinks: A Study on the Young Population of Silchar
10	Sushrut Sarmah	Dr. Saurabh Verma	Social Media Marketing and Consumer's Buying Intentions: A Study of Consumer Apparels
11	Debasish Das	Dr. Binoti Patro	Impact of FII on Indian stock market with special reference to Pharmaceutical sector
12	Arijit Dutta	Dr. Binoti Patro	A study on the impact of job enrichment on employees' job satisfaction with special reference to Bandhan Bank in Cachar district.
13	Ritu Gulgulia	Dr. Binoti Patro	A Comparative Analysis on e-banking services (With special reference to SBI and HDFC Bank in Silchar)
14	Kiran Kumari Sah	Dr. Binoti Patro	A Comparative study of Indian life insurance companies using TOPSIS analysis
15	Sakshar Deb Roy	Dr. Binoti Patro	Profitability of Microfinance Institutions post Demonetization
16	Mr. Prakash Giri	Dr. Binoti Patro	Financial performance analysis of public and private sector banks in India using CAMEL model
17	Bishal De	Mr. Subhadeep Mukherjee	The Consumption Pattern of Tobacco Products in Urban Area: A Case Study of Dharmanagar . Tripura
18	Nabanita Paul	Mr. Subhadeep Mukherjee	Assessing Green Human Resource Management Practices in Academic Institute : A Case Study on NIT Silchar
19	Priya De	Mr. Subhadeep Mukherjee	Perception of Nursing Students on Effectiveness of Training – A Case Study on Red Cross Hospital Silchar
20`	Shahria Ahmed	Mr. Subhadeep Mukherjee	A Study of HR Factors relationship and its impact on Employee Retention A Case Study of Varun Beverages Pvt . Ltd.

21	Rinki Das	Mr. Subhadeep Mukherjee	Impact of Work-life- Balance on Employees Job Satisfaction a Case Study of HDFC LTD – Silchar
22	Kakoli Baishnab	Mr. Subhadeep Mukherjee	A Study on the impact of talent management on employee retention in Banking Retention
23	Smriti Dutta	Saroj Kumar Koiri	A Study on Consumer Perception of Online Food App Services With Reference To Guwahati
24	Akshay Khatri	Saroj Kumar Koiri	A Study on Impact of Content Marketing on Purchase Intentions of Online Shoppers -With Reference To Silchar, Assam
25	Sandipan Pal	Saroj Kumar Koiri	The Role of Consumer Perception In Influencing Consumer Satisfaction Regarding Google Pay UPI Service In NIT Silchar
26	Udipta Jyoti Gogoi	Dr. Rajashree Dutta Purkayastha	The Role of Promotional Factors in Influencing Tourist Behaviour: A Study of Sivasagar
27	Manisha Sen Gupta	Dr. Rajashree Dutta Purkayastha	Investment Behaviour of Academicians– A Study in Silchar Town
28	Forhoth Yemini Hasan	Dr. Rajashree Dutta Purkayastha	Individual Preference of Investment Avenue– A Study Based on Nature of Employment
29	Rishav Baruah	Dr. Rajashree Dutta Purkayastha	Factors Impacting Consumer Buying Behavior of Amul Milk with reference to Guwahati City
30	Himangshu Choudhury	Dr. Rajashree Dutta Purkayastha	A Study on the Impact of Viral Marketing Messages on Online Purchasing Behaviour of Youth.

### 1.11 Ph.D. Thesis

Sl. No.	Name of the Scholar	Name of the Supervisor	Title of the Thesis
1.	Abhijit Chakraborty	Dr. Ashim Kumar Das	Factors Influencing Insurance Sector Development And Its Relationship With Economic Growth: A Study In Indian Context.
2.	Rajeeb Deb	Dr. Soma Panja	Performance Analysis of Bank Sponsored Mutual Funds In India
3.	Saroj Kumar Koiri	Dr. Ashim Kumar Das	Under preparation
4.	Avijit Ranjan Das	Dr. Soma Panja	Under preparation
5.	Priyanka Roy	Dr. Binoti Patra	Under preparation
6.	Manisha Goswami	Dr. Saurabh Verma	Under preparation
7.	Gaurav Deep Rai	Dr. Saurabh Verma	Under coursework
8.	Nazmul Haque Laskar	Dr. Ashim Kumar Das	Under coursework

# ACADEMIC CENTRES & CELLS

## CENTRAL COMPUTER CENTRE

1. **Head** : Dr. Arup Bhattacharjee, Asstt. Prof. & HOD, CSE Dept.

2. **Staff** :

Officer	Technical Staff	Attendant
(i) Mr. Kumar Mithilesh, Sr. Tech. Officer.	(i) Abhishek Palit (contractual), (ii) Rupak Ranjan Deb (contractual), (iii) Nazmul Haque Laskar (contractual), (iv) Abinash Bhar (contractual).	(i) Ms. Champabati Balmiki.

### 3. A brief Introduction and Activities of CCC:

The Institute computing facility is maintained by the Central Computer Centre (CCC) which includes high-end servers and Intel Core-i5 and i7 based Personal Computers. The CCC comprises of three computer labs equipped with around 330 computers.

The state-of-art IT Infrastructure is deployed in the year 2013 and the whole Institute including the various departments, Students' Hostels, Administrative Building, Guest House, Library, Residential Quarters, Health Centre, Estate Engg. Branch, SAC Building, NITS Café, are connected by a campus-wide LAN and Wi-Fi facility using high speed Fibre Optic cables (1 Gbps). The LAN and Wi-Fi are managed by High Level Switches and a host of Servers. The Switches are connected by Fibre Optic Cables to Switches located in different academic departments, students' hostels of the Institute.

- The Institute has a dedicated 1 Gbps leased line under National Mission on Education through Information and Communication Technology (NME-ICT) / National Knowledge Network (NKN), which provides 24x7 Internet Connectivity to serve the internet needs of Institution.
- The institute has also a 16 Mbps leased line from Bharat Sanchar Nigam Ltd. (BSNL), dedicated to DNS service and for Backup purpose.

Currently, Wi-Fi connectivity is available at Guest House, Administrative Building, Lecture Hall Complex, Residential Quarters, Health Centre, Estate Engg. Branch, SAC Building, NITS Café, Sports Complex as well as the departments. Network expansion still continues and work is going on for making the campus Wi-Fi by deploying more number of access points. CCC takes all possible steps in its capacity to make the network accessible round-the-clock. Efforts are conducted to improve the reliability for meeting the expectations of the end-users.

### 4. Facilities provided by Central Computer Centre :

- Campus wide Internet connectivity: Providing/Maintaining internet facility around campus through LAN and Wi-Fi on required basis.
- Institution mail service: Creating and looking after personal Institute mail of all employees and students. Institute e-mail Ids are served to all, under nits.ac.in domain.
- Hardware Maintenance/Support: On required basis, rectifying computer hardware issues over academic areas.

- UPS maintenance/ support: On the basis of requirement, providing UPS backup to active network components.
- Institution web portal: Day-to-day activities/updates of NIT Silchar, exploring to rest of the world through institute website.
- Video conferencing: CCC is equipped with the arrangement for supporting video conferences with MHRD, Rastrapati Bhawan and live lecture series with other institutions, virtual sessions.
- Virtual classroom: Through this virtual classroom it is employed possible to interchange technical sessions/ discussions with other institutions. Few workshops and conferences are conducted in the virtual classroom such as GIAN courses.
- Computer lab facility: Three labs are operated under the center for conducting UG/PG classes, Training and Placement (T&P) Cell's activities and for common online examinations.
- Supporting surveillance camera: Providing passive communication support through IP Camera around the campus.

# CENTRAL LIBRARY

## 1. INTRODUCTION

The Central Library is integral part of academic and research activities of NIT Silchar. It was set up in the year 1977 and it is one of the best technical libraries in North East India. It has been growing and expanding in the aspect of collection both in print and digital form since it's inception and provide services to the academic fraternity of NIT Silchar to meet their teaching, research, consulting, training and learning requirements. The range of services offered by the library is comparable to the best libraries in the eastern zone of India. During the year 2018-19, the library is shifted from old library building to the new library building i.e. **Dr. A P J Abdul Kalam Learning Resource Centre** which was inaugurated by Hon'ble Chief Minister of Assam Shri Sarbananda Sonowal in 2016.

**The key officers of the Central Library are:**

### **Chairman**

Prof. S. Baishya, PhD

### **Faculty Advisor (Library)**

Dr. P.K. Tiwari, PhD

### **Assistant Librarian**

Ms. Krishnamati Singha, BSc, MLISc, MBA (HRM)

## 2. Collection Development

Collection building is one of the important function of the library, which supports academic and research activities of the students, faculties, staff and other users. Collections of central library consist of printed books, CDs, printed journals, e-journals/databases, e-books, theses, reports, standards, and other reading materials covering the areas of science, engineering and technology, humanities, social sciences and management. The following table presents the collections of the library for the year 2018-19 :

The total collection of library as on 31<sup>st</sup> March 2019 stands as follows:

S. N.	Name of Resources	As on 31 <sup>st</sup> March 2015	As on 31 <sup>st</sup> March 2016	As on 31 <sup>st</sup> March 2017	As on 31 <sup>st</sup> March 2018	As on 31 <sup>st</sup> March 2019
1.	Books	92588	94319	96683	98959	1,05,883
2.	Print Journals & Magazines	116	99	114	105	92
3.	Bound Volumes	5417	5468	5468	5468	5468
4.	CD-ROMs	4013	4274	4297	4393	4612
5.	Databases	21	17	14	21	17
6.	Videos	909	909	909	909	909
7.	ISI Code (Printed)	8627	8627	8627	8627	8627
8.	Book Bank (General)	9235	9235	9235	9235	9235
9.	Book Bank (SC/ST)	8154	8180	8180	8336	8336
10.	IRC Codes	152	152	152	152	152
11.	Thesis	54	70	92	123	202
12.	Project & Dissertation	246	365	425	474	699
13.	Reports/Annual Reports	353	399	423	449	488

A need-based collections of knowledge resources are developed keeping in mind with the objectives and activities of the Institute.

## Printed Journals / Magazines

During this year, the printed journals/ magazines are reviewed and due to the lack of utilisation, subscribing of 7 printed journals are stopped and those are now available on open access. All total 92 printed journals & magazines are subscribed during the year 2018-19.

## Digital Resources: E-resource / database and e-book

Apart from the 13 databases provided by E-ShodhSindhu, 17 databases/e-journals like ASTM, ACI, BIS Standard, Capitaline, IEEE/ IEL level 2, EBSCO-Business Source Elite, Emerald, Elsevier Science Direct (7 subjects collection), Indiatat.com, LNCS, Royal Society of Chemistry, SIAM (17 e-journals), Sage-EMS, Springer, Taylor & Francis and Wiley are recieved.

Further, the Research tools like Scopus and similarity check software like Turn-it-in are also procured.

In addition to the database/e-journals, Library also get access to the e-books from the major publishers like Elsevier, Springer, Pearson, Oxford University Press, Tata McGraw Hill and Cambridge, Proquest e-brary purchased by NIT Silchar, World eBook library provided by NDL and South Asia Archive provided by e-ShodhSindhu. In 2018-19, e-books from renowned publishers like Elsevier Science Direct (2014-16) and also Cambridge 400 new titles are purchased through library.

## Usage Statistics of Electronic Resources

Major electronic resources have shown a significant increase in use pattern. The most popular full-text databases are ACM, ASCE, ASME, Elsevier' Science Direct, IEEE/IEL – level 2, Springer Link etc. Comparative utilisation data of last four calendar years is tabulated below:

### Uses Statistics from 2015 to 2018

S N	Source	Year wise download statistics			
		2015	2016	2017	2018
1.	ACM	1689	2090	1362	1678
2.	ASCE	6523	5902	11400	14617
3.	ASME	1433	2762	2104	2162
4.	AMS	3218	2230	2838	3740
5.	Elsevier Science Direct	127004	143521	179704	180469
6.	Emerald	526	3022	3888	5985
7.	IEEE- IEL level 2	74420	40,314	94487	91306
8.	LNCS	13861	12752	30400	32673
9.	Springer Link (1400+ Jnls)	16362	17477	22142	22524
10.	Proquest Dissertation and Theses	1337	1391	1210	637
11.	Taylor & Francis	5781	5714	7634	7828
12.	Wiley Journals	3815	5424	5517	9361

### 3. BUDGETARY DETAILS

Central Library received a projected allocation of 410 Lakh under Plan-head during the financial year 2018-19. Out of the allocation of Plan funds Rs. 45,80,623.00 is utilized for purchase of books and Rs. 3,46,30,230.00 is utilized for renewal as well as subscription of database/e-journals and purchase of e-books. The comparative statement of detailed expenditure incurred on books, journals, newspaper, binding etc. for the year 2014-15 to 2018-19 is tabulated below:

#### Details expenditure:

Year	Books	e-Books and archive of e-Journals	Printed Journals/ Magazine	Online Database/e-Journals	Contingency/D OC	News paper
2014-15	36,04,675.00	10,50,903.00 (TEQIP – II)	1,51,210.00	1,97,50,106.00	3,51,562.00	17,562.00
2015-16	20,63,132.00	-----	1,94,533.00	2,49,63,597.00	1,33,980.00	20,072.00
2016-17	17,05,851.00	70,558.00	-----	-----	32,295.00 & Rs. 3,51,475.00 for AMC of equipment	-----
2017-18	25,74,764.00	1,03,55,883.00 (TEQIP III) 87,72,895.00 (Institute Fund)	2,80,098.00	4,33,65,076.52	1,51,343.00	-----
2018-19	45,80,623.00	84,20,372.00	1,99,640.00	2,62,09,858.00	2,09,826.00	3,350.00

## 4. MEMBERSHIP

The Library memberships are provided to all students, staff and faculties. The following table reflects the growth of library users:

S. N.	Members	2014-15	2015-16	2016-17	2017-18	2018-19
01.	BTech	2226	2340	2458	2460	2510
02.	MTech	372	394	423	430	425
03.	MBA	71	101	97	83	59
04.	MSc	47	42	35	39	55
05.	PhD	170	263	284	516	695
06.	Academic Staff (Teaching)	199 (including Contractual)	165 (including Contractual)	166 (including Contractual)	181	197
07.	Non-Academic	55	130	108	59	55
<b>Total</b>		<b>3140</b>	<b>3475</b>	<b>3631</b>	<b>3768</b>	<b>3996</b>

## 5. LIBRARY SERVICES

### Circulation service

The books circulation service is kept open for 48 hours a week. The Library issued 25445 numbers of books during the year 2018-19.

### Resource Sharing

The library maintains excellent relations with libraries like Central Library of Assam University, and other local college libraries in Sothern Assam and also with DELNET for exchange of books, journals, photocopies etc. for the mutual benefit of the users. Library provides resource sharing service through inter-library loan and document delivery services. Library has core membership of E-ShodhSindhu, NDL.

### Book Bank facilities

The library maintains a book bank facility to help students belonging to Scheduled Castes, Scheduled Tribes, Physically Challenged and economically weaker sections of the society. The book bank consists of the prescribed text books for undergraduate courses and loans up to 5 to 7 books each to these students for full semester and sometimes more depending on availability. During the year around 500 students availed this facility and borrowed 4850 books from this collection.

## Lib 2.0 SERVICES

Library users can get the latest updates/happenings in the library through our library blog at <http://library-nitsilchar.blogspot.com/> and get connected through our Facebook group at <http://www.facebook.com/groups/369833813038102/>. Central Library has created a web portal for e-resource management, which provides web-based access to its electronics journals, e-books and databases. It has set up a digital library & e-learning portal for the NIT, Silchar community. The library is a part of the institute-wide network and has adequate computing infrastructure to cater to the needs of the end-users.



## Web OPAC (Search Library Catalogue)

The entire Library collection including books, journals, CDs etc. can be searched through the web enabled Online Public Access Catalogue (OPAC). Users can access the OPAC to find out the real-time availability of library materials from their own computer terminals from library of institute website or the URL is: <http://10.30.30.20:8001>

## 6. LIBRARY ORIENTATION & TRAINING

### Library Orientation for fresher / user's education

Library has conducted key initiatives for 'user's education programme' to inform, educate and train users about various resources and services of the library. In addition, library organizes orientation programmes for the benefit of library users.

## 7. MANPOWER DEVELOPMENT

The manpower of library consists of a small team of talented and dedicated staff to perform their duties and responsibilities with dignity and honesty. In addition to their regular jobs, most of them are involved in various academic activities like attending workshop, presenting papers in various journals, seminars and conferences.

# Centre for Development of Advanced Computing (C-DAC)

The 11<sup>th</sup> centre of C-DAC, the premier R&D institution of the Ministry of Electronics & Information Technology, was set up in NIT, Silchar in 2014. This centre runs independently by C-DAC as the nodal agency for proliferation of C-DAC technologies, and capacity building in the North East. It has jointly carried out several programs with NIT, Silchar, viz., (1) Deployment of C-DAC research lab-kits in educational institutes of the North East and (2) Capacity Building through Internship in the Area of SCADA and Automation. C-DAC also offered Summer Internship program for 2 months for the students of NIT Silchar. 17 students from NIT Silchar participated. Besides these C-DAC implements e-Governance projects for governments of NE states, notable among them being (1) Deployment of e-Aushadhi (a Drug & Vaccine Distribution Management System) in the NE states and (2) Deployment of NERS (National Emergency Response System) in the NE states (3) Deployment of eHRMIS (Online Human Resource Management and Information System) in NE states. Other notable projects deployed by CDAC in NE states are: (1) Proliferation of e-Saadhya in NE schools (2) Implementation of Distributed HoneyNet System at NE to collect, distribute and analyze live cyber-attack data (3) Real Time Energy Assessment System for North Eastern States (4) ICT Solutions for India's Northeast Heritage and (4) Forest Fire Detection in India's North East states. CDAC Silchar is also certifying agency for 8 NE states for PMGDISHA evaluations. Till May 31, 2019, more than 129000 candidates were proctored.

## SUPERCOMPUTING CENTRE

NITS Supercomputing Centre, The Centre of Excellence in High Performance Computing (HPC) was commissioned on 05 April 2014 and it was first of its kind in North East NITs having state-of-the-art Supercomputing Centre built with x86\_64-bit latest Intel Ivy Bridge processing and Accelerators (Intel Xeon Phi and NVIDIA Kepler Co-processing) technologies with a compute power of 15 Tera Flops, established in collaboration with C-DAC, Pune. The HPC Centre comprises of one Master node, sixteen compute nodes with NVIDIA GPU, Intel Xeon Phi Accelerators, and 84 TB storage capacity connected by Storage node, management node and Infini band of 56 Gbps connectivity. It has been used on high priority by the researchers of North East Institutions in computational science and engineering research and also highly acknowledged through research publications. The project proposed by Dr. T. R. Lenka, Coordinator, HPC entitled “Capability building through Internship Scheme for UG/PG/PhD Research students of recognized universities/institutes in North Eastern India for strengthening research and development using HPC Technologies” was approved by C-DAC North East Steering Committee for 2 Years (2016-2017). It covered internship of 50 students from North East Technical Institutions with stipend of Rs. 5000 per month for two months and Internship held at C-DAC, Pune. The NITS Supercomputing Centre has also shown interest to be a part of the ongoing National Supercomputing Mission (NSM) of Govt. of India



## INSTITUTE INNOVATION COUNCIL (IIC)

Under the MHRD Innovation Cell (MIC) Institute Innovation Council (IIC) is established with a purpose of systematically fostering the culture of Innovation and support entrepreneurial activities among the students of the institute.

### Major focus of IIC

- To create a vibrant local innovation ecosystem.
- Start-up supporting Mechanism in HEIs.
- Prepare institute for Atal-Ranking of Institutions on Innovation Achievements Framework.
- Establish Function Ecosystem for Scouting Ideas and Pre-incubation of Ideas.
- Develop better Cognitive Ability for Technology Students.

## Functions of IICs

- To conduct various innovation and entrepreneurship-related activities prescribed by Central MIC in time bound fashion.
- Identify and reward innovations and share success stories.
- Organize periodic workshops/ seminars/ interactions with entrepreneurs, investors, professionals and create a mentor pool for student innovators.
- Network with peers and national entrepreneurship development organizations.
- Create an Institution's Innovation portal to highlight innovative projects carried out by institution's faculty and students.
- Organize Hackathons, idea competition, mini-challenges etc. with the involvement of industries.

Under the IIC there are: a) Start Up Centre, b) E-Cell

## Start up Centre

NIT Silchar has established a Startup Centre to provide an inclusive platform to the young student entrepreneurs with state of art infrastructure facilities to culture their idea and grow. The centre hosts some early student startups and provides them required facilities such as Internet, Electricity, Seminar Hall, Desk for thinking and developing their products. Presently there are 04 student startups and 02 local entrepreneurs working under startup centre.

## E-Cell

Entrepreneurship Cell (E-Cell) NIT Silchar is a non-profit organisation whose main aim is to act as a link between the students and their entrepreneurial aspirations. It functions to bridge the gap which comes in the path of success for a budding entrepreneur by equipping him/her with the relevant skill-set required to excel in the market.

E-Cell NIT Silchar has organised numerous events, competitions, real-time pitching simulations, Business-plan models and market-trade analysis scenarios to name a few.

Under IIC institute establish E-Cell which aims to create the right eco-system of entrepreneurial activities in the institute. As part of the activities E-cell promotes peer collaboration with other E Cells from IITs/NITs/Universities and Incubation Centers.

Some of the notable events and competitions which E-Cell NIT Silchar organised successfully:



### **a. Pitch Please:**

A real-time simulation event for the entrepreneurial minds wherein students pitch their mind boggling ideas in front of the judgment panel along with the audience. This event was aimed at targeting and honing the influencing aspect required in any Entrepreneur which is needed in times of presenting their ideas before others.

### **b. If I Were the CEO:**

An online event where the participants were asked to step into the shoes of the CEO of a leading multi-national company in order to provide a real, applicable solution to the specific problem being faced by that company/startup. This event required solving of some of the unique as well as original questions which appears before the CEO.

### **c. Plantastic:**

A two-stage event where part 1 comprised of a quiz consisting of questions from the trending concepts of market, business, economics etc. The participants who cleared part 1 were able to participate in part 2. Here they had to design a fully-functional Business-model about a specific issue but in less than 24 hours.

### **d. Bech Ke Dikhao:**

An event full of fun and frolic where the participants had to sell virtually useless products such as torn clothes, used bottles, broken umbrella etc. It required thinking out of the box approach so as to convince the audience to buy that particular product (virtually). The participation was huge and people were very enthusiastic about the uniqueness and the fun aspect of this event.

## **2. Interaction Video:**

An interaction video was shot by the team of E-Cell NITS inside the campus itself. The host asked various simple yet not-much-thought-about questions to the students of various disciplines and programmes of our college. It was really amazing to see the responses of the students and their opinions about the various issues happening around the world of business, trade and startups.

## **3. Orientation:**

E-Cell NITS conducted its orientation programme for the freshmen of our campus to make them aware of the existence of E-Cell NITS and its achievements in the past. It highlighted the students about the need of building startups, having an entrepreneurial bent of mind, various aspects of taking risks and learning and growing in the process. The session was witnessed by a hugely enthusiastic audience and they also got many of their doubts cleared in the session.

## **4. Orientation Quiz:**

The orientation was followed by a two-round Quiz comprising questions related to various aspects of business, startups, trending terms of the industry market and some general knowledge. It was heartily accepted by the students and they participated wholeheartedly in the Quiz.

## **5. E-Cell Warfare**

E-Cell NITS in association with “Dare2Compete” (an online platform of hosting various quizzes, competitions, events etc) conducted 3 online Quizzes as follows:

- a. Entrepreneurship Quiz
- b. Tech Quiz
- c. General Knowledge Quiz



### Tech Quiz

#E-Cell, National Institute of Technology (NIT),  
Silchar

1 Sep'18, 3:00 PM IST - 1 Sep'18, 9:35 PM IST

Team Size : Individual

Eligibility : All

Region : India

Views : 41,147 Views

Follow

307 Registered

Ended



### Entrepreneurship Quiz

#E-Cell, National Institute of Technology (NIT),  
Silchar

31 Aug'18, 9:00 PM IST - 31 Aug'18, 9:30 PM IST

Team Size : Individual

Eligibility : All

Region : India

Views : 27,860 Views

Follow

189 Registered

Ended



### General Knowledge Quiz

#E-Cell, National Institute of Technology (NIT),  
Silchar

2 Sep'18, 9:00 PM IST - 2 Sep'18, 9:30 PM IST

Team Size : Individual

Eligibility : All

Region : India

Views : 39,583 Views

Follow

384 Registered

Ended

All the three Quizzes had participation from all over the country. The winners of the various quizzes were provided with e-certificates by the E-Cell NIT Silchar. This was the event with the most widely reaching audience.

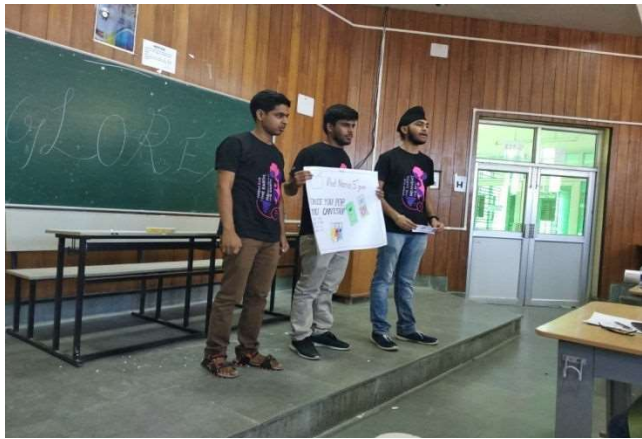
E-CELL NIT Silchar bagged the 2<sup>nd</sup> prize all over India among various E-Cells of different colleges in the competition “E-CELL WARFARE” organised by ‘Dare2Compete’. This feat is really commendable and appreciable. It has paved a new way for the development of our E-Cell and its promotion around India.



## Weekly Events

E-Cell NIT Silchar used to organize various weekly events like pitching, business model presentations etc., to give a taste of entrepreneurship to all the enthusiasts.





**Pictures of Various Events Organized by E-CELL, NIT SILCHAR**

Other than this the notable events that IIC has been able to conduct are:

## Smart India Hackathon:

30 teams from NIT Silchar has participated in the software segment of the Smart India Hackathon-2019 and three (03) teams were selected in Grand Finale. It is my pride to inform you that 02 teams from NIT Silchar, Team-Anant and Team- Wingineers won the Grand Finale in their respective segment. I congratulate them for such achievement at a national level competition.



## Anveshan

**Anveshan** is a research conclave which was organized with emphasis on undergraduate and post graduate innovative research projects. The primary aim of this event was to identify the young and rising talents who could hold the baton of tomorrow's innovation and creativity and to strengthen the culture of research for tomorrow. The top 05 project ideas with their prototype were funded from the institute to participate in the national event where our students are acclaimed appreciation about their ideas.

## SAE BAJA

Team **TWARAN** of NIT Silchar has been participating in all India SAE Baja competition organized by Mahindra and Mahindra Group each year. This year our team has secured 63<sup>rd</sup> position in the virtual round held in Chandigarh where more than 220 institutes have participated. The final and physical round will be held next year.



## INSTITUTE-INDUSTRY PARTNERSHIP CELL (IIPC)

To keep up with the increasing demand of Industry Ready Professionals and establish the Institute as a research oriented centre of excellence, NIT Silchar thrives hard to establish Institute-Industry Collaboration. The Institute. Industry collaborations have been executed in various modes, such as Testing, Consultancy Project, and Joint Research Project etc. Various MoUs are signed for a fruitful Institute-Industry Collaboration. One audit course titled “Off Highway Vehicle” is developing in collaboration with NASSCOM and TATA Technologies.

## RESEARCH PROMOTION CELL (RPC)

The genesis of the Research Promotion Cell (RPC) by the National Institute of Technology, Silchar in the year 2012 has been a phenomenal step towards materializing Innovation. The cell dedicates itself for development of ideas in the field of science and technology. It provides research support to B.Tech./M.Tech./M.Sc. students for pursuing exciting and Innovative research. The principal objective of this body of research includes:

- Promotion of professional and academic activities.
- Provide career guidance to students.
- To involve young brains in Science, Engg. and Technology development process.

## FACILITIES

Research Promotion Cell has a dedicated air conditioned Computer Lab with Wi-Fi and dedicated Internet access which remains open for 24 hours and provides a perfect atmosphere for research. Funding is provided for equipment, consumables, travel, staff/ labour charges and contingency. Research Promotion Cell not only provides support to the research oriented students, but also informs all the students of NIT Silchar about various internships opportunities in India and abroad through its web portal. This has benefited not only students of NIT Silchar, but also students from other colleges too.

## PROJECTS

Some research projects are undertaken by the students include:

- Integrate of MPPT based on solar power generation hybridized with thermocouple principle, based solar generation, enabled with wireless transmission of solar power from ocean buoys
- Self Stabilized Quad- rotor with GSM Navigation
- Solar fountain
- Quadcopter and Image processing
- Ethane-o-creeper
- DC generator by using electromagnet (Solenoid)
- Refrigerated automatic pet feeder
- Solar powered bamboo rickshaw
- Design & Development of efficient tea leaf plucking machine
- Focusing & positioning system using automated robot
- Gesture Recognized Robot
- Study on improvement of bearing capacity of soft clay using geocell reinforcement
- Development of new triaxial cell for determination of shear parameters of soil

# INDOVATION

## Research Activities Promoted Through Indovation Lab.

### 1. Development of Graphene Based Nanomaterial for Electromagnetic Interference Shielding of Electronic Components

Team Members: Papari Das, Dr. Ashish B Deoghare, ME Deptt., NIT Silchar

Electromagnetic (EM) pollution caused by various electronics devices have become serious threat to human health, as well as to devices kept close to one another. External EM waves not only hampers proper functioning of electronics devices but also renders them nonfunctional. In this work, various graphene based nanomaterial will be developed which will lead to efficient shielding or blocking of external EM waves. Graphene a highly conductive nanomaterial will be formed into graphene polymer nanocomposite film, graphene foam and graphene aerogel. For each material developed EMI shielding effectiveness will be calculated based on permittivity and permeability values obtained from Vector Network Analyser (wave guide set-up). As such the most efficient EMI shielding graphene based nanomaterial will be concluded on.

### 2. Development of composite bone scaffold using hydroxyapatite derived from Caprine bone bio-waste and Polylactic-co-glycolic acid (PLGA)

Team Members: Emon Barua, Dr. Ashish B Deoghare, ME Deptt., NIT Silchar

Scaffold-based bone tissue engineering holds great promise for the future of osseous defects therapies. Literatures show practical applications of hydroxyapatite (HAp) extracted from bone bio-wastes for the development of bone scaffold. In the present study, composite scaffold will be developed from HAp extracted from femur of caprine and PLGA (Polylactic-co-glycolic acid) biopolymer using gas foaming process at different concentration of HAp and PLGA. The mechanical, morphological, physico-chemical and thermal properties, *in vitro* bioactivity, biodegradability and cytocompatibility of the developed scaffold will be investigated to obtain a suitable composition with best optimized properties of the scaffolds.

**A provisional patent with application no.: 201931010903 has been filed based on the proposed idea in the year 2018-2019.**

### 3. Development of composite bone scaffold using hydroxyapatite derived from Caprine bone bio-waste and Polylactic-co-glycolic acid (PLGA)

Team Members: Sunny Ujlaan, Dr. Ashish B Deoghare, ME Deptt., NIT Silchar

In today's world one of the major leading factors to health problem is STRESS. The basic parameters on which stress can be identified are heart rate, galvanic skin response, body temperature, blood pressure, which provides detailed information on the state of mind of a person. These parameters vary from person to person on the basis of certain things such as their body condition, age and gender. The main goal of the model is to analyses the mental stress through physiological data using electrocardiograph in different positions and moods. Different pre-processing techniques can be used for stress detection. Many classifiers like artificial neural network, support vector machine, Bayesian network, and decision tree are to be used to get more accurate results based on accuracy.

- Initial Stage - Building a python machine learning model for stress calculation.
- Second Stage - Verifying the model with the real life case study.
- Third Stage - Improving the model by training it with multiple case studies.
- Fourth Stage - Extending the model with facial recognition for stress indication.

### 4. Simulation of sulphur-iodine dual doped reduced graphene oxide for electromagnetic shielding of electronic systems

Team Members: Dhruvil Purohit, Dr. Ashish B Deoghare, ME Deptt., NIT Silchar

Interference occurs when a signal emitted by one device gets unintentionally picked up by another device-creating noise or a compromised connection. Electromagnetic shielding helps to minimize the interference effect between the devices. Simulation is carried out to model the reduced graphene oxide sheet doped with sulphur and iodine to enhance the shielding properties. Simulations are carried on different configurations of the SI-rGO sheet to measure the shielding efficiency.

## 5. Mobile Intravenous Drips

Team Members: Ayush Singh Beruvar, Saran Sidda, Dr. Ashish B Deoghare, ME Deptt., NIT Silchar

The project deals with development of a device which enables a patient to undergo intravenous therapy without restraining motion. It comprises of a mechanical pump, a bladder and a pocket for an IV fluid bag. It relates to enabling the ability of taking intravenous drips without constraining the mobility of ambulatory patients.

The project was awarded the title of best research proposal at ANVESHAN-2019 Student Research Convention at NIT Silchar and we secured 2nd Position in East Zone Convention at Central University of Jharkhand, Ranchi and finally participated in National Level at Ganpat University, Gujarat.

**A provisional patent with application no.: 201931011489 has been filed based on the proposed idea in the year 2018-2019.**

## 6. Examination of the frequency response of middle ear components under dynamic loading conditions

Team Members: Chayad Barbhuiya, Dr. Ashish B Deoghare, ME Deptt., NIT Silchar

Using FEM technique, intricate anatomy of middle ear can be modelled effectively. In this study, within the human audible range at different pressure levels, response of stapes, footplate and umbo will be calculated (i.e displacement of ossicles and tympanic membrane). Also replacing the ossicular chain with materials and thereby calculating hearing percentage restoration or relative percentage loss will be performed.

## 7. Participation in BAJA competition SAE India at IIT Ropar, March 6-11, 2019.

TWRAN Team of NIT Silchar Fabricated Four Wheeler ATV Model. Twenty one students of different branches were participated in program. The work was supervised by Dr. Wasim Arif, ECE Dept & Dr. Sujit Nath, ME Deptt., NIT Silchar

8. Mr. Ayush Singh Beruvar and Kshitij Mehrotra were selected for the prestigious NTU India Connect Program to carry out intensive research work at the School of Mechanical and Aerospace Engineering, NTU Singapore during the summer months of May- July 2019. The program was sponsored by NTU Singapore and NIT Silchar. Mentor of the students was Dr. A. B Deoghare & Dr. Sujit Nath, ME. Deptt. NIT Silchar

## 9. Publication details

International Journal: - 07,  
International Conference:- 11

10. Participated in Outreach Programme of Assam Startup

Assam Startup Initiative (**Assam Startup which was launched on 20th January, 2019 by our Honorable Chief Minister Shri Sarbananda Sonowal**) to spread the awareness regarding this initiative.

11. Patent awareness program Conducted in association of MBA Department.

12. SAE BAJA : Team Twarn of NIT Silchar bagged 63 rd position in the virtual round of SAE BAJA competition which is National Level Automobile Competition organized by Mahindra and Mahindra. This year the team is going to build an ATV to compete in the event. There are some innovative solution and design are planned for and presently the design team is finalizing the simulation model of the car.

# STUDENTS' ACTIVITIES

Students' activities come under the purview of Dean (SW). The office of the Dean (SW) consists of the following members:

DEAN (SW)		
Name	Qualification	Period
Prof. M.A. Ahmed	Ph.D	01 April 2015 to 1 <sup>st</sup> May 2018
Prof. R.D. Misra	Ph.D	1 <sup>st</sup> May 2018 onwards
ASSOCIATE Deans (SW)		
Name	Qualification	period
Dr. D.C. Das	Ph.D	8 <sup>th</sup> October 2014 to 22 <sup>nd</sup> Oct 2018
Dr. G. Ramesh	Ph.D	14 <sup>th</sup> August 2015 to 15 <sup>th</sup> August 2018
Dr. Wasim Arif	Ph.D	9 <sup>th</sup> January 2018 onwards
Dr. Koushik Guha	Ph.D	27 <sup>th</sup> August 2018 onwards

## Scholarship / Assistantship Awarded to the students during 2018-19:

The students, of this Institute, are awarded various types of scholarships from various schemes of Central Govt., State Governments, PSUs, Charitable Trusts/ Organizations. During this period under review no. of students received scholarship/stipend from various sources.

Sl. No.	NAME OF THE SCHOLARSHIP	Name of the State	Amount of Scholarship awarded in 2018-19 (RS)	No. of students received the Scholarship	Remarks
1.	Govt. of Andhra Pradesh & Telengana	Andhra Pradesh	380940.00	08	
2.	Govt. of Bihar	Bihar	4943930.00	73	
3.	Govt. of Madhyapradesh	Madhyapradesh	56666.00	2	
4.	Central Sector Scholarship	All India	1303700.00	48	
<b>Total-</b>			<b>6685236.00</b>	<b>131</b>	

Apart from the aforesaid Scholarships, there are many scholarship schemes which follows DBT System under which the students get directly benefited through scholarship amount.

Moreover, many parents (guardians) of our students also avail reimbursement of educational expenditure from their employers like – BSNL, Railways, & other Govt. / PSUs on our recommendations.

**Assistantships (M.Tech / Ph.D):** Students admitted in the M.Tech & Ph. D programme in the institute are awarded Assistantship as per norms of MHRD and Institute. To be eligible for this Assistantship, a student must have cleared GATE/NET/UGC exams & must be a regular non-sponsored student.

Railway concession service is also provided to students of NIT Silchar from Dean (SW) Office.

NIT Silchar encourages its students for sports and other activities as well. Students are involved in NCC/NSS/Gyansagar and various other co-curricular activities. They also have a student union body, known as “Gymkhana Union Body”

## STUDENTS’ GYMKHANA

In pursuit of excellence and giving life a meaningful direction, Students’ Union body “**Gymkhana**” of NIT Silchar works towards profound personality development of NIT students by infusing in them a spirit of constructive co-operation, leadership qualities and organizational capabilities. This is being achieved by involving them in a wide spectrum of Sports & Games as well as Social & Cultural and Technological activities throughout the year.

The year 2018-2019 was also full of activities and achievements and students have made the Institute proud by maintaining high standards of organizational and leadership qualities.

### LIST OF GYMKHANA OFFICE BEARERS 2018-19

Sl. No.	Name	Portfolio	Contact No.
1.	Anirban Roy	Vice President	9085587009, 8134932908,7002423686
2.	Ankan Kishore Pathak	GS (Gymkhana)	9678936835
3.	Abhinav Asthana	GS (Technical)	9452962359
4.	Victor Das	GS (Cultural)	8638810689
5.	Bikash Nath	GS (Sports)	9706668705
6.	Palash Kalita	Secretary, Eco Club	9707870390
7.	Karanam Kethan	Secretary, Kabaddi & Kho Kho	9182290680
8.	Ashish Kumar Thakur	Secretary, Cricket	8085284404
9.	Ridon Prasad Kakoti	Secretary, Indoor games (Badminton, Chess, Carom & TT)	8135864960
10.	Himangshu Bora	Secretary, Football	9954875549
11.	Aman Boruah Das	Secretary, Tennis	7896596943
12.	Kumar Saksham	Secretary, Athletics and Gymnasium	7281005747
13.	Sidda Laldayal Saran	Secretary, Trekking, Mountaineering, Karate and Skating	9493143025
14.	Aman Sharma	Secretary, Basket ball, Volleyball and handball	7792847047
15.	Koustavjit Sarma	Secretary, Photography Club	9706131167
16.	Ashish Ranjan	Secretary, Dramatic Club	9523134927
17.	Sarvagya Saxena	Secretary, Dance Club	9760670577
18.	Tanaz Ahmed	Secretary, Music Club	8474032815
19.	Shankhadeep Gogoi	Secretary, Literary, Publication & Fine Arts	9678862910

20	Hladini Agnivesh	<b>Girls Representative</b>	7259411161
	Boddu Poojitha		8639424243
21	Ayushi Goel	PG/PhD Representative, Girl	70428143389
22	Vijay	PG/PhD Representative, Boy	9101932160

### **LIST OF FACULTY ADVISORS OF GYMKHANA UNION BODY 2018-19**

Sl. No.	Name	Portfolio	Contact No.	Faculty Advisor
1	Anirban Roy	Vice President	9085587009, 8134932908, 7002423686	Dr. Wasim Arif
2	Ankan Kishore Pathak	GS (Gymkhana)	9678936835	Dr. Biplab Das
3	Abhinav Asthana	GS (Technical)	9452962359	Dr. R. Hazra
4	Victor Das	GS (Cultural)	8638810689	Dr. Koushik Guha
5	Bikash Nath	GS (Sports)	9706668705	Ram Kumar Karsh
6	Palash Kalita	Secretary, Eco Club	9707870390	Dr. Pranjit Barman
7	Karanam Kethan	Secretary, Kabaddi & Kho Kho	9182290680	Dr. Biplab Das
8	Ashish Kumar Thakur	Secretary, Cricket	8085284404	Dr. Shyamapada Mukherjee
9	Ridon Prasad Kakoti	Secretary, Indoor games (Badminton, Chess, Carom & TT)	8135864960	Dr. Prashanth J
10	Himangshu Bora	Secretary, Football	9954875549	Dr. Subhasis Panda
11	Aman Boruah Das	Secretary, Tennis	7896596943	Dr. Pankaj Biswas
12	Kumar Saksham	Secretary, Athletics and Gymnasium	7281005747	Dr. Ashim Kanti Dey
13	Sidda Laldalay Saran	Secretary, Trekking, Mountaineering, Karate and Skating	9493143025	Dr. Lakshmi Vara Prasad.M
14	Aman Sharma	Secretary, Basketball, Volleyball and handball	7792847047	Dr. Jupitara Hazarika
15	Koustavjit Sarma	Secretary, Photography Club	9706131167	Dr. Lakshmi Vara Prasad. M
16	Ashish Ranjan	Secretary, Dramatic Club	9523134927	Dr. Prashant Tiwari
17	Sarvagya Saxena	Secretary, Dance Club	9760670577	Dr. Sumita Deb Barma
18	Tanaz Ahmed	Secretary, Music Club	8474032815	Dr. Prasanta Roy
19	Shankhadeep Gogoi	Secretary, Literary, Publication & Fine Arts	9678862910	Dr. P.S. Neog
20	Hladini Agnivesh	<b>Girls Representative</b>	7259411161	Dr. Munmun Khanra
	Boddu Poojitha		8639424243	
21	Ayushi Goel	PG/PhD Representative, Girl	70428143389	
	Vijay	PG/PhD Representative, Boy	9101932160	

## Information regarding the students' activities (Gymkhana) under Office of the Dean (SW) during 2018-19 Session

### i. GYMKHANA HELP DESK

At the start of the academic year 2018-19, a help desk was set up by the Gymkhana Union Body to assist the new students and their accompanying parents with the admission procedure and hostel allotment.

### ii. ORIENTATION PROGRAM

An orientation programme for the newly admitted UG, PG and PhD students was held on 13<sup>th</sup> August 2018. The new students were acquainted with the Administration, the HoDs of various departments, and with the Gymkhana Students' Union Body.

### iii. HINDI DIWAS

14<sup>th</sup> September 2018 saw the celebration of Hindi Diwas in accordance with MHRD guidelines. A cultural program and literary competitions were held in the presence of distinguished guests and personalities associated with the Hindi Language.

### iv. ALUMNI MEET

The 9<sup>th</sup> Alumni Meet was held in the Institute campus on 17<sup>th</sup> and 18<sup>th</sup> of November 2018 for the batch of 1989-93. Various interaction sessions and get-togethers were organized for the students to meet and learn from the alumni that were present. A cultural program and dinner concluded what was a brilliant event.

### v. INDEPENDENCE DAY 2018

On 15<sup>th</sup> August 2018, NIT Silchar celebrated the 72<sup>nd</sup> Independence Day of India. It started with the hoisting of the Indian National Flag along with a rendition of the National Anthem. It was followed by the Inter-Hostel Parade competition and cultural programs that showcased themes of Patriotism and Unity.

### vi. RABINDRANATH TAGORE MEMORIAL DAY

On 7<sup>th</sup> August 2018, NIT Silchar celebrated Rabindranath Tagore Memorial Day in honour of the great poet. There was a cultural program by the students of NIT Silchar and literary competitions such as poetry writing, elocution, etc were held to encourage the spirit of literature.

### vii. GENERAL FRESHMEN WELCOME PROGRAM

On 8<sup>th</sup> and 9<sup>th</sup> September 2018, The Gymkhana Students' Union Body held a Freshmen Social event for the new batches of UG and PG respectively. The program consisted of various dances, musical performances, dramas, and the very popular Mr. & Ms. Freshers' competitions.

### viii. TECNOESIS 18

26<sup>th</sup>-29<sup>th</sup> October 2018 saw the celebration of Tecnoesis, the annual tecno-management fest of NIT Silchar. The theme of this year's edition was "Reinventing the world through technology". The event had many modules which were organized by the students themselves. Many distinguished guests and personalities in the field of technology and innovation made their presence felt and interacted with the students. Last but not the least, a cultural program then constituted the conclusion of the fest.

### ix. EKTA DAUD

There were two EktaDaud marathons held throughout last year. On 14<sup>th</sup> August 2018, on the eve of Independence Day and on 25<sup>th</sup> January 2019, on the eve of Republic Day. The runs saw a humungous number of participants from the faculty and student communities, who were to run along a predetermined route through the campus. The camaraderie and unity shared by the participants truly made it an Ekta Daud.

### x. FREEDOM MARCH

#### **xi. REPUBLIC DAY '19**

On 26<sup>th</sup> January, 2019, NIT Silchar celebrated the 70<sup>th</sup> Republic Day of India. The day started with the hoisting of the tricolour along with a rendition of the National Anthem. What followed was a cultural jhanki with themes of harmony and unity, and the Inter-Hostel parade competitions which saw students representing their hostels with great enthusiasm.

#### **xii. BLOOD DONATION CAMP**

Blood donation camps were held on 15<sup>th</sup> August 2018 and 26<sup>th</sup> January 2019 after the Independence Day and Republic Day event celebrations respectively. The students and faculties donated blood to the SMC blood bank with the novel thought that it will save lives whenever needed.

#### **xiii. INCANDESCENCE '19**

15<sup>th</sup> to 18<sup>th</sup> February 2019 hosted Incandescence 2019 in NIT Silchar. The premier cultural fest of the region had a multitude of events ranging from quizzes and debates to full-blown rock concerts. Many distinguished guests and artists from around the world came here to entertain the crowds.

#### **xiv. BANDWAGON**

#### **xv. RAKSHABANDHAN CELEBRATIONS**

#### **xvi. JANMASHTAMI**

On 1<sup>st</sup> September 2018, NIT Silchar celebrated Janmashtami with the pomp and joy of Lord Krishna's birthday. A dahihandi competition between the various hostels was also organized.

#### **xvii. DURGA PUJA**

On 16<sup>th</sup> to 19<sup>th</sup> October 2018, NIT Silchar celebrated Durga Puja. The festivities centered around the campus Pandal which saw a huge footfall from the faculty and student communities.

#### **xviii. DIWALI**

On 7<sup>th</sup> November 2018, NIT Silchar celebrated Diwali in its various hostels which hosted pandals and puja ceremonies. In the evening, people gathered in the football field to burst crackers and enjoy the spirit of Diwali.

#### **xix. North East Sports Meet 2018**

#### **xx. SwachhtaPakhwara**

14<sup>th</sup> September 2018 saw the organization of Swachta Pakhwada in the college. It consisted of a cleanliness drive, a pledge taking ceremony, a visit to a nearby school, and a small cultural program in the evening

#### **xxi. Self Defense Workshop for Women**

On 6<sup>th</sup> - 7<sup>th</sup> October 2018, a self-defense workshop was hosted for the women of the institute. They were instructed on basic self-defense tactics by a renowned martial-arts practitioner.

Apart from all the above mentioned programmes NIT Silchar also celebrated many other events, e.g. World Environment Day 2017, International Day of Yoga 2017 etc.



# INFRASTRUCTURE AND AMENITIES

## Estate - An overview :

### Historical Background

In the late fifties, the Government of India decided to establish Regional Engineering College under the Quality Technical Education Policy - one each in every major state – with the prime objective of imparting quality technical education throughout the country and to foster national integration. These Regional Engineering Colleges were established as joint venture of the Government of India and the respective State Government. Assam is a major state in the North-East of India and the 15th REC was officially established in Silchar in 1967. Though 14 other RECs started functioning within 1967, it took about another decade for REC, Silchar to start its academic programmes due to various constraints.

The college started functioning in 1967 from a camp office in Shillong (the then Capital of Assam) with Dr. S. K. Baruah as Principal and Prof. B. R. Seth, the then Vice-Chancellor of Dibrugarh University as Chairman of the Board of Governors. Subsequently, an area of about 540 acres of land was acquired by the Govt. Of Assam, on the outskirts of Silchar town. This land was part of Bhorakhai Tea Estate.

The first batch of students was admitted in 1977 in the B.E programmes in 3 branches of Engineering viz. Civil Engineering, Mechanical Engineering and Electrical Engineering. The total intake in the first batch was 60 students. The meagre infrastructural facilities consisted of only a part of a hostel, two seven faculty quarters and a few quarters for Grade-IV staff of the college when the college started its academic programme in November, 1977. Initially, the classes started with only 4 full time teachers and with Dr. H. R. Chablani as Principal. The college started its academic programme with affiliation to Gauhati University. The affiliation was later shifted to Assam University in 1994. The first batch of B.E students were awarded their degrees in the year 1982-83. Subsequently, two more branches viz (i) Electronics and Telecommunication Engineering and (ii) Computer Science and Engineering started functioning from the year 1983 and 1987 respectively. On the basis of the report of the High Powered Joint Expert Committee of AICTE and UGC under the chairmanship of Prof. S. K. Joshi, Director General of Council for Scientific and Industrial Research (CSIR), Regional Engineering College Silchar has been transformed and upgraded to National Institute of Technology, Silchar with a Deemed University status with effect from 28.06.2002. The Institute has been subsequently made into a fully funded Government of India Institution. This ensures a better financial status for NIT Silchar which will accelerate its growth and ensure that it becomes one of the premier technological Institutes of not just the North-East but also of the entire nation. The Institute has remodelled its curriculum and academic activities in line with that of IITs. With its Deemed University status, the Institute started awarding degrees from the year 2002 and the first convocation of the Institute is being organization today to award degrees to all those students who qualified for the degree after its transformation into an NIT.

## 2. Location

The Institute is situated at Silchar, the headquarters of the district of Cachar in Assam. The location of the Institute is at a distance of about eight kilometres to the south of the town of Silchar on the Silchar-Hailakandi road. Cachar is the southernmost district of Assam bordering Mizoram on south, Manipur on east and Tripura and Meghalaya on west.

### 3. Campus

The campus of the Institute is spread over an area of 540 acres. It presents a spectacle of harmony in modern architecture, natural beauty and picturesque surroundings. The campus area has been organization in three functional sectors, viz.

- (a) Hostel for students.
- (b) Instructional Buildings and Administrative Block.
- (c) Residential sectors for the staff.

The instructional buildings have been so located that these are fairly near to both the hostels and the staff quarters. There is a full-fledged branch of State Bank of India, a Post Office in the campus. The students & staff and also the villagers surrounding the campus get the facility of the SBI & Post Office. The Institute has its own Health Care Centre with a full-time Senior Medical Officer to attend to the emergency medical needs of the students, staff and their families. Patients suffering from serious illness, requiring intensive care, are referred to the Silchar Medical College & Hospital, which is only about two kilometres from the campus. The Institute have ambulance facility for shifting patient to the near by hospital. An adequately equipped canteen is there near the instructional zone and mini market complex which will provide facilities to the students and the staff during and beyond the working hours. There is a well equipped gymkhana and sports complex attached with an auditorium which are utilized by students for activity like gymnasium, indoor games and similar other pursuits.

### 4. Services

- (a) Housekeeping of the campus (Except Hostel) : Departmentally
- (b) Housekeeping of the Hostels: Out sourced
- (c) Security Management of the campus: Out sourced
- (d) Maintenance of Civil & Electrical: Departmentally

### 5. Staff Structure

#### (A) Administrative:

Sl. No.	Staff / Officers	Designation	Remarks
1	Dr. A. I. Laskar	Dean (P&D)	Regular
2	Dr. Prashanth J.	Associate Dean (P&D)	Regular
3	Dr. Lakshmi Vara Prasad. M	Associate Dean (P&D)	Regular
4	Dr. Dulal Chandra Das	Associate Dean (P&D)	Regular
5	Mr. Sikumar Chauhan	Assistant Engineer (E) & Estate (i/c)	Regular
6	Mr. Dhruvajyoti Chakraborty	Assistant Engineer ©	Contractual
7	Mr. Rahul Suklabaidya	Junior Engineer ©	Contractual
8	Mr. Bipun Sinha	Junior Engineer (E)	Contractual
9	Mr. Tapan Kumar Roy	Junior Engineer (E)	Contractual

**(B) Supporting:**

1	Mr. Debabrata Barman	Sr. Assistant	Regular
2	Mr. Subasish Barman	Technician	Regular
3	Mr. Ashok Kurmi	Technician	Regular
4	Mr. Monoj Gopal Deb	Attendant SG-II	Regular

**Infrastructure details**

Sl. No.	Name of building	Area (Sqm)
<b>Academic / Administrative / Lab / Workshop</b>		
1	New Administrative building	8846.36
2	Expansion of classroom	6974.00
3	Mechanical Workshop building	2588.00
4	Mechanical Department	1895.00
5	Civil Engg. Dept	2799.00
6	Electrical Engg. Dept.	1647.00
7	ETE building	1137.00
8	Central Store / Estate Branch	800.00
9	Library building (old)	975.60
10	Vertical Expansion Dispensary building	189.00
11	Old Administrative building	800.00
12	Classroom Expansion Pt. II	2800.00
13	Expansion of Physics Dept (ground floor)	470.00
14	Expansion of Physics Dept (first floor)	164.00
15	Expansion of Chemistry Dept (first floor)	470.00
16	Expansion of Chemistry Dept (ground floor)	164.00
17	CSE & ETE building (G+2)	7935.70
18	Humanities Dept (first floor)	105.00
19	Mathematics Dept (ground & first floor)	195.00
20	Training & Placement dept (second floor)	386.00
21	Kendriyala Vidyalaya	4642.70
22	New Library building	7987.77
23	Guest House (old)	216.00
24	Guest House (new)	4079.17
25	Post Office	118.57
26	Earthquake Engineering Laboratory	2734.00
27	Production Engineering Lab under Mech. Engg. Dept.	5361.00
28	New Academic building	7935.70
29	KID-NITS School	152.64
30	NABL building	790.56
31	Expansion of Electrical Engg. Dept	1152.41
<b>Sub Total (A) -</b>		<b>76511.18</b>
<b>Residential area hostels + faculty + staff quarters</b>		
1	Director's Bungalow	195.00

2	Professor quarters 7 units	1169.00
3	Asst. Prof. quarters 6 units	868.00
4	Type-D quarters 12 units	1344.00
5	Type-C quarters 8 units	480.00
6	Type-A quarters 12 units	540.00
7	Lecturer's quarters 15 units	1200.00
8	Teachers' Flat 12 units	590.00
9	Grade-III quarters 56 units	3600.00
10	Grade-IV quarters 30 units	1350.00
11	Type-VI(EL) Prof. qtrs. 12 units (old)	2466.00
12	Type-VI(EL) Prof. qtrs. 12 units (new)	2466.00
13	Type-V(E) Asst Prof. qtrs. 21 units (old)	2787.00
14	Type-V(E) Asst Prof. qtrs. 21 units (new)	2787.00
15	Type-IV(E) Lecturer qtrs. 30 units (old)	2556.40
16	Type-IV(E) Lecturer qtrs. 30 units (new)	2556.40
17	Type-III – 100 units	9923.04
18	KendriyalaVidyalaya qtrs.	1183.38
19	Boys Hostel No.1 (170 capacity)	3600.00
20	Boys Hostel No.2 (135 capacity)	2620.00
21	Boys Hostel No.3 (135 capacity)	2620.00
22	Boys Hostel No.4 (275 capacity)	5030.00
23	Boys Hostel No.5 (142 capacity)	2894.00
24	Boys Hostel No.6 (300 capacity)	7950.00
25	Boys Hostel No.7 (300 capacity)	7950.00
26	Boys Hostel No.8 (500 capacity)	20654.52
27	Boys Hostel No.9 (1000 capacity)	23560.00
28	Girls Hostel No.1 (185 capacity)	2114.00
29	Girls Hostel No.2 (212 capacity)	3303.00
30	Girls Hostel No.3 (104 capacity)	3303.00
31	300 capacity P.G Hostel & 100 capacity Married Scholar Hostel	12060.00
	<b>Sub Total (B) -</b>	<b>135719.74</b>
<b>Sports facility &amp; common facilities</b>		
1	Dispensary building	156.00
2	NIT Café	416.00
3	Students Activity Centre	1145.00
4	Post Office	118.57
5	Eat-Out Dhaba	970.91
6	Sports Complex (Indoor & outdoor)	58823.41
	<b>Sub Total (C) -</b>	<b>61629.89</b>

**Grand Total (A+B+C) = 273860.81**

## VEHICLE MANAGEMENT

The Institute at present provides the following vehicles for various purposes as tabled below:

Sl. No.	Vehicle Registration No.	Type of Vehicle	Purpose
01	AS11B-7736	Indigo	T & P, Guest transportation
02	AS11CC-0712	Traveller	T & P, Student Transportation
03	AS11E-2416	Maruti omne	For official work as well as transportation of student and staff on requirement basis.
04	AS11E-5501	SX4	Director car
05	Newly launched, registration process is going on.	Ambulance (Force)	Transportation of patient (student as well as staff of NIT Silchar)
06	AS11CC-9409	Ambulance (Winger)	Transportation of patient (student as well as staff of NIT Silchar)
07	AS11B-2701	Tractor	Engaged in estate for heavy material transportation
08	AS11B-0930	Bus	Student Transportation
09	AS11B-2703	Bus	Student Transportation

## BOARD OF HOSTEL MANAGEMENT

Name	Designation	Qualification (e.g., B. Tech., M. Tech., Ph.D.)
Prof. R. D. Misra	Chairman	Ph. D
Dr. Wasim Arif	Vice Chairman	Ph. D
Dr. Koushik Guha	Secretary	Ph. D
All Asso. Wardens of Hostels	Members	

## HOSTELS

NIT Silchar is a residential campus. It provides hostel accommodation for students. Separate hostel accommodation is available for girl students. Apart from that, family accommodation is also provided to the married Ph. D scholars. It is mandatory for all the students to stay in the hostels. However, under special and extraordinary cases, a student may be permitted to live with his/her parents or local guardian at Silchar. Students permitted to stay outside hostels are exempted from payment of mess charges, electricity and water charges under hostels fees but they will have to pay the hostel establishment charges. The name, full address, office and residence telephone number, designation and willingness of local guardian have to be furnished at the time of admission. Room in the hostel is allotted in such way that students from different regions of the country freely stay with each other, depicting national integration.

The Institute has 13 nos. of hostels for the students inside the campus. 10 for the boys (UG/PG separate), 3 for the girl students (UG/PG) and one for family accommodation to the married Ph. D Scholars. Hostels' capacity varies from hostel to hostel. Available capacity of boys' hostels all together (UG/PG) is approximately 4000, the available capacity of girls' hostel (UG/PG) is approximately 500 and available capacity of Married Scholar Hostel is 106 flats.

### List of Asso. Wardens of Hostel

WARDENS				<i>period</i>	
<i>Hostel No.</i>	<i>Name</i>	<i>Designation</i>	<i>Department</i>	<i>from</i>	<i>to</i>
1	Dr. Pankaj Kumar Biswas	PhD	Mathematics	04/09/2017	Till Date
2	Dr. B.S. Sil	Ph. D	Civil	18/01/2016	23/08/2018
	Dr. Ram Kumar Karsh	Ph.D	ECE	24/08/2018	Till Date
3.	Dr. D. K. Ghose	PhD	Civil	11/09/2017	09/09/2019
4.	Dr. R .Hazra	Ph.D	ECE	05/09/2017	05/09/2019
5.	Dr. N. Ahir	PhD	Civil	01/09/2017	31/08/2019
6.	Dr. Jagadish	PhD	Mechanical	05/09/2017	19/08/2018
	Dr. M. Lakshmi Vara Prasad	Ph.D	Civil	20/08/2018	Till Date
7	Dr. P.K. Gupta	PhD	Mathematics	05/09/2017	08/05/2019
8.	Dr. R.G Nair	Ph.D	Physics	04/02/2016	19/09/2018
	Dr. Prashanth J	Ph.D	Civil	20/09/2018	Till Date
9.	Dr. Shyamapada Mukherjee	Ph.D	CSE	20/07/2018	Till Date
GH-1	Dr. Nirmala Soren	Ph.D	EE	06/04/2015	30/08/2018
	Dr. Mrs. Sumita Deb Barma	Ph.D	Mechanical	31/08/2018	16/04/2019
GH-2	Dr. Munmun Khanra	PhD	E&I	23/05/2017	23/05/2019
GH-3	Dr. Banani Basu	PhD	ECE	18/07/2016	01/08/2018
	Dr. Malaya Dutta Borah	Ph.D	CSE	20/08/2018	Till Date
PGH	Dr. A.K. Sunaniya	PhD	E&I	03/11/2016	04/11/2018
	Dr. Ujjal Chakraborty	Ph.D	ECE	05/11/2018	Till Date
MSH	Dr. Sukumar Pati	PhD	Mechanical	15/12/2015	02/09/2018
	Dr. Biplab Das	PhD	Mechanical	03/09/2018	---
	Dr. S.K. Tripathy	PhD	ECE	12/03/2019	Till Date

#### **Following are the list of facilities available in the Hostels:**

1. Chair, Table, Bed, Wardrobe, and Fan provided in each room
2. Round the clock water supply and power supply.
3. Diesel generator (centrally) available in case failure of power supply.
4. LAN/ Internet
5. Wi-Fi connection
6. Inverter.
7. Water cooler cum Purifier.
8. TV Hall with LED TV.
9. Newspaper and Magazine.
10. Photocopier (Xerox) in each hostel.

11. Ambulance service round the clock.
12. Coffee house provided.
13. Indoor game like, Table Tennis, carom, chess provided.
14. LPG connection and fire wood cook house available.
15. Dining hall with dining Table/chair provided
16. Fire Extinguisher provided.
17. Bi-cycle stand provided.
18. Badminton court with lighting arrangement available (Only BH-1 & GH- 2).
19. Washing Machine provided to the Girls Hostels.
20. Geyser facility for a few Girls & a few Boys Hostel.

Following are the list of services available in the hostels:

1. Security service
2. Cleaning service
3. Food & catering service
4. Maintenance of civil, electrical, plumbing & sanitary services.
5. Maintenance of Aqua guard & cooling cum purifier service.
6. Hot water for bath during winter.
7. Managerial service provided for messing & Maintenance
8. Vehicle service provided for attending classes.

## HEALTH CENTRE

The Institute has a Health Centre with a full time Medical Officer to attend the Medical needs of the students, staffs and their families. The Health Centre apart from providing allopathic medicine also offers Ayurvedic treatment, Dental treatment, dressing and first aid ,pushing saline and injection ,dispensing medicines,ECG,Laboratory facilities (Blood & Urine tests) etc.

Patients suffering from serious illness, requiring intensive care are referred to Silchar Medical College & Hospital (SMCH) which is about two kilometers from the campus. There is also a students' counsellor who offers counselling to the students.

Ambulance facility is also available round the clock for any medical emergency.

## KENDRIYA VIDYALAYA

The 6<sup>th</sup> Academic Session for the year 2018-19 commenced from 1 st April 2018. The Total Enrolment position of Students during the year was 885 with very healthy gender distribution of 457 boys and 428 girls. A total of 111 new students were admitted in the Vidyalaya in the year 2018-19 with 85 of them in class I and 26 in other classes. In 2018-19, a total of 78 students appeared in CBSE Class-X Board Examination and 29 students appeared in Class-XII Board Examination. Out of these, 92.31% of students qualified Class X and 96.55% of students qualified Class XII examination. In Class-X, the highest percentage of marks was 94.8 % scored by Shivangi Verma. Similarly, the highest percentage of marks in Class XII was 94.6 % scored by Mihika Deb who also got Rs. 10,000/- prize money for standing in the top 1.5% of qualified students in CBSE nationwide merit. Various games and sports activities are regularly organized and conducted as an integral part of school curriculum in the Vidyalaya. Under the Sports category, the Vidyalaya has seen all-time high participation in the KVS Regional and National Sports Meets where 74 students participated in the KVS Silchar Region Regional

Sports Meet. Out of these 74 students, 14 students (including 5 girls) got selected for the KVS National Level Sports Meet in various events like Taekwondo, Skating, Chess, Rope skipping and Athletics. The students of the Vidyalaya very actively participated in Silverzone International Olympiad 2018-19 conducted in Mathematics, Science, English and Computer Subjects. A good number of students got Gold, Silver and Bronze Medals in each of these subjects. In addition, two students namely Purbita Banik, Class VII and Alisha Borah, Class VIII selected for the 2<sup>nd</sup> level to compete for the top slots in Science Olympiad, and one student namely Dakshayani Sharma, Class VI got selected for the 2<sup>nd</sup> level to compete for the top slots in English Olympiad. In the year 2017, several students from our Vidyalaya participated in KVS Cluster Level Social Science Exhibition out of which 2 students were selected to compete at the Regional Level of the Social Science Exhibition at Tejpur. A major event for the Vidyalaya was the 45<sup>th</sup> Jawaharlal Nehru National Science Mathematics and Environment Exhibition for Children 2018-19 in which a large number of students from our Vidyalaya took very active part in the Regional Level program of the event and demonstrated their innovative ideas and concepts under various themes of the event through properly designed scientific models and exhibits. Five students from the Vidyalaya were selected in different themes for the KVS National Level program of the event that was organized by KV IIT Kanpur. Out of these, one Student namely Sourav Ghose, Class XI was selected for the National Level program of the Exhibition to be conducted by NCERT at Ahmedabad. Apart from students, teachers also brought laurels for the Vidyalaya. Our three teachers namely Mr. S. Umananda Sharma, TGT (P&HE), Mrs. Mayajyoti Dam, PRT and Mrs. Swagata Sen, PRT and one staff member namely Mr. Noni Gopal Nath, Sub-Staff were awarded with the prestigious KVS Regional Incentive Awards for the year 2017 for their hard work and full dedication put to their work-place.

Another great achievement of the Vidyalaya was that repetitively in the year 2018-19, KV NIT Silchar was awarded with the Green School or "Harit Vidyalaya Award-2018"-1<sup>st</sup> position out of 29 Vidyalayas presently working under KVS Silchar Region. During the session 2018-19, this Vidyalaya hosted many Regional Level programs like:

- i) Rajya Puraskar Testing Camp for Guides- 2018 held between 18.07.2018 to 22.07.2018 in which 93 guide students from different KVs were trained.
- ii) 30<sup>th</sup> KVS Regional Level Youth Parliament - 2018 held on 21.08.2018 for KVS Silchar Region in which 277 students from five different KVs participated.
- iii) 45<sup>th</sup> Jawaharlal Nehru National Science Mathematics and Environment Exhibition for Children 2017-18 (KVS Silchar Regional Level) held on 29.01.2018 in which 125 students from 21 Vidyalaya participated. Regarding the Staff details, a total of eleven permanent teachers joined the Vidyalaya in the year 2018. Out of them, three teachers joined as PGTs, three other teachers joined as TGTs and the rest five teachers joined as PRTs in October 2018. One of the PRT teachers out of them has resigned from the post on ground of joining service in some other department.

The Vidyalaya has got a state-of-the-art infrastructure that is well equipped with various facilities including 3 well-furnished Science Labs, 1 E-class Room, Language Lab., Yoga Room, Games Room, Music Room, Dance Room, Work Education Room, Art Room, Medical Room, CMP Resource Room, 2 Computer Labs, 1 Mathematics Lab, 1 junior science lab, 1 huge library with very good stock of books. Clean and well-maintained bathrooms are situated in all corners of the building. The Vidyalaya has got well-furnished building protected with strong boundary walls all around and a beautiful garden in the front.

A group of highly qualified teachers are engaged in devoted work round the corner for all-round development of the students in the Vidyalaya. This School is running with proper plan guided by KVS Regional Office, Silchar to achieve all the targets.



## KIDS-NITS

NIT Silchar has a school for the kids of the campus as well as nearby areas that runs three classes viz. Nursery, KG 1 and KG .Apart from celebrating Independence Day, Republic Day, Teachers' Day and Children's Day, the school has also organized Drawing and Sports Competition among the kids. The parents-teacher meet has been organized. The school has also organized Health Check-up for the school kids in NITS Health Centre.

## SPORTS COMPLEX & GYM

The Sports Complex, NIT Silchar has training facilities for all the students and staff of this Institute. It has excellent infrastructure facilities for both outdoor and indoor games and sports. The outdoor games include Football, Cricket, Tennis, Basketball (concrete) and Tennis. Flood-Light facility is provided to all the outdoor games. The Indoor Games Complex (IGC) provides the following facilities:

Volleyball, Kabaddi, Kho-Kho, Basket Ball (concrete) and Tennis with Flood Light facility, Chess, Caroms, Yoga room, Shuttle badminton with concrete flooring, Table Tennis, Weightlifting and 08, 16, & 21 stations multi-Gyms, Vibration belt, Rowing Machine, 0505 Treadmills, Bench for Incline & Decline, Twisting machine, Iron weight plates, Rubber weight plates, Iron Rod Dumbbells etc. It has separate rooms for changing with attached bathroom and toilets. All the clubs of the institute such as literary club, photography club, Dramatic club, Gyansagar club, and Music club are there in the sports complex. It has the New Auditorium with 5000 seating capacity and a big stage.

## GUEST HOUSE

The Institute Guest House, flanked by green lawns and colourful horticulture remains a pleasant haven for the Institute Guests, whether from academia or alumni or parents of the students. The state-of-the-art Guest House with all modern infrastructures is one of its kind in the North East. Some renowned personalities of the Nation in the likes of Former President of India and Bharat Ratna recipient Late Shri APJ Abdul Kalam and Hon'ble Minister of Railways, Shri Suresh PrabhakarPrabhu are eminent guests who stayed in the Guest House during their visit to Silchar.

## POST OFFICE

The Institute has a sub Post Office within the campus. The sub Post Office has facilities like registration, money order, and speed post. The post office functions from 9.30 AM to 5.30 PM. Students and staff and people from the surrounding villages take advantage of the facilities of this Post Office.

## BANK AND ATMS

A fully computerized full-fledged core-banking branch of State bank of India with ATM facility operates in this campus. The students, staff and people of the villages surrounding the campus avail the facilities of the Bank. There is one ATM of Punjab National Bank in the campus.

## SHOPPING COMPLEX

There is one Shopping Complex inside the campus for tea, snacks, books etc. Almost all the household items required by both the students and faculties are available here.

## CAFETARIA

A full-fledged Canteen, named NITS Café, is in operation catering quality foods to students, staff and visitors.

# RESEARCH & CONSULTANCY

Research and consultancy (R & C) is one of the most vital activities of the Institute since its inception. The Institute encourages R & C works that synchronises with the global technical advancements, with special emphasis on development of North-eastern region. The synergy of R & C facilities along with the diverse expertise of the faculties and dedicated students, the Institute is touching new heights of Innovation in terms of research. The Research & Promotion Cell (RPC) further helps to identify the young budding student researchers (UG/PG) and provide a unique platform to promote their innovative ideas. The academic curricula of all the disciplines are designed according to the current Industry needs and an initiative is taken to establish a research park comprising of different pioneers of the Industry through MoUs.

## RESEARCH DEVELOPMENT:

### Ph.D. Programme (specializations):

- (i) Civil Engineering,
- (ii) Mechanical Engineering,
- (iii) Electrical Engineering,
- (iv) Electronics & Communication Engineering,
- (v) Computer Science and Engineering,
- (vi) Electronics and Instrumentation Engineering,
- (vii) Humanities and Social Sciences,
- (viii) Mathematics,
- (ix) Chemistry,

### a. Ph.D. Produced/ Ongoing (in number):

Completed	Submitted	Ongoing
35 (i.e., Provisional Degree awarded)	36	529

### b. Sponsored Research Project:

Sl. No.	Name of the Project	Project Coordinator	Total Amount Sanctioned in Rupees	Date of Sanctioning the grant	Name of the Funding Agency
1.	Standardisation of Measurement Protocol for overall Heat Transfer Co Efficient (U-Value) for Building Materials & Components for Indian Subcontinent	Dr. Biplab Das, Department of Mechanical Engineering	Rs. 16,99,500/-	22-03-2018	Department of Science & Technology
2.	The Third Generation's Inheritance of the Memory of Partition(1947): A Comparative study Across Spatial Axes	Dr. Avishek Ray, Department of Humanities & Social Sciences	Rs. 2,00,000/-	29-03-2017	ICSSR
3.	Towards the synthesis of bio-	Dr. Lalthazuala Rokhum,	Rs.	21-07-2014	Science and

Sl. No.	Name of the Project	Project Coordinator	Total Amount Sanctioned in Rupees	Date of Sanctioning the grant	Name of the Funding Agency
	active molecules using solid phase organic synthesis (SPOS) pathways	Department of Chemistry	32,16,000/-		Engineering Research Board
4.	A Study on Measure Theoretical approach to Convergence of sequenxes in Probalistic normed Spaces	Dr. Mausumi Sen, Department of Mathematics	Rs. 15,35,520/-	14-10-2015	Science and Engineering Research Board
5.	Fabrication and Testing of Tandem Layered Quantum Dot Sensitized Solar Cell with Elevated Absorption	Dr. Ranjith G Nair, Department of Physics	Rs. 25,13,390/-	08-12-2016	Science and Engineering Research Board
6.	Condition Assessment & Reliability of Existing Bridges (Indian Railway & Others) in North East India due to earthquake and deterioration hazards	Dr. Arjun Sil, Department of Civil Engineering	Rs. 19,09,600/-	04-02-2017	Science and Engineering Research Board
7.	Numeric Study on Electrokinetic Flow through Polyelectrolyte coated Nanopore	Dr. Subrata Bera, Department of Mathematics	Rs. 25,47,140/-	16-02-2017	Science and Engineering Research Board
8.	Effect of metal doped TiO <sub>2</sub> on photoanode and lead free organic-inorganic metal halide perovskite on photovoltaic performance of petovskite solar cell: experimental and theoretical approach	Dr.S.K.Tripathy, Department of Electronics & Communication Engineering	Rs. 42,38,585/-	22-03-2017	Science and Engineering Research Board
9.	Design and Development of Heat Pipe Embeded solar collector based latent heat storage system for domestic application	Dr. Biplab Das, Department of Mechanical Engineering	Rs. 27,21,000/-	09-03-2017	Science and Engineering Research Board
10.	A study on Effects of Sediment Load on river bank erosion in the Barak River System	Dr. Briti Sundar Sil, Department of Civil Engineering	Rs. 22,44,460/-	03-07-2017	Science and Engineering Research Board
11.	Spectroflurimetric Studies on Representative Nitrogen Heterocyclic Drugs and Their Iteration with DNA Nucleotides	Dr N S Moyon, Department of Chemistry.	Rs. 33,09,000/-	06-07-2017	Science and Engineering Research Board
12.	Effects of variations in input-excitation on the performance of limited-sensors based operational model analysis	Dr. Nirmalendu Debnath, Department Civil Engineering	Rs. 31,66,612/-	18-03-2016	Science and Engineering Research Board
13.	Metal Complexes of New Chiral Schiff Bases: Design, Structure Elucidation, Reactivity and Synthetic Applications	Dr. Pranjit Barman, Department of Chemistry	Rs. 35,04,600/-	02-03-2016	Science and Engineering Research Board
14.	Nano Structured Metal Oxides Immobilized Ionic Liquids as	Dr. S. S. Dhar, Department	Rs.	12-03-2018	Science and

Sl. No.	Name of the Project	Project Coordinator	Total Amount Sanctioned in Rupees	Date of Sanctioning the grant	Name of the Funding Agency
	Green Catalysts for selective Organic Transformations	of Chemistry	28,64,430/-		Engineering Research Board
15.	Centre for Advanced Manufacturing and Material Testing	Head, Department of Mechanical Engineering	Rs. 2,10,00,000/-	20-08-2015	Department of Science & Technology under FIST
16.	Design and development of a hybrid photo voltaic (PVT) system for rural applications	Dr. Biplab Das, Department of Mechanical Engineering	Rs. 14,17,800/-	17-01-2017	Department of Science & Technology
17.	Development of Battery Supercapacitor Hybrid Energy Storage System for Stand-alone Solar Photovoltaic Power System	Dr. Munmun Khanra, Department of Electronics & Instrumentation Engineering	Rs. 22,21,816/-	28-11-2016	Department of Science & Technology
18.	Pose invariant face recognition algorithm development for face based prototype vide surveillance system (VSS)	Prof. Fazal A. Talukdar, Department of Electronics & Communication Engineering	Rs. 24,99,880/-	22-07-2014	Board of Research in Nuclear Sciences
19.	Energetic Ion Beam Assisted Synthesis of Ag/Au Ion Implanted Titania/Zno Thin Film and Investigation of Their Utility As photoanode for Dye Sensitized Solar Cell	Dr. Ranjith G Nair, Department of Physics	Rs. 6,03,000/-	08-09-2015	Inter-University Accelerator Centre- UGC
20.	Experimental and Computational Analysis of Heat Sink Application for optimal performance by developing low cost natural filler reinforced composite material	Dr. Sumit Bhowmik, Department of Mechanical Engineering	Rs. 22,63,000/-	04-08-2017	Central Power Research Institute
21.	Bamboo Bricks/Laminates From BMFs for low cost housing structures for NE Himalayan Region	Dr. Sudipta Halder, Department of Mechanical Engineering	Rs. 44,91,000/-	31-03-2017	National Mission oh Himalayan Studies
22.	Hetero-Junction Tunnel FETs: Characterization Modelling and Simulation of Electrical Parameters	Prof. S. Baishya, Department of Electronics & Communication Engineering	Rs. 9,54,667/-	16-05-2017	Council of Scientific and Industrial Research
23.	Development of National Disaster Spectrum (NDS) and Disaster Communication Backbone Architecture (DiCoBA) with Prototype Development	Prof. S. Baishya, Department of Electronics & Communication Engineering	Rs. 11,00,000/-	30-09-2015	DeitY
24.	Development of EBG Structured Printed Antennas for Ultrawide Band Communication and Futuristic Modelling for prediction of performance Parameters using Computational Techniques	Dr. Taimoor Khan, Department of Electronics & Communication Engineering	Rs. 16,27,560/-	27-12-2016	Science and Engineering Research Board
25.	Design of Reconfigurable	Dr. Arnab Nandi,	Rs.	08-07-2015	Science and

Sl. No.	Name of the Project	Project Coordinator	Total Amount Sanctioned in Rupees	Date of Sanctioning the grant	Name of the Funding Agency
	Defected Ground Structure Resonator for Wireless Application	Department of Electronics & Communication Engineering	23,40,000/-		Engineering Research Board
26.	Development & Testing of hybrid solar photovoltaic thermal (PVT) Air system for the composite environment of Northeast India for tea drying applications	Dr. Biplab Das, Department of Mechanical Engineering	Rs. 30,02,560/-	10-03-2018	Science and Engineering Research Board
27.	An Application of Textual Entailment and Semantic Textual Similarity in Scientific Document Retrieval System	Dr. Partha Pakray, Department of Computer Science & Engineering	Rs. 10,59,448/-	01-11-2018.	SERB
28.	Stochastic multi-scale failure analysis of composites	Dr. Sudip Dey, Department of Mechanical Engineering	Rs. 11,55,000/-	26-06-2018	Aeronautics R & D Board
29.	Department of Physics, NIT Silchar under FIST Project	Head, Physics	Rs. 1,18,00,000/-	16-12-2016	DST-FIST
30.	Development of a prototype of disabled –friendly automatic virtual text-entry keyboard interface system under practical environmental conditions	Dr. R. H. Laskar, Department of Electronics & Communication Engineering Co-PI: Dr. Taimoor Khan, Dept. of ECE,	Rs. 89,45,420/-	24-12-2018	SERB
31.	Deep Summarization Evaluation	PI: Dr. Partha Pakray, Department of Computer Science & Engineering PI (French): Dr. Benoit Favre, Associate Professor, Dept. of informatique et interactions, Aix-Marseille University, France. Co-PI: Prof. Sivaji Bandyopadhyay Co-PI (France): Prof. Pr. Thierry Artieres, Dept. EcoleCentrale Marseille, Aix-Marseille University, France.	Rs. 35,53,777/-	20-03-2019	DST-INRIA / CNRS
32.	Digital Expression of the Self (ie): Photographic Performativity in Contemporary India.  Project Code: P405	Indian PI: Dr. Avishek Ray, National Institute of Technology Silchar. Indian Co-PIs: Prof. Usha Raman, University of Hyderabad. International PI: Dr. Ethiraj Gabriel Dattatreyan, Goldsmiths, University of London. International Co-PI: Dr. Martin Webb, Goldsmiths, University of London.	Rs. 59,88,555/-	18-03-2019	SPARC
33.	Multimodal Machine Translation-	Indian PI: Prof. Sivaji	Rs.	18-03-2019	SPARC

Sl. No.	Name of the Project	Project Coordinator	Total Amount Sanctioned in Rupees	Date of Sanctioning the grant	Name of the Funding Agency
	convergence of multiple modes of input.  Project code: P995	Bandyopadhyay, NIT Silchar. Indian Co-PI: Dr. thoudamDoren Singh, NIT Silchar. International PI: Prof. Josef van Genabith (University Des Saarlandes). International Co-PI: Dr. Cristina Espana I Bonet (University Des Saarlandes).	49,58,775/-		
34.	Design and Development of Dielectric Resonator Based Electromagnetic Sensors for Efficient Harvesting of Renewable RF Ambient Energy in Smart City Applications  Project Code: P266	Indian PI: Dr. Taimoor Khan, NIT Silchar. Indian Co-PI: Prof. Asok De (Delhi Technological University) International PI: Prof. Yahia M. M. Antar (Queen's University) International Co-Pi: Prof. Al P. Freundorfer (Queen's University)	Rs. 49,58,775/-	18-03-2019	SPARC
35.	Investigation and development of robust control strayegy for nonlinear bilateral teleoperation system with delayed communication: An expertimental validation for rehabilitation of stroke patients  Project Code: P1087.	Indian PI: Dr. Rajeeb Dey, NIT Silchar. Indian Co-PI: Dr. Nabanita Adhikary, NIT Silchar. International PI: Prof. Jason Gu (Dalhousie University) International Co-PI: Prof. Mo E1 Hawary (Dalhousie University)	Rs. 67,12,451/-	18-03-2019	SPARC

### C. Developmental Project:

Sl. NO.	Name of the Project	Project Coordinator	Total Amount Sanctioned in Rupees	Date of Sanctioning the grant	Name of the Funding Agency
1.	Visvesvaraya PhD Scheme for Electronics and IT at National Institute of Technology Silchar	Dr. K.L. Baishnab, Department of Electronics & Communication Engineering	Rs. 30,990,000/-	10-09-2015	Ministry of Communication & Information Technology
2.	Special Manpower Development Programme for CHIPS to System Design (SMDP-C2SD)	Dr. K.L. Baishnab, Department of Electronics & Communication Engineering	Rs. 997,200,000/-	15-12-2014	DeitY
3.	Innovation and Entrepreneurship Development Centre (IEDC) at NIT Silchar	Dr. Ashim Kumar Das, Department of Management Studies	Rs. 13,30,000/-	10-03-2016	Department of Science & Technology
4.	Unnat Bharat Abhiyan	Dr. Arup Kumar Goswami, Department of Electrical Engineering	Rs. 1,75,000/-	22-09-2015	MHRD

# STAFF POSITION

## i. Chief Academic & Executive Officer (Position as on 31.03.19)

Position	Name
Director	Prof. Sivaji Bandyopadhyay

## ii. Administrative Staff : (Position as on 31.03.19)

Name of the post	Sanctioned Strength	Staff in Position
Registrar	1	1
Deputy Registrar	3	1
Assistant Registrar	6	2
Librarian	1	1
Deputy Librarian	1	0
Assistant Librarian	1	1
SAS Officer	2	1
Sr. Technical Officer	1	1
Technical Officer	2	0
Executive Engineer	1	0
Engineer	2	0
Sr. Medical Officer	1	0
Medical Officer	2	1
Hindi Officer	1	0
Security Officer	2	0

## iii. Academic Staff: (Position as on 31.03.19)

Name of the post	Sanctioned Strength	Staff in Position
Professor	282	20
Associate Professor		24
Assistant Professor		129
Trainee Teachers		2

## iv. Faculty Position as on 31.03.19 (Department -wise break up)

Sl. No	Department	Professor	Associate Professor	Assistant Professor	Trainee Teacher	Total
1.	Civil Engineering	8	2	17	1	28
2.	Mechanical Engineering	4	3	19	0	26
3.	Electrical Engineering	4	2	16	0	22

Sl. No	Department	Professor	Associate Professor	Assistant Professor	Trainee Teacher	Total
4.	Electronics and Communication Engineering	2	6	21	1	30
5.	Computer Science and Engineering	0	1	21	0	22
6.	Electronics and Instrumentation Engineering	0	1	10	0	11
7.	Mathematics	0	4	8	0	12
8.	Physics	1	0	7	0	8
9.	Chemistry	0	3	5	0	8
10.	Humanities and Social Sciences	1	2	1	0	4
11.	Management Studies	0	0	4	0	4

**v. Ministerial Higher Staff (as on 31.03.2019)**

Name of the post	Sanctioned Strength	Staff in Position
Superintendent /Accountant /Secretary / Jr. Hindi Translator	10	0
Sr. Superintendent /Sr. Accountant /Sr. Secretary	8	1
Superintendent (SG – II) /Accountant (SG – II) /Secretary (SG – II)	5	0

**vi. Technical Higher Staff (as on 31.03.2019)**

Name of the post	Sanctioned Strength	Staff in Position
Technical Assistant/ Junior Engineer /SAS Assistant	38	1
Sr. Technical Assistant/ Assistant Engineer /Sr. SAS Assistant	28	1
Technical Assistant (SG – II) / Assistant Engineer (SG – II) /SAS Assistant (SG – II)	13	0

**vii. Ministerial Lower Staff (as on 31.03.2019)**

Name of the post	Sanctioned Strength	Staff in Position
Junior Assistant / Hindi Typist	21	4
Senior Assistant / Stenographer	16	1
Assistant (SG – II) / Sr. Stenographer	11	5

**viii. Technical Lower Staff (as on 31.03.2019)**

Name of the post	Sanctioned Strength	Staff in Position
Technician / Works Assistant / Laboratory Assistant	38	3
Sr. Technician / Sr. Works Assistant / Sr. Laboratory Assistant	28	1
Technician (SG – II) / Works Assistant (SG – II) / Laboratory Assistant (SG – II)	19	5

**ix. Supporting Staff (as on 31.03.2019)**

Name of the post	Sanctioned Strength	Staff in Position
Attendant / Mali	41	56



**x. Fresh Appointments Teaching (From 01.04.18 to 31.3.19)**

Sl. No.	Name	Designation	Department	Date of Joining
1.	Dr. Biswa Nath Ghosh	Assistant Professor Grade II	Chemistry	23-Jul-18
2.	Dr. Subhrajit Dutta	Assistant Professor Grade II	Civil Engineering	12-Jun-18
3.	Dr. Amit Kumar Das	Assistant Professor Grade II	Civil Engineering	29-Jun-18
4.	Dr. Laiphrakpam Dolendro Singh	Assistant Professor Grade II	Computer Science and Engineering	06-Jun-18
5.	Dr. Malaya Dutta Borah	Assistant Professor Grade II	Computer Science and Engineering	12-Jun-18
6.	Dr. Anish Kumar Saha	Assistant Professor Grade II	Computer Science and Engineering	21-Jun-18
7.	Dr. Thoudam Doren Singh	Assistant Professor Grade II	Computer Science and Engineering	02-Jul-18
8.	Dr. Anupam Biswas	Assistant Professor Grade II	Computer Science and Engineering	05-Jul-18
9.	Dr. Partha Pakray	Assistant Professor Grade II	Computer Science and Engineering	13-Aug-18
10.	Dr. Saheli Ray	Assistant Professor Grade II	Electrical Engineering	14-Jun-18
11.	Dr. Amritesh Kumar	Assistant Professor Grade II	Electrical Engineering	18-Jun-18
12.	Dr. Koteswara Raju Denukonda	Assistant Professor Grade II	Electrical Engineering	20-Jun-18
13.	Dr. Partha Kayal	Assistant Professor Grade II	Electrical Engineering	21-Jun-18
14.	Dr. Nabanita Adhikary	Assistant Professor Grade II	Electrical Engineering	27-Jun-18
15.	Dr. Tapan Pradhan	Assistant Professor Grade II	Electrical Engineering	28-Jun-18
16.	Dr. Avadh Pati	Assistant Professor Grade II	Electrical Engineering	03-Jul-18
17.	Dr. Prabina Pattanayak	Assistant Professor Grade II	Electronics and Communication Engineering	06-Jun-18
18.	Dr. Robin Khosla	Assistant Professor Grade II	Electronics and Communication Engineering	04-Jun-18
19.	Dr. Chandrajit Choudhury	Assistant Professor Grade II	Electronics and Communication Engineering	01-Jun-18
20.	Dr. R. Murugan	Assistant Professor Grade II	Electronics and Communication Engineering	15-Jun-18
21.	Dr. Kavicharan Mummaneni	Assistant Professor Grade II	Electronics and Communication Engineering	15-Jun-18
22.	Dr. Pukhrambam Puspa Devi	Assistant Professor Grade II	Electronics and Communication Engineering	18-Jun-18
23.	Dr. Gaurav Singh Bagher	Assistant Professor Grade II	Electronics and Communication Engineering	25-Jun-18
24.	Dr. M.V Swati	Assistant Professor Grade II	Electronics and Communication Engineering	25-Jun-18
25.	Dr. Tripti Goel	Assistant Professor Grade II	Electronics and Communication Engineering	27-Jun-18
26.	Dr. Devendra Singh Gurjar	Assistant Professor Grade II	Electronics and Communication Engineering	13-Jul-18

27.	Dr. Koena Mukherjee	Assistant Professor Grade II	Electronics and Instrumentation Engineering	28-Aug-18
28.	Dr. Shivendra Kumar Pandey	Assistant Professor Grade II	Electronics and Instrumentation Engineering	18-Jun-18
29.	Dr. Binoti Patro	Assistant Professor Grade II	Management Studies	04-Jun-18
30.	Dr. Saurabh Verma	Assistant Professor Grade II	Management Studies	08-Jun-18
31.	Dr. Chinmaya Kumar Sahoo	Assistant Professor Grade II	Mechanical Engineering	05-Jul-18
32.	Dr. Abhishek Paul	Assistant Professor Grade II	Mechanical Engineering	09-Jul-18
33.	Dr. Bipul Das	Assistant Professor Grade II	Mechanical Engineering	16-Jul-18
34.	Dr. Yogesh Singh	Assistant Professor Grade II	Mechanical Engineering	23-Jul-18
35.	Dr. P. Srinivasan	Assistant Professor Grade I	Physics	05-Oct-18
36.	Dr. K. Suganya Devi	Assistant Professor Grade I	Computer Science and Engineering	05-Oct-18

**xi. Appointments of Non-Teaching (Contractual) (During 2018 - 2019)**

S. No.	Name	Designation	Date of Joining
1.	Arundhati Chakraborty	Library Trainee	04-Jul-2018
2.	Anup Kumar Kurmi	Library Trainee	04-Jul-2018
3.	Nanka Pasi	Attendant	25-July -2018
4.	Ms. Susmita Dey	Yoga Instructor	01-Aug-2018
5.	Mr. Victor Paul	Yoga Instructor	01-Aug-2018
6.	Mr. B.C. Nath	Assistant	10-Aug- 2018
7.	Ms. Nisha Das	Nurse	15-Nov- 2018
8.	Mrs. Shruthi M. K.	Trainee	01-Feb-2019
9.	Mr. Rupak Paul	Trainee	01-Feb-2019

**xii. Appointments of Teaching (Contractual) (During 2018 – 2019)**

S. No.	Name	Designation	Department
1	Dr. Palash Dey	Temporary Faculty	Civil Engineering Deptt.
2	Dr. Biswajit Roy	Temporary Faculty	Civil Engineering Deptt.
3	Mr.Chiranjit Adhikary	Temporary Faculty	Electrical Engineering Deptt.
4	Mr.Partha Pratim Paul	Temporary Faculty	Electrical Engineering Deptt.
5	Mr.Kalyan Bhattacharjee	Temporary Faculty	Electronics & Instrumentation Engineering Deptt.
6	Surajit Sarkar	Temporary Faculty	Electronics & Instrumentation Engineering Deptt.
7	Mr. Subhadeep Mukherjee	Temporary Faculty	Deptt. of Management Studies
8	Mr. Saroj Kr. Koiri	Temporary Faculty	Deptt. of Management Studies
9	Dr. Rajashree Dutta Purkayastha	Temporary Faculty	Deptt. of Management Studies
10	Dr. Pradipta (Deb) Dey	Temporary Faculty	Deptt. of Humanities & Social Sciences
11	Mr. Subhankar Das	Temporary Faculty	Mechanical Engineering Deptt.
12	Dr. Amitava Sarkar	Guest Faculty	Mechanical Engineering Deptt.

**Retirement / Resignation (From 01.04.18 to 31.3.19)**

S. No.	Name	Designation	Date of Retirement / Resignation
1	Sri. Monilal Yadav	Attendant (SG-I)	31-05-2018
2	Sri. Chiranjit Bhattacharjee	Sr. Attendant	31-08-2018
3	Sri. Sibat Ali Laskar	Attendant (SG-II)	30-09-2018
4	Sri. Subodh Ch. Roy	Attendant (SG-II)	30-09-2018
5	Sri. Dilip Kr. Das	Technician (SG-II)	31-10-2018
6	Sri. Abdul Malik Mazumder	Mali (SG-I)	31-10-2018
7	Sri. Rathindra Ch. Roy	Attendant (SG-II)	31-10-2018
8	Sri. Shibapada Dey	Technician (SG-I)	31-12-2018
9	Sri. Ranjit Singh	Attendant (SG-I)	31-12-2018
10	Sri. Samu Uddin	Attendant (SG-II)	31-12-2018
11	Sri. Hilal Uddin Mazumder	Sr. Attendant	31-12-2018
12	Dr. Asit Kr. Das	Associate Professor	28-02-2019
13	Sri. Anup Kr. Chakraborty	Assistant (SG-I)	31-03-2019

**xiii. Death In Harness (From 01.04.18 to 31.3.19) : NIL**

**xiv. Voluntary Retirement Scheme (From 01.04.18 to 31.3.19): NIL**

# TEQIP-III

## Introduction to TEQIP-III

Technical Education Quality improvement Programme (TEQIP) is a World Bank and MHRD funded project for the technical Institutions for improving the quality of Engineering Education in existing institutions with a special consideration for Low Income States and Special Category States (SCS) and support to strengthen few affiliated technical universities to improve their policy, academic and management practices.

TEQIP seeks to enhance quality and equity in participating engineering education institutions and improve the efficiency of the engineering education system in focus states. The Project supports two components:

- **Component - 1:** Improving quality and equity in engineering institutions in focus states
  - **Sub-component 1.1:** Institutional Development for Participating Institutions  
An estimated 90 Engineering Education institutions meeting (progressively) the enabling mechanisms and based on quality of Institutional Development Proposals (IDPs), will be selected.
  - **Sub-component 1.2:** Widening Impact through ATUs in focus states  
An estimated 8 ATUs meeting the enabling mechanisms will be selected with matching contribution equal to project allocation.
  - **Sub-component 1.3:** Twinning Arrangements to Build Capacity and Improve Performance of Participating Institutions and ATUs  
Institutions (already participated in TEQIP-I and/or II)/ATUs will be selected on a competitive basis based on pre-defined eligibility criteria. The evaluation will be based on quality of IDPs. The proposal should include establishing a mentoring system for twinning arrangements to build the capacity and improvement in performance of institution/ATUs participating under sub-component 1.1/1.2 respectively.
- **Component - 2:** System Level initiatives to strengthen sector governance and performance
  - This component will support MHRD and key apex bodies in engineering education, including AICTE and NBA, to strengthen the overall system of engineering education.

NIT Silchar has successfully completed Phase I and Phase II of TEQIP project. Presently NIT Silchar is under TEQIP phase III, Sub - Component 1.3. Under Twinning arrangements NIT Silchar is selected as Mentor Institute for Gauhati University Institute of Science Technology (GUIST), Gauhati.

## TEQIP-III: Project Scope

Only the Government and Government aided AICTE approved Engineering institutions/Engineering faculty/Engineering Teaching Department/Constituent Institutions of Universities/Deemed to be Universities and new centrally funded institutions in SCS will be the part of the project. An estimated 200 Government and Government funded Engineering institutions including Affiliating Technical Universities (ATUs) will be selected under different sub-components in one or two cycles.

## TEQIP-III: Project Objectives

The Project will focus on the following objectives:

- Improving quality and equity in engineering institutions in focus states viz. 7 Low Income States (LIS ), eight states in the North-East of India, three Hill states viz. Himachal Pradesh, Jammu & Kashmir, Uttarakhand and Andaman and Nicobar Islands (a union territory (UT))
- System-level initiatives to strengthen sector governance and performance which include widening the scope of Affiliating Technical Universities (ATUs) to improve their policy, academic and management practices towards affiliated institutions, and
- Twinning Arrangements to build capacity and improve performance of institutions and ATUs participating in focus states.

## TEQIP-III : NIT Silchar Fund Allocation under Sub- Component 1.3

Total Fund Allocation = 700 lacs.

Indicative Category-wise Funding for Key Activities of NIT Silchar under Subcomponent 1.3

Sl. No	Key activities	Category of Expenditure (Head of expenditure)	Description	% of share	Percentage (%)	Cost (Rs. in lacs)
1	Procurement of Goods (equipment, furniture, books LRs, software and minor items) and civil works for improvement in teaching, training and learning facilities	Procurement	Books and LRs	15	Up to 50%	350
			Equipment	15		
			Furniture	5		
			Services	10		
			Civil Works	5		
2	Improvement in Teaching, Learning and Research competence' <ul style="list-style-type: none"> <li>Improve student learning</li> <li>Student employability</li> <li>Increasing faculty productivity and motivation</li> <li>Establishing a twinning system</li> </ul> <ul style="list-style-type: none"> <li>Twining arrangements with institutions under Subcomponent 1.1 to build capacity and improved performance</li> <li>Individual institutional mentors</li> </ul>	Academic	<input type="checkbox"/> Improve student learning	10	At least 40%	280
			<input type="checkbox"/> Student employability	10		
			<input type="checkbox"/> Increasing faculty productivity and motivation	10		
			<input type="checkbox"/> Establishing a twinning system	10		
3	Incremental Operating Cost	IOC			Up to 10%	70
<b>TOTAL</b>					<b>100</b>	<b>700</b>

### Outside Conferences/seminar/workshops attended by Faculty. (April 18 – Mar 19)

SI	Name	Deptt	Topic	Date	Venue / Place
1	Dr. T. R. Lenka	ECE	Analytical Model development for Gate work function engineered short channel E-model N-Polar Gan MOS-HEMT	19-20 May 18	Bhubaneswar
2	Dr. K. M. Pandey	ME	Achieving Excellence in Engineering Education.	24-28 May 18	Hyderabad
3	Dr. L. C. Saikia	EE	a. Performance analysis of combined ALFC and AVR system incorporating power system stabilizer b. Effect of different renewables and FACT device on an interconnected thermal system using SCA optimized fractional order cascade controllers	1-2 June 18	NIT Meghalaya
4	Dr. S. K. Tripathy	ECE	Thermal Analysis of Dilution Materials Using DSC and TGA	25-30 June 18	Hyderabad
5	Dr. Shyamapada Mukherjee	CSE	IPplacer: An efficient 0-1 integer programming based placement for VLSI Circuits	10-12 July 18	IISC Bangalore
6	Dr. Pinki Roy	CSE	Automatic Speech recognition based on clustering technique	06-07 Sept 18	Kolkata
7	Prof. N. B. D Choudhury	EE	Hybrid Goa- SVR technique for STLF during periods with substantial weather change in NE	13-15 Sep 18	Kochi, India
8	Dr. Koushik Guha	ECE	Design of microfluidic kidney on chip for analysis of Na <sup>+</sup> and water re-absorption	27-28 Oct 18	Kolkata
9	Dr. Ashish B. Deoghare	ME	Utilization of fish scale bio-waste of putinusconchionius for development of composite bone scoff	26-27 Nov 18	Coimbatore
10	Ripon Patgiri	CSE	IpBF: A fast and accurate IP address look up using 3D Bloom filter	06-08 Dec 18	VIT, Chennai
11	Dr. Partha Pakray	CSE	Khasi language as dominant Parts-of-Speech(POS) ascendant in NLP	14-15 Dec 18	NIT, Agartala
12	Prof. NBD Choudhury	EE	Spider monkey optimization based cascade controller fs cfe of a hybrid sustem	14-15 Dec 18	NIT Agartala
13	Dr. Yogesh Singh	ME	Development and performance evaluation of a planar 2PRP-2PPR (XYZO) Parallel motion stage for millingoperation	14-15 Dec 18	Coimbatore
14	Dr. Praveen Kumar Gupta	Mathematics	Analysis of fractional order deterministic HIV/AIDS model during drug therapy treatment	17-19 Dec 18	VIT, Vellore
15	Dr. L. V. Prasad M	CE	Adaptive neuro- fuzzy interface system for predicting the strength of HPC	17-19 Dec 18	VIT, Vellore
16	Kedar Nath Das	Mathematics	Novel tripartite competitive swarm optimizer for large scale optimization problems	17-19 Dec 18	VIT, Vellore
17	Subhrajit Dutta	CE	Reliability based design optimization of large-scale truss structure using polynomial chaos expansion metamodel	10-13 Jan 19	IIT Madras
18	Dr. Bipul Das	ME	Sensor fusion model for detect identification in friction stir welding process	18-22 Feb 19	Haryana
19	Dr. Koushik Guha	ECE	A 32- Bit Energy efficient exact Dodda Multiplier. A novel analytical model of MEMS shunt switch considering temperature dependency with beam perforation effect	29-31 Mar 19	Pune, India
20	Dr. W. Arif	ECE	Design of high gain AMC based patch antenna for X- band applications	29-31 Mar 19	Pune
21	Dr. Saroj Kumar Biswas	CSE	Effectiveness of POS Tagging in Graph Based Sentiment Analysis Model	29-31 Mar 19	Pune

**In House Conference/ Lecture/ Short-Term Traing Program (STTP)/ Hand-On Training/ Workshops organized under the aegis of TEQIP-III at NIT Silchar in 2018-2019**

Sl. No.	Date	Topic	Deptt.	Coordinators	Type
1	21-25 May 2018	Recent advances in fuzzy optimization (RAFO-2018)	Maths	Dr.S.Roy, Dr. M. Sen, Mr. B. Nath, Dr.K N Das.	Workshop
2	4-6 Jun 2018	International Conference on Advance Computing, Networking and Informatics (ICACNI-2018)	CSE	Ripon Patgiri, Shyamosree pal	International Conference
3	5 <sup>th</sup> Jun 2018	Recent Advancement In Environmental Science and Engineering (RAESE-2018)	CE	Dr. Upendra Kumar	National Conference
4	23-27 July 2018	Summer School on Antena and Microwave Engineering (SUSAME-2018)	ECE	Dr. Taimoor Khan	Workshop
5	23-27 July 2018	Fundamentals of energy storage	ME	Dr. Sukumar Pati, Dr. P. R.Randive	Workshop
6	31 <sup>st</sup> July 2018	Expert Lecture	EE	Dr. ArupKumar Goswami	Lecture
7	28 July to 01 Aug 2018	Biomedical Imaging & Image Processing	ECE	Dr.R.H.Laskar, Dr.R.K.Karsh, Dr. C. Choudhury	workshop
8	10-14 Aug 2018	International Workshop on Modelling Simulation mnd Soft Computing (IWMSSC)	Maths,CSE	Dr.S.Bera,Dr.Md.Maqbul,Dr.BHS Raju,Dr.S.Mukherjee	workshop
9	16-20 Aug 2018	Recent trends on optimization techniques in science & engineering (ROTS)-2018	Maths	Dr.K N Das	Workshop
10	16-20 Aug 2018	Somputational Technologies (CT-2018)	ME	Dr. S. Dey,Dr. A. Biswas, Dr. S.R. Maity	Workshop
11	21 Aug 2018	One day Springer nature author workshop on Scientific publishing	ME,CE	Dr. S. Dey, Dr. A. Sil, Dr. N. Debnath, Prof. S. Choudhury	Workshop
12	11-15 Sept 2018	Technology and the ( Post) Human Condition	HSS,EIE	Dr. Munmun Khanra, Avishek Ray	Workshop
13	17-21 Sept 2018	Design and Deployment of cyber physical systems	CSE	Dr. S. Mukherjee, Dr. S. K. Biswas	Workshop
14	24-28 Sept 2018	Frontiers in solar technologies (FST – 2018)	ME	A. Biswas & B. Das	Workshop
15	29 Sept- 3 <sup>rd</sup> Oct 2018	Mathematical Modelling using High Performance Numerical Computation	Maths,ECE, ME	Dr. P. Biswas, Dr. P Kumar Gupta, Dr. W. Arif, Dr. S. Bowmik, Dr. Sujit Nath.	Workshop
16	1-5 Oct 2018	Recent research trends & future prespective of machine learning in academic & industry	CSE	Dr. Pinki Roy, Dr. Shyamosree Pal	Workshop
17	1-5 Oct 2018	Mi-Power software for power system analysis	EE	Dr. T. Malakar & Dr. Rajeeb Dey	STTP

18	1-5 Oct 2018	Material processing and surface treatment	ME	Dr. A. B. Deoghare, Dr. C. Kr. Sahoo	STTP
19	6-7 Oct 2018	WebVR using A-Frame	ECE, CSE	Dr. Badal Soni, Dr.W. Arif	Hands on Training
20	01-05 Nov 2018	Combustion process in IC engine	ME	S. Debbarma, A.Pal, B.Das	Workshop
21	09-13 Nov 2018	Innovative Construction Materials for roads & buildings	CE	Prof. M. A. Ahmed, Dr. Kh. Lakshman Singh, Dr. MLV Prasad	Workshop
22	07-09 Dec 18	Anveshan	Institute	Dr. Ranjit G Nair	Student Research
23	03-07 Dec 2018	Recent Trends In Wireless Communications Challenges and Oppurtunities (ReTWiC – 2018)	ECE	Dr. W. Arif, Dr. Prabina Pattanayak, Prof. F.A. Talukdar	STTP
24	09-10 Dec 18	Institute of Electrical and Electronics Engineer (IEEE)	ECE	Dr. Banani Basu	Student Research
25	15-18 Nov 18	Orientation on computer Vision & Machine learning and discussion for research collaboration initiation	CSE	Dr. Shyamapada Mukherjee & S. K Biswas	Expert Lecture
26	16-20 Jan 19	Earthquake Disaster Mitigation	CE	Dr. N. Ahir & Dr. A. Sil	Workshop
27	21-25 Jan 19	Intellectual Property Rights	DOMS	Dr. A. K. Das, Dr. S. Pati, & Dr. S Verma	Workshop
28	06-09 Feb 19	Application of Spatial Techniques in infrastructure and watershed management	CE	Dr. B.S. Sil	Workshop
29	01-03 Feb 19	National Conference on Advances In Structural Technologies (CoAST-2019)	CE	Prof. U. Kumar	National Conference
30	18-22 Feb 19	MATLAB Application in control system & signal processing	EIE	Dr. S. Sahoo, Dr. S. H. Laskar, Dr. R. Hazra, Dr. A. K. Sunaniya	Hands on training
31	18-22 Mar 19	Recent Advnacement In Microwave Engineering (RAME-2019)	ECE	Dr. Gaurav Singh Baghel	Workshop

#### Outside Conferences/seminar/workshops attended by Students. (April 18 – Mar 19)

Name of Student	Scholar No	Designation	Dept.	Date	Venue	Topic
Subhajit Das	17-3-06-102	PhD	EIE	4-6 June 18	NIT Silchar	A comparative study of reversible video watermarking using adaptive feedback & non feedback based DE method
Pavani K	15-1-4-093	B.Tech	ECE	12-13 May 18	Ranchi	Multi attached network topology with different routing protocols & stub network resolution in Ospf
Ashish Pandey	16-3-04-101	PhD	ECE	29-31 Aug 18	Noida UP	Lifetime enhancement of wireless sensor network by using sine cosine optimization algorithm



Dhruba Jyoti Bora	15-3-06-101	PhD	EIE	27-28 Oct 18	Mangalore	Mapping the impedance spectrum of montaguemodelof skin impedance
Pradeep Kumar Karsh	16-3-02-102	PhD	ME	23-24 Aug 18	Amity University	Stochastic natural frequencies of functionally graded plates based on power law index
Ritwik Haldar	14-3-04-111	PhD	ECE	29-31 Aug 18	Amity University	Estimation of outage duration for a mobile sensor node
Ravi Ranjan Kumar	16-3-02-101	PhD	ME	1-3 Nov 18	IIT Indore	Radial basis function based probabilistic buckling behavior of sandwich plates
Siddhartha Kar	15-3-02-118	PhD	ME	8-10 Nov 18	NIT Meghalaya	Drilling of Micro holes in titanium using Micro EDM: A Parametric investigation
Tapas Debnath	15-3-02-111	PhD	ME	8-10 Nov 18	NIT Meghalaya	Drilling an array of square micro holes using micro EDM
Krishna Roy	17-3-02-112	PhD	ME	8-10 Nov 18	NIT Meghalaya	Natural convective heat transfer from an inclined isothermal fin array
Lakka Suneetha	16-3-02-105	PhD	ME	8-10 Nov 18	NIT Meghalaya	Numerical investigation on the effect of turbulence models on prediction of combustion charecteristics of scramjet combustor
Arpita Dutta	15-3-05-102	PhD	CSE	27-28 Oct 18	Kokata	Removal of ambiguity of polysemous verbs using latent semantic analysis
Surya Manoj Maturi	15-1-4-095	B.Tech	ECE	27-28 Oct 18	Kokata	Design analysis & simulation of RF MEMS shunt switch using different uniform meanders & dimples
Jasti Sateesh	17-3-04-108	PhD	ECE	27-28 Oct 18	Kokata	Design of Noval structured RF MEMS switch for 5G reconfigurable Antenna
Ashish Pandey	16-3-04-101	PhD	ECE	28-29 Sep 18	UP	Lifetime enhancement of wireless sensor network by using moth flame optimization algorithm
Sumit Kumar Mehta	17-3-02-115	PhD	ME	9-11 July 18	Bangalore	Effect on non uniform heating on heat transfer characteristic in wavy channel
Bhaskar Ranjan Tamuli	17-3-02-109	PhD	ME	8-10 Nov 18	NIT Meghalaya	Numerical study of Co-Axial evacuated tube collector with nanofluid
Inamul Hussain	15-3-03-110	PhD	EE	24-25 Nov 18	Kolkata	A review on the effects of technology on CMOS & CPL logic style on performance speed & power dissipation
Koustav Kashyap Gogi	15-3-24-101	PhD	Physics	07-09 Feb 19	Haryana	Highly stable write once read many times switching behavior of grapher oxide polymer nanocomposites
Bandi V R Reddy	16-3-02-104	PhD	ME	08-10 Mar 19	Hyderabad	Effect of warm rolling on microstructure porosity & hardness of spray formed LM25 alloy
Bappa Mondal	16-3-02-106	PhD	ME	14-15 Dec 18	Maharashtra	Numerical analysis of mixing performance in microchannel with different ratio of outlet to inlet width
Lokeswar Patnaik	17-3-02-113	PhD	ME	8-10 Nov 18	NIT Meghalaya	Conceptualization of a mechining fixture for machining cylinder block on a horizontal machining center
Sujit Roy	17-3-02-124	PhD	ME	8-10 Nov 18	NIT Meghalaya	Computational analysis of sensible energy storage for Low Temperature Application

Chiranjib Bhowmik	14-3-02-102	PhD	ME	21-23 Dec 18	Jalandhar	Sustainable supplier selection using combined thinking process
Dipankar Saha	16-3-22-101	PhD	Maths	23-25 Oct 18	Delhi	Fixed point theory approach towards the solvability of Functional integral equation in $L_p$ space
Chandan Kumar Pandey	16-3-03-103	PhD	EE	24-25 Nov 18	Kolkata	Dual Metal graded channel double gate tunnel FETs for reduction of ambipolar conduction
Pallab Sarmah	17-3-02-123	PhD	ME	14-15 Dec 18	Maharashtra	Fabrication of ultrathin sheet using wire EDM
Divya Zindani	16-3-02-103	PhD	ME	21-23 Dec 18	Jalandhar	An integrated fuzzy based methodology for selection of casting pattern Material
Sunil Kumar	18-3-02-107	PhD	ME	8-10 Nov 18	NIT Meghalaya	Design and simulation study of HPDC for automotive parts pinion housing based on ADSTFEAN casting simulation system
Rishikanta Mayengbam	16-3-04-107	PhD	ECE	31 Oct – 2 Nov 18	IIT Mandi	First principles calculation of structural electronic & optical properties of $CdAl_2Te_4$ Semiconductor
Debayan Bhowmick	17-3-02-108	PhD	ME	10-12 Dec 18	IIT Bombay	Numerical investigation on influence of porous layer flow & heat transfer characteristic in a partially porous wavy channel
Dhrijit Kumar Deka	18-3-02-106	PhD	ME	10-12 Dec 18	IIT Bombay	Effect of free stream parameters on impinging shock wave boundary layer interaction on a flat plate
Manash Protim Boruah	17-3-02-110	PhD	ME	10-12 Dec 18	IIT Bombay	Effect of capillarity viscosity interaction on coalescence of droplets in a confined channel
Pushpa Gaur	14-3-03-110	PhD	EE	14-15 Dec 18	NIT Agartala	Utilization of plug in electric vehicles for frequency regulation of multi area hybrid power system
Arindam Sanyal	18-3-03-108	PhD	EE	14-15 Dec 18	NIT Agartala	Frequency regulation in deregulated power markets: A review
Bhimavarapu Krishna Reddy	17-3-05-105	PhD	CSE	14-15 Dec 18	NIT Agartala	Near field communication over cognitive radio networks : An overview
Prachi Mathur	15-1-5-099	B.Tech	CSE	14-15 Dec 18	NIT Agartala	Improved fusion based technique for underwater image enhancement
Banamali Das	18-3-05-106	PhD	CSE	14-15 Dec 18	NIT Agartala	A feature selection method using effective range & class separation
Subir Kr Maiti	15-3-23-102	PhD	Chemistry	20-21 Dec 18	Tezpur University	Study on the synthesis characterization of ONS donor Schiff base complexes of ruthenium(III) & its Applications
Kalyani Rajkumari	17-3-23-101	PhD	Chemistry	28-29 Dec 18	NIT Mizoram	Waste to wealth: A sustainable protocol for production of biodiesel by transesterification of soybean oil using banana trunk ash as a heterogeneous catalyst
Biplab Dhar	15-3-22-104	PhD	Maths	01-03 Dec 18	Delhi	Dynamical behavior of tumor immune model and targeted chemotherapy of any tumor size

Iswar Mazumdar	17-22-405	M.Tech	ME	08-10 Mar 19	Hyderabad	Effect of cold rolling on the porosity hardness properties of the spray deposited Al-18% Pb& Al-22% Pb alloys
Tanmoy Loha	17-22-208	M.Tech	ME	08-09 Mar 19	IIT Guwahati	Stochastic longitudinal vibration of signal walled carbon nanorods A non-local elasticity approach
Nipom Sekhar Das	18-03-24-104	PhD	Physics	28-30 Jan 19	Chennai	Tuning of electrical hysteresis in PMMA/Gos/PMMA multi- stacked devices
Piyush Kant	15-3-06-103	PhD	EIE	10-11 Jan 19	Tamil Naidu	Wavelet transform based approach for EEG feature selection of motor imagery data for brain computer interfaces
Abinash Sahoo	18-3-01-112	PhD	CE	21-22 Dec 18	Bhubaneswar	Prediction of flood using adaptive neuro fuzzy inference systems A case study
Noor Alam	15-3-02-110	PhD	ME	26-28 Feb 19	Jaipur	Numerical investigation of detonation wave propagation in pulse detonation engine with obstacles
Noor Alam	15-3-02-110	PhD	ME	18-22 Feb 19	NIT Kurukshetra	Comparative analysis of cyclic performance of pulse detonation engine: A review
Preetam Chayan Chatterjee	17-25-108	M.Tech	CSE	01-02 Mar 19	NIT Meghalaya	Keyword extraction using graph based supervised term weighting
Songhita Mishra	15-3-04-105	PhD	ECE	13-15 Mar 19	Jaipur	A novel approach towards pattern and speed invariant holistic analysis of dynamic gesture recognition system
Manir Ahmed	15-3-04-106	PhD	ECE	13-15 Mar 19	Jaipur	Eye center guided constrained local model for landmark localization in facial image
Anushka	17-22-304	M.Tech	ME	29-30 Mar 19	VIT	Evaluation of hemodynamic parameters to study the variation of artery wall properties
M.Babar Pasha	17-22-201	M.Tech	ME	29-31 Mar 19	VIT	Permeability quantification of porous scaffold for bone tissue engineering
Mohite Vijaysinh R	17-22-307	M.Tech	ME	29-31 Mar 19	VIT	Modelling of Human Airways CAD model using CT scan Data
Kritesh Kumar Gupta	17-22-306	M. Tech	ME	08-09 Mar 19	IIT Guwahati	Effect of temperature on the fracture strength of perfect & defective monoayeredgraphere
Abhijit Borah	15-3-02-113	PhD	ME	9-11 July 18	IISC Bangalore	Effect on Non uniform heating on entropy generation thermally developing flow between parallel plates
Chandan Kumar Pandey	16-3-3-103	PhD	EE	01-02 Mar 19	NIT Meghalaya	A novel structure of double gate tunnel FET with extended back gate for improved device performances
Kumari Ambe Verma	17-3-2-127	PhD	ME	30-31 Dec 18	Goa	Computational investigation on design of scramjet combustor A review
Namrata Bordoloi	18-3-2-131	PhD	ME	30-31 Dec 18	Goa	Phase changing materials in thermal energy storage systems : A review
Mohammad Atif Siddiqui	15-3-6-106	PhD	EIE	27-29 Mar 19	Erode, India	A simple turning approach for PID controller based on Direct synthesis and rootlocus

Sunil Kumar	18-3-2-107	PhD	ME	08-10 Mar 19	Hyderabad	Box behnken analysis of surface modification of aluminium alloy AA6061 using roller burnishing
Lokeswar Patnaik	17-3-2-113	PhD	ME	08-10 Mar 19	Hyderabad	A review on slug reversal during punching and blanking
Pratishtha Brahma	15-3-4-104	PhD	ECE	14-15 Mar 19	WB, India	Design of dual band 1x2 Antenna array using wide band wilkinson power divider
Bidisha Hazarika	17-3-4-104	PhD	ECE	14-15 Mar 19	WB, India	Design of low profile AMC Antenna for SAR reduction
Rupesh Subhash Mahamune	17-3-6-106	PhD	EIE	01-02 Mar 19	NIT Meghalaya	A review on artifacts removal techniques for electroencephalogram signals
Ayush Singh Beruvar	16-1-2-068	B.Tech	ME	04-05 Jan 19	Hyderabad	Aerodynamics of a car on a curved track
Mohammad Azharuddin Laskar	15-3-04-107	PhD	ECE	19-22 Sept 18	Bangalore	complementing the DTW based speaker verification systems with knowledge of specific regions of interest
Chuya China (Bhanja)	14-3-04-102	PhD	ECE	19-22 Sept 18	Bangalore	Deep residual networks for pre classification based language identification of indian languages
Subhajit Das	17-3-06-102	PhD	EIE	19-20 Jan 2019	West Bengal	A study on reversible image watermarking using Xilinx generator
Chinmaya Behera	15-3-03-128	PhD	EE	18-21 Dec 18	IIT Madras	Voltage sag mitigation using distributed generation for An industrial distribution system
Soumyabrata Das	15-3-03-118	PhD	EE	16-18 Dec 18	Coimbatore	A Probabilistic load flow with uncertain load using point estimate method
Amar Kumar Barik	15-3-03-103	PhD	EE	16-18 Dec 18	Coimbatore	Optimal load frequency regulation of bio renewable cogeneration based interconnected hybrid microgrids with demand response support
Tankeshwar Prasad	14-3-02-112	PhD	ME	25-28 Feb 19	IIT (BHU)	Reinforcing effect of imidazolemodifiednanosilica on thermal and mechanical properties of anhydride based epoxy system
Bappa Mondal	16-3-02-106	PhD	ME	10-12 Dec 18	IIT Bombay	Effect on confluence angle between inlets on the mixing characteristics in microchannel
Tanmoy Loha	17-22-208	M.Tech	ME	25-28 Feb 19	IIT (BHU)	Stochastic nonlocal fundamentals frequencies of single walled carbon nanorod An artifical neural network approach
Ekta Tripathi	18-3-02-120	PhD	ME	14-15 Dec 18	Pandharpur	Design and Computational analysis of spiral microchannel for mixing of fluids
HMSM Mazarbhuiya	15-3-02-119	PhD	ME	05-06 Dec 18	Telangana	Experimental investigation on the performance of varying thickness H-Darrieus rotor

Virendra Kumar	17-22-102	M.Tech	ME	05-06 Dec 18	Telangana	A numerical investigation on the performance of finned tube heat exchange having alternate arrangements of flat & circular tubes
Ajit Kumar	17-22-117	M.Tech	ME	10-12 Dec 18	IIT Bombay	Numerical analysis of thermo Hydraulic transport characteristics in wavy channel with porous wavy slab
Dipankar Saha	16-03-22-101	PhD	Maths	23-25 Nov 18	IIT Kharagpur	Investigation of solution of a function integral equation arising in the study of epidemic model
Khem Prosad Sharma	16-3-05-103	PhD	CSE	14-15 Dec 18	NIT Agartala	Network function virtualization : A VNF chaining perspective
Sujit Kumar Das	18-3-05-103	PhD	CSE	14-15 Dec 18	NIT Agartala	Automatic diabetes prediction using tree based ensemble learners
Emon Barua	15-3-02-121	PhD	ME	24-28 July 18	VIT Vellore	Effect of pretreatment & calcination process on micro structural & physico chemical properties of hydroxyapatite derived from chicken bone bio waste
Amiya Dey	16-3-04-102	PhD	ECE	27-28 July 18	Bhubaneswar	Spatial estimation of signals in non-overlapping time for ULA Antenna based six user DS CDMA
Siddhant Mohapatra	15-1-2-075	B.Tech	ME	08-10 Dec 18	Shillong	A numerical study on microchannel cooling for photo voltaic cells

## AWARDS AND ACHIEVEMENTS

- NIT Silchar has secured 51<sup>st</sup> position amongst all the engineering universities in India as per NIRF 2018 data. It is also the 10<sup>th</sup> amongst all the NITs as per the same ranking, with a score of 43.09.

Below is a comprehensive list of the awards and achievements of the NITS student fraternity, 2018-19.

### **Achievement of Students of NIT Silchar in Sports, Cultural and Technical activities during 2018-19.**

SI No.	Name of the Students	Name of the Event	Position	Place
1.	a. Ridon Prasad Kakoti b. Amrish Kumar Gautam c. Golam Zoheb Hasan d. Kadiyapu LKC Samhith	All India Inter NIT Tournament (Table Tennis)	Champion	VNIT Nagpur
2.	a. Bikash Nath b. Amit Kumar c. Ashish Kumar Thakur d. Bishal Kahar e. S. Bharat f. Asfaque Laskar	All India Sports Meet SPARDHA 2018 (Cricket)	3 <sup>rd</sup> Position	IIT BHU

	g. Yash Banthia h. Mahendra Singh Pharswan i. Bhakarananda Boro j. Kiran Naik k. Debotosh Nath l. Ansaar Khan m. Aravind Kumar Reddy n. Omkesh Tripathi o. Rakesh Verma p. Manoj Vakkala			
3.	Raushan Raj	Spring Fest (Rangoli Competition)	2 <sup>nd</sup> Position	IIT KGP
4.	a. Sabuj Saikia b. Dhiman Seal	Techno Cultural Fest (Eminence Robotics)	1 <sup>st</sup> Position	NIT PATNA
5.	Arpit Singh kurmi	E Summit in the North East UDGM,IITG	2 <sup>nd</sup> Position	IIT GUWAHATI
6.	a. Aman Baruah Das b. Eeshan Dutta c. Snehal Nayan d. Abhilash Borgohain	All India Inter NIT Tournament (Lawn Tennis)	4 <sup>th</sup> Position	NIT SURATHKAL
7.	a. Apoorv Singh b. Shubham Kumar Ahir c. Rezaul Hussain d. Udit Pathak e. Prateek Chand	Inter NIT E Summit Pitching Competition (Edports) Rap it Out (Debate Competition) Business Model Canvas Competition	2 <sup>nd</sup> Position 2 <sup>nd</sup> Position 3 <sup>rd</sup> Position	NIT AGARTALA
8.	Trivendrum	National Karate Open Championship 2018	1 <sup>st</sup> Position	PUNE
9.	a. Mukund Kumar b. S.L.D. Saran	Zonal Karate Championship	2 <sup>nd</sup> Position 3 <sup>rd</sup> Position	DIPHU
10.	a. Ridon Prasad Kakoti and Golam Zoheb Hasan b. Golam Zoheb Hasan	Barak Valley Table Tennis Competition	2 <sup>nd</sup> Position Runner Up	Indian Club Silchar
11.	Manish Vpadhyaya Nazimul Hoque Mairing Tenn Hoijai Tukan Dutta Tapan Saikia	GUIST Hackathon	2 <sup>nd</sup> Position	GUIST, Guwahati



# Glimpses of Annual Activities



*Annual Sports*



*Annual Sports Day 2019*



*Ekta Daur*



*Ekta Daur*



*Rangoli*



*Gymkhana UG Freshers meet, 2018*





*Gymkhana UG Freshers meet, 2018*



*Gymkhana UG Freshers meet, 2018*



*Hindi Diwas, 2018*



*Homage to Pulwama heroes*



*Candle march to pay homage to our Pulwama heroes*



*Homage to Pulwama heroes*





*Incandescence 2019*



*Independence day celebration through plantation*



*Independence day 2018*



*Independence day 2018*



*Independence day 2018*



*Blood donation camp on Independence day*





*Orientation programme, 2018*



*Rabindra Jayanti 2018*



*Republic Day 2019*



*Republic Day 2019*



*Foundation Day 2018*



*Foundation Day 2018*

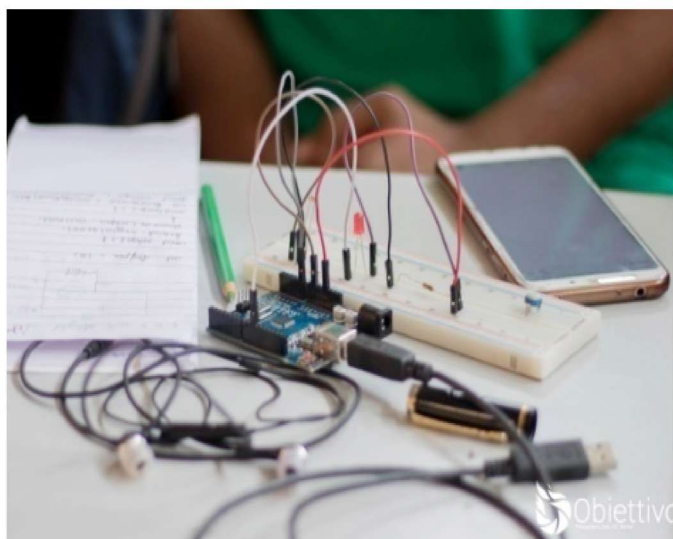




*Anveshan 2019*



*Bihu, Lohri 2019*



*Hackathon 2019*



*International Yoga Day 2018*



*Industry-academia workshop*



*International Yoga day*





*IEEE-WEE student workshop*



*Advanced computing networking workshop*



*Induction programme*



*Art Exhibition*



*Faculty Development Programme, 2019*



*Fit India Movement*





*7th IYGECE -19*



*Blood donation camp*



*Swachhta Pakhwada to Local village school*



*Plastic free campus*



*Cleaning lake water under Swachhta mission*



*Plantation*



## *Eco-Club activities*



*Tree plantation*



*Activity under Ecoclub*



*Tree plantation*



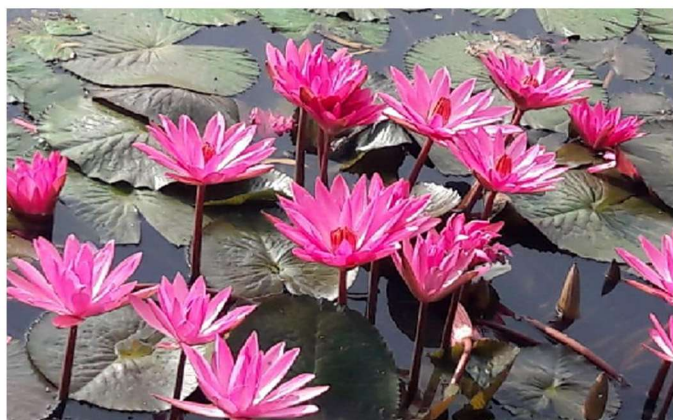
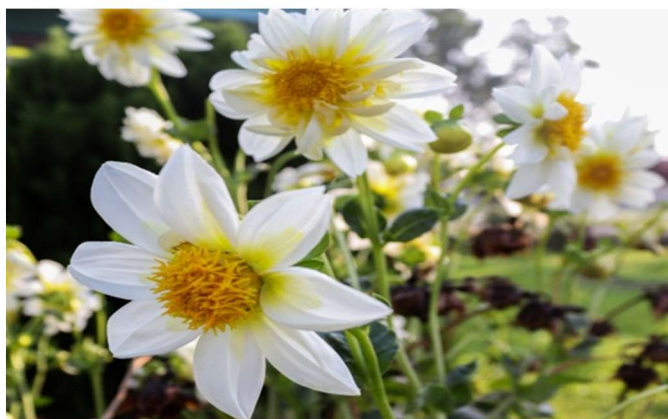
*Tree plantation*



*Swachchata Pakhwada*

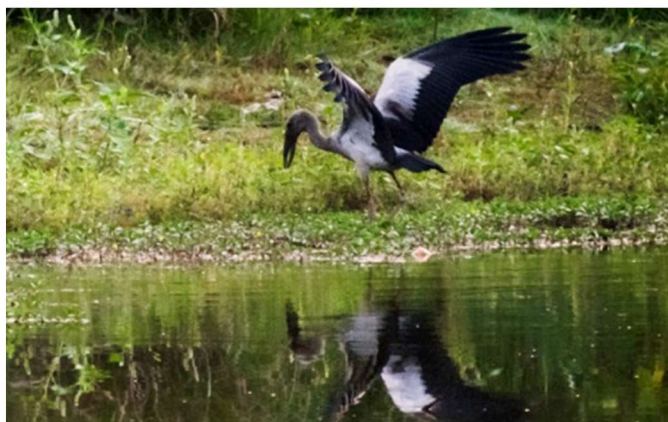


## *Flowers in the Campus*





## *Birds in the Campus*





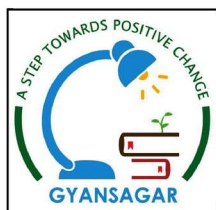
# Corporate Social Responsibility

In spite of numerous hurdles, the devotion towards serving the society at large has remained firm for the Institute and can be understood by the various developmental activities carried under the flagship of Corporate Social

**Responsibility.** The Institute has undertaken various measures to improve the socio-economic conditions of the nearby villages and North-eastern region at large. Certain contributions of the Institute towards social development are listed below:

## Contribution to Social Development

- **Adoption of border villages to develop these as Model villages:** The institute has adopted numerous villages from its surroundings in order to turn it into a model of development for the rest of the region. Priorities like transportation, education, health & family welfare, drinking water, power (including non-conventional energy), information technology etc. has been identified and worked upon. To sensitize local village people on health issues, the Institute's Health Centre and its staff have organized various health camps and blood donation camps in and around villages and remote areas of Cachar district.
- **Kendriya Vidyalaya NIT, Silchar:** KV NITS has been a long cherished desire of the people of Silchar; but it would have remained a distant dream until it was materialized on 21.04. 2012 by signing the MOU with KVS. It is a project sector school under institute of Higher Learning.
- **NITS-KIDS School:** The Institute has established a Kids School in its campus for imparting lower primary education with a minimal course fee to the children of nearby areas.
- **Telemedicine:** The Institute has taken effective measures to begin telemedicine program in order to flourish a healthy society. It works in three divisions – Educational outreach, NITS-CIT (NIT Silchar Certification in Information Technology) and Awareness & Projects.



## Gyansagar - A Social Wing of NIT SILCHAR





Gyansagar is a social service wing of NIT Silchar, volunteered by the students of institute which is encouraged and approved by Prof. Sivaji Bandyopadhyay, Director of NIT Silchar. Since last many years, Gyansagar has put its effort towards the development of the society. The development is in terms of general education, IT education, health awareness, job-opportunity awareness, exploring the inherent qualities of kids in villages, etc. Gyansagar was started in the year 2009 by a group of students led by Mr. Aditya Choudhary, an electrical engineering 2012 passout student from NITS. Since then, it has taken huge leaps to become a social organization which benefits the nearby villages and communities near NIT Silchar. It had been headed by the dynamic leadership of Prof. (Dr) A. K. Sil, Professor, Department of Chemistry, NIT Silchar, since its establishment. During the month of September, 2013, the headship was handed over to Dr Kedar Nath Das, Assistant Professor, Department of Mathematics, NIT Silchar. The various activities of Gyansagar are being carried out smoothly due to the consistent effort of the chief student coordinators Mr. Nitish Rajpurohit and Mr Mukesh Swarup. We have now more than 150 registered student volunteers. Undoubtedly, the whole hearted support of the student community of NIT Silchar is highly appreciated.

### **Activities Organized :**

Gyansagar aims at creating a difference in the lives of children and people of nearby villages through quality education, awareness programs and courses that brings them at par with the national level of education. The major activities are listed below.

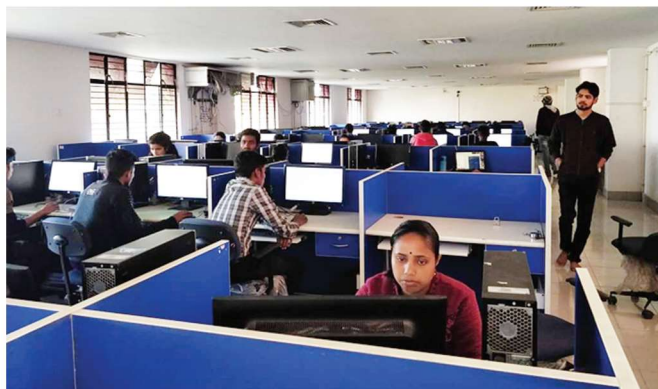
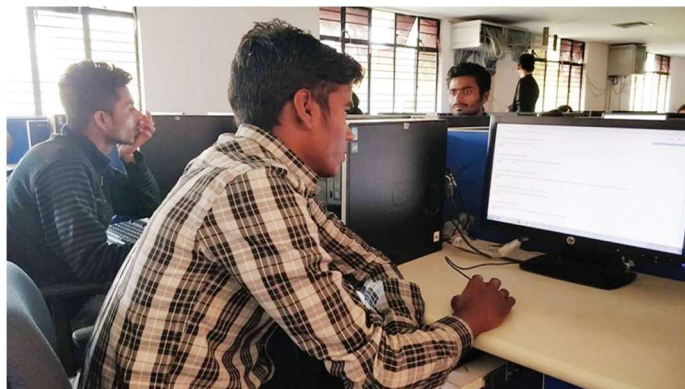
#### **Various Events list under Gyansagar -**

1. NIT CIT - Certification in Information Technology
2. NIT CEA - Certification in Electrical Appliances
3. Cloth Donation
4. Teaching Programmes in various near by schools - Borakhai High School, Valley School etc.
5. Health Camp
6. Science Exhibition.

Out of these, NIT CIT, cloth donation and teaching was carried out last year in full swing, details of which are given below :

#### **NIT CIT - Certification in Information Technology:**

NIT CIT short for NIT Certification in Information Technology is a programme taken up by the Social Wing of NIT SILCHAR GYANSAGAR to impart employment oriented training program to underprivileged students for free. The students are selected on the basis of an exam which is conducted for the 9th pass students of any age group and the top 30 students are selected to take part in the training. Classes are arranged on every Sunday morning from 9-11am. This training offers the students with a chance to learn the basics of operating a computer system to using various softwares like notepad, wordpad, paint etc. This not only gives exposure to the students but also paves a way for the betterment of their future. With the onset of the computer age knowing basic computer operation has become very important every other work involves the use of computer these days which is to say computer careers are in great demand. A test is conducted at the end of the training period and the qualifying students are awarded with a certificate of excellence and others are provided with certificate of participation.





### **Cloth Donation Camp**

Like every year, last year also on 30th November 2018, Gyansagar conducted a Cloth donation camp. In this event student volunteers of Gyansagar, NIT Silchar have visited nearby poor villages like Fakeertilla, Borakhai, Ghumgoor Kuarpur. About 3000 numbers of clothes donated by students, faculty and staff members of NIT Silchar were collected, washed and segregated into various segments like kids, men, ladies. It is just a service to the poorest of the poor people. The happiness reflected among the villages was greatly realized.



***Cloth donation inauguration By Honorable Director Sir***



***Carrying cloths to the distribution site***

### **Teaching Programme**

The teaching programme was conducted on weekends to help the meritorious students who are financially weak to carry on their education and come out with flying colours in their high school. We provided career counseling during the sessions in Borakhai high school, KV NITS and several others. We gathered students from nearby village who couldn't afford getting quality education and gave them the basic education required to take forward their lives in a better way. We also organized workshops regarding menstrual hygiene to help the girls and understand the importance of their physical health as well as mental health.





*Volunteers Teaching Students of nearby Schools*

### **NIT CEA - Certification in Electrical Appliances**

Under this initiative, gyansagar volunteers go to nearby villages and brief them about household's electrical appliances, some appliances are carried during visit to give them practical and reasonable information about appliances. Gyansagar seniors have been already made a book in accordance with households appliances with quite interesting photographs which helps villagers to understand how to use. We also distribute some books for their convenience. In this session NIT-CEA Held on 13/01/2019 on this day around 100 volunteers of gyansagar visited 7 different villages nearby campus.

### **Health Camp**

Health camp is the most prominent initiative of gyansagar and it is greatly appreciated by people and our Honorable director sir. Under this gyansagar provides Doctors for poor people around campus for general health check up. Volunteers also instruct them about health and healthy life and how we can manage this in our own ways. While at the same time Girls volunteers spread awareness between village women's about sanitation and menstrual problems by giving some tips about how to handle it. This event ends with blood donation by volunteers, faculties and any willing ones.

# **ANNUAL ACCOUNTS 2018-19**



**NATIONAL INSTITUTE OF TECHNOLOGY  
SILCHAR**





भारतीय लेखा तथा लेखा-परीक्षा विभाग  
महा निदेशक, लेखा-परीक्षा का कार्यालय,  
केन्द्रीय, कोलकाता

**INDIAN AUDIT AND ACCOUNTS DEPARTMENT  
OFFICE OF THE DIRECTOR GENERAL OF AUDIT,  
CENTRAL, KOLKATA.**

No: OA II (AB)/AR/2018-19/NIT SILCHAR / 553

Date: 11-03-2020

A copy of the Separate Audit Report, alongwith Annexure, on the accounts of the **National Institute of Technology, Silchar**, for the financial year 2018-19, is forwarded to the **Director, National Institute of Technology, Silchar, Assam-788010**, for information and necessary action.

Arrangement may please be made for preparation of Hindi Version of the Separate Audit Report, with Annexure, at your end, and sending the same directly to the Ministry.

It may please be ensured that the Audited Accounts and the Separate Audit Report, along with Annexure, are placed before the apex body, for consideration and adoption, before the same are sent to the Government for being placed in Parliament.

Two copies of the printed Annual Report, for the financial year 2018-19 (both English and Hindi Version), containing the Audited Accounts and the Separate Audit Report, along with Annexure, as laid before the Parliament, may please be forwarded to this Office, for necessary action at this end.

**Encl.:** As stated

**Dy. Director (Inspection)**



**Separate Audit Report of the Comptroller & Auditor General of India on the Accounts of the National Institute of Technology, Silchar, for the financial year ended 31 March 2019.**

We have audited the attached Balance Sheet of the National Institute of Technology, Silchar, Assam, as at 31 March 2019, the Income and Expenditure Account and Receipts and Payments Account for the year ended on that date, under Section-19(2) of the Comptroller and Auditor General's (Duties, Power and Conditions of Service) Act, 1971, read with Section 22(2) of the National Institute of Technology Act, 2007. These financial statements are the responsibility of the Institute's management. Our responsibility is to express an opinion on these financial statements based on our audit.

2. This Separate Audit Report contains the comments of the Comptroller and Auditor General of India (CAG) on the accounting treatment only, with regard to classification, conformity with the best accounting practices, accounting standards and disclosure norms etc. Audit observations on financial transactions, in regard to compliance with extant Laws, Rules & Regulations (i.e Propriety and Regularity aspects) and efficiency-cum-performance aspects etc, if any, are reported through Inspection Reports/CAG's Audit Reports separately.

3. We have conducted our audit in accordance with the Auditing Standards generally accepted in India. These standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatements. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by the management, as well as evaluating the overall presentation of financial statements. We believe that our audit provides a reasonable basis for our opinion.

4. Based on our audit, we report that:

- i. We have obtained all the information and explanations, which, to the best of our knowledge and belief, were necessary for the purpose of our audit;
- ii. The Balance Sheet and Income and Expenditure Account/Receipt and Payment Account, dealt with by this report, have been drawn up in terms of the Format of Accounts prescribed by the Ministry of Human Resource Development, Government of India, vide order No. 29-4/2012-FD dated 17 April 2015.
- iii. In our opinion, proper books of accounts and other relevant records have been maintained by the National Institute of Technology, Silchar, as required under Section - 22(2) of the NIT Act, 2007, insofar as it appears from our examination of books.
- iv. We further report that:

### **Comments on Accounts**

#### **A. Balance Sheet**

##### **1.1 Liabilities**

##### **1.1.1 Corpus/ Capital Fund (Schedule-1): ₹519.62 crore**

Although the Institute has a fund named 'Corpus Fund', shown under the 'Earmarked Funds' (Schedule-2), in contravention of the MHRD guidelines, it did not name Schedule-1 (i.e. 'Corpus/ Capital Fund') as 'Capital Fund'. Further, the Excess of Income over Expenditure, amounting to ₹17.22 crore, was transferred to the said 'Corpus Fund' (under the 'Earmarked Funds'), instead of being transferred to the 'Capital Fund'. This has resulted in understatement of the 'Capital Fund' (Schedule-1) and overstatement of 'Earmarked Funds' (Schedule-2) by ₹17.22 crore.

##### **1.1.2 Designated/Earmarked/Endowment Fund (Schedule-2): ₹106.01 crore**

The above head was understated by ₹20.41 lakh due to non-inclusion of six 'Earmarked and Endowment Funds' balances. Instead, the balances were shown under

Current Liabilities, resulting in overstatement of 'Current Liabilities and Provisions' (Schedule-3) by ₹20.41 lakh.

## **1.2 Assets**

### **1.2.1 Fixed Assets (Schedule-4): ₹534.90 crore**

During the financial year 2018-19, the Institute included 'Fixed Assets' of ₹19.92 crore created out of the closed sponsored project 'Technical Education Quality Improvement Programme - I & II' and showed it under 'Current Liabilities and Provisions' (Schedule-3), instead of separately disclosing in the Notes on Accounts, even though the ownership of these assets had not been transferred to the Institute. This has resulted in overstatement of 'Fixed Assets' (Schedule-4), as well as 'Current Liabilities', by ₹19.92 crore.

### **1.2.2 Loans, Advances & Deposits (Schedule-8) ₹14.96 crore**

The above head was understated by ₹50.48 lakh, as the Institute deposited ₹33.64 lakh during the financial year 2015-16 and ₹16.84 lakh, during the financial year 2018-19, to the Assam Power Distribution Company Limited, against security deposit, but these amounts were included under the head 'Current Liability (Deposits)', as discharge of liability, during the financial years 2015-16 and 2018-19 respectively, resulting in understatement of 'Current Liabilities' by ₹50.48 lakh.

## **B. Income & Expenditure Account**

### **2.1 Expenditure**

#### **2.1.1 Depreciation (Schedule-4): ₹28.10 crore**

The above head was understated by ₹38.06 lakh due to the following:

- i) Depreciation was undercharged by ₹10.37 lakh, as expenditure of ₹29.91 lakh was made for purchase of Software but booked under the head 'Lab Equipment'.
- ii) Depreciation was undercharged by ₹15.57 lakh, as expenditure of ₹80.14 was made for purchase of Computer/Workstation but booked under other different heads.



- iii) Depreciation was undercharged by ₹7.98 lakh, as expenditure of ₹19.94 lakh was made for purchase of 'Software' but the amount was booked under the head 'E-Books'.
- iv) Depreciation was undercharged by ₹4.14 lakh, as addition of ₹41.33 lakh was made under 'books' during the year, instead of showing the same under 'E-books'.

This has resulted in overstatement of Excess of Income over Expenditure by ₹38.06 lakh.

### **C. General**

**3.1** Despite mention in the previous year's audit report, the Institute did not take any corrective measures in the following cases:

- a) It was using the written down value method for charging depreciation, in violation of the format prescribed by the MHRD.
- b) It had paid ₹8.90 crore to daily wages / casual labourers, but booked the same under 'Staff Payments & Benefits (Establishment Expenses)' (Schedule-15), instead of booking it under 'Administrative & General Expenses' (Schedule-17), in violation of the MHRD guidelines.
- c) In violation of the MHRD guidelines, the Institute did not separately exhibit details of caution money refundable to students, during the next 12 months from the Balance Sheet date, for existing students, as well as ex-students.
- d) Nomenclature of the 'Depreciation Fund', exhibited in Schedule-2, did not match with its nature. The Institute had been maintaining this fund as an 'Endowment Fund' (funded with 20 *per cent* share of the Development Fee), without any defined purpose.
- e) The accounting policy of the Institute stated that retirement benefits are paid on actual basis. This was not in conformity with the MHRD guidelines, which require that the liability of retirement benefits should be provided for on actuarial basis.

**3.2** As at the end of March 2019, an amount of ₹48.97 lakh was yet to be transferred to NSDL, in respect of the NPS Account. Action needs to be taken to transfer the amount to NSDL.

**3.3** An amount of ₹15.61 lakh has been lying under 'receivables' against the 'Start-Up India' Project for more than one year. Action needs to be taken to recover the amount.

**3.4** There was understatement of 'E-Books' by ₹21.39 lakh due to the following:

The head 'E-Books' was understated by ₹41.33 lakh as the expenditure has been booked under the head 'Library Books & Scientific Journals', instead of 'E-Books'. Thus 'Library Books & Scientific Journals' was overstated by ₹41.33 lakh. Further, the head 'E-Books' was overstated due to booking of software of ₹19.94 lakh under the head 'E-Books', implying that the head 'software' was understated by ₹19.94 lakh.

**3.5** The Institute could not credit interest earned on balances under different Earmarked Funds, to the respective funds, due to non-maintenance of separate bank accounts, even though this was prescribed under the MHRD guidelines. The Institute has taken the interest earned as the income of the Institute. As a result, balances under different Earmarked Funds are understated to the extent of interest earned.

#### **D. Grants-in-Aid**

The Institute is mainly financed by grants from Government of India. For the financial year 2018-19, it received an amount of ₹88.04 crore (Revenue-₹81.37 crore and Capital-₹6.67 crore). Further, it had an opening balance of ₹68.81 crore (Revenue-17.40 crore and Capital-51.41 crore, including ₹1.38 crore of refund written back) from the previous financial year's unspent grant. Out of the total available grant of ₹156.85 crore, it spent ₹101.85 crore (Revenue-₹74.89 crore and Capital-₹26.96 crore), resulting in an unspent balance of ₹55 crore.

### **E. Net Effect**

The net effect of the comments given in the preceding paragraphs is that the Assets and Liabilities were overstated by ₹19.42 crore, as at 31 March 2019, and the Excess of Income over Expenditure was overstated by ₹38.06 lakh, for the year ended 31 March 2019.

### **F. Management Letter:**

Deficiencies which have not been included in the Audit Report have been brought to the notice of the Director, National Institute of Technology, Silchar, through a management letter, issued separately, for remedial/corrective action.


v. Subject to our observations in the preceding paragraphs, we report that the Balance Sheet, Income and Expenditure Account and Receipts and Payments Account, dealt with by this report, are in agreement with the books of accounts.

vi. In our opinion, and to the best of our information, and to the explanations given to us, the said financial statements, read together with the Accounting Policies and Notes on Accounts, and subject to the significant matters stated above and other matters mentioned in the Annexure to this Audit Report, give a true and fair view, in conformity with accounting principles generally accepted in India:

- a. insofar as it relates to the Balance Sheet, of the state of affairs of the National Institute of Technology, Silchar, as at 31 March 2019, and
- b. insofar as it relates to the Income and Expenditure Account of the surplus, for the year ended on that date.

**For and on behalf of the C&AG of India**

**Place:-Kolkata**  
**Date:- 11.03.2020**

  
**(Deepak Narain)**  
**Director General of Audit**  
**Central :: Kolkata**



## **Annexure**

### **1. Adequacy of Internal Audit System**

The Internal Audit System is inadequate due to the following:

- i. There is no Internal Audit wing of the Institute, with only one Internal Audit Officer having been appointed on contractual basis.
- ii. The Institute has not formulated an Internal Audit Manual.
- iii. It has not conducted any Internal Audit.

### **2. Adequacy of Internal Control System**

The Internal Control System of the Institute is not adequate in the following areas:

- i. It does not have its own Accounting Manual.
- ii. There is no internal management reporting system/ MIS (Management Information System).
- iii. All disbursements are not being made by means of cheques. Further, payments to the Contractors are not being made through PFMS.
- iv. No security deposits or fidelity guarantees are being obtained in respect of employees handling valuables, such as cash and stock.

### **C. System of Physical Verification of Assets**

The Institute did not maintain any Fixed Asset Register as per the format of GFR-22 (2017). It also did not maintain a Fixed Assets Register for sponsored projects. Moreover, physical verification of library books and journals has also not been conducted since the financial year 2014-15.

### **D. Statutory Liabilities**

The Institute was regular in payment of its Statutory Dues.



भारतीय लेखा तथा लेखा-परीक्षा विभाग  
महा निदेशक, लेखा-परीक्षा का कार्यालय,  
केन्द्रीय, कोलकाता

**INDIAN AUDIT AND ACCOUNTS DEPARTMENT  
OFFICE OF THE DIRECTOR GENERAL OF AUDIT,  
CENTRAL, KOLKATA.**

No: OA II (AB)/AR/2018-19/NIT SILCHAR/552

Date: 11-03-2020

To  
The Secretary,  
Ministry of Human Resource Development,  
Government of India,  
Department of Higher Education,  
Shastri Bhawan, New Delhi,  
New Delhi - 110001

**Subject:** Separate Audit Report on the accounts of the **National Institute of Technology, Silchar, Assam**, for the financial year **2018-19**.

Sir,

I am to forward herewith the Separate Audit Report, in the prescribed format, on the accounts of the **National Institute of Technology, Silchar, Assam**, for the financial year 2018-19. A copy of the annual accounts of the organisation, for the financial year 2018-19, is also enclosed.

- Two copies of the Separate Audit Report (both English and Hindi Version), as presented before the Parliament, may please be forwarded to this office, for necessary action at this end.
- The dates of laying of the audited accounts and the Separate Audit Report, for the financial year 2018-19, on the Tables of both the Houses of Parliament, may also please be communicated to this office.

Yours faithfully,

*Deepak Narain*

(Deepak Narain)  
Director General of Audit  
Central: Kolkata

Encl.: As stated

**NATIONAL INSTITUTE OF TECHNOLOGY SILCHAR**  
**BALANCE SHEET AS AT 31ST MARCH 2019**

		<i>Amount in Rupees</i>	
SOURCES OF FUND	SCHEDULE	CURRENT YEAR	PREVIOUS YEAR
CORPUS / CAPITAL FUND	1	5,19,61,64,882	5,22,13,39,119
DESIGNATED / EARMARKED / ENDOWMENT FUNDS	2	1,06,01,93,725	84,56,52,184
CURRENT LIABILITIES & PROVISIONS	3	1,07,06,39,797	1,34,20,07,009
<b>TOTAL</b>		<b>7,32,69,98,403</b>	<b>7,40,89,98,313</b>

APPLICATION OF FUNDS	SCHEDULE	CURRENT YEAR	PREVIOUS YEAR
<b>FIXED ASSETS</b>			
Tangible Assets		5,29,27,39,609	4,16,31,70,610
Intangible Assets	4	5,04,40,771	2,94,01,694
Capital Works-In-Progress		58,28,591	1,16,77,78,989
INVESTMENTS FROM EARMARKED / ENDOWMENT FUNDS	5	50,40,00,000	35,41,44,573
INVESTMENTS - OTHERS	6	51,15,82,451	1,64,83,451
CURRENT ASSETS	7	81,28,20,389	1,45,46,41,974
LOANS, ADVANCES & DEPOSITS	8	14,95,86,593	22,33,77,021
<b>TOTAL</b>		<b>7,32,69,98,403</b>	<b>7,40,89,98,313</b>

SIGNIFICANT ACCOUNTING POLICIES

CONTINGENT LIABILITIES AND NOTES TO ACCOUNTS

Dated, Silchar  
The 18th September 2019

**Registrar**

**Director**

Annual Accounts 2018-19

**NATIONAL INSTITUTE OF TECHNOLOGY SILCHAR**  
**INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH 2019**

		<i>Amount in Rupees</i>	
PARTICULARS	SCHEDULE	CURRENT YEAR	PREVIOUS YEAR
<b>INCOME</b>			
Academic Receipts	9	19,70,62,870	20,22,48,833
Grants /Subsidies	10	74,89,49,625	61,74,25,649
Income from Investment	11	3,43,715	4,04,375
Interest Earned	12	8,81,78,938	70,07,198
Other Income	13	32,66,02,533	30,27,52,950
Prior Period Income	14	-	-
<b>TOTAL (A)</b>		<b>1,36,11,37,681</b>	<b>1,12,98,39,004</b>
<b>APPLICATION OF FUNDS</b>			
<b>EXPENDITURE</b>			
Staff Payment & Benefits (Establishment Expenses)	15	62,55,74,039	54,42,21,101
Academic Expenses	16	15,71,41,430	12,64,25,156
Administrative and General Expenses	17	5,70,25,160	6,19,77,902
Transportation Expenses	18	29,32,368	24,02,370
Repairs & Maintenance	19	3,14,55,978	1,87,52,148
Finance Costs	20	-	-
Depreciation	4	28,10,04,390	25,02,39,808
Other Expenses	21	3,37,77,000	3,32,33,851
Prior Period Expenses	22	-	-
<b>TOTAL (B)</b>		<b>1,18,89,10,365</b>	<b>1,03,72,52,335</b>
<b>Balance being excess of Income over Expenditure (A-B)</b>		<b>17,22,27,316</b>	<b>9,25,86,669</b>
Transferred to Corpus Fund		17,22,27,316	9,25,86,669
Building Fund		-	-
Others (specify)		-	-
<b>Balance Being Surplus / (deficit) Carried to Capital Fund</b>			
SIGNIFICANT ACCOUNTING POLICIES	23		
CONTINGENT LIABILITIES AND NOTES TO ACCOUNTS	24		

Dated, Silchar  
The 18th September 2019

**Registrar**

**Director**

**NATIONAL INSTITUTE OF TECHNOLOGY SILCHAR**  
**SCHEDULE FORMING PART OF BALANCE SHEET AS AT 31ST MARCH 2019**  
**SCHEDULE - 1 : CORPUS / CAPITAL FUND**

Amount in Rupees		
	Particulars	PREVIOUS YEAR
A.	<b>CAPITAL FUND : Balance at the beginning of the year</b>	<b>5,14,51,24,685</b>
Less:	Reappropriation of Capital Fund of earlier year against refund to Ministry (as per Audit Comment)	-
Less:	Excess of Expenditure over Income transferred from Income & Exp A/C	-
Less:	Depreciation on Capital Assets	25,02,39,808
	<b>Total</b>	<b>4,89,48,84,877</b>
Add:	Grants from Govt. of India to the extent utilized for Capital expenditure	<b>31,19,77,753</b>
Add:	Reappropriation of Capital Fund of earlier year against refund to Ministry	<b>1,37,84,185</b>
Add:	Unclaimed Liability W/off	<b>6,92,304</b>
	<b>BALANCE AT THE YEAR END</b>	<b>5,22,13,39,119</b>



**NATIONAL INSTITUTE OF TECHNOLOGY SILCHAR**  
**SCHEDULE FORMING PART OF BALANCE SHEET AS AT 31ST MARCH 2019**  
**SCHEDULE - 2 : DESIGNATED / EARMARKED / ENDOWMENT FUNDS**

Particulars	Fund wise Breakup					Total	
	Pension Fund	Depreciation Fund	Maintenance Fund	Staff Dev. Fund	Student Welfare Fund	Current Year	Previous Year
	Amount in Rupees						
<b>(1): A.</b>							
a) Opening Balance	-	16,79,05,542	16,57,76,865	1,73,41,191	5,58,512	35,15,82,110	32,78,76,621
b) Additions during the year	1,32,33,549	6,34,940	-	6,34,940	1,49,605	1,46,53,034	2,49,64,174
c) Income from Investments made of the funds	-	70,88,014	58,57,468	6,28,937	-	1,35,74,419	-
d) Accrued Interest on Investments	-	-	-	-	-	-	2,19,76,225
e) Interest on Savings Bank a/c.	-	73,962	1,24,336	87,955	-	2,86,253	1,23,541
f) Others additions: Sweeping Interest received	-	8,51,181	3,81,613	-	-	12,32,794	-
<b>Total (A)</b>	<b>1,32,33,549</b>	<b>17,65,53,639</b>	<b>17,21,40,282</b>	<b>1,86,93,023</b>	<b>7,08,117</b>	<b>38,13,28,610</b>	<b>37,49,40,561</b>
<b>B : Utilization / Expenditure towards objective of funds</b>							
i) Capital Expenditure							-
ii) Revenue Expenditure	1,32,33,549	-	-	-	-	1,32,33,549	2,33,58,451
iii) Temporary loan to Institute	-	-	-	-	-	-	-
<b>Total (B)</b>	<b>1,32,33,549</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>1,32,33,549</b>	<b>2,33,58,451</b>
<b>Closing balance at the year end (1) (A-B)</b>	<b>-</b>	<b>17,65,53,639</b>	<b>17,21,40,282</b>	<b>1,86,93,023</b>	<b>7,08,117</b>	<b>36,80,95,061</b>	<b>35,15,82,110</b>
<b>Represented by</b>							
Cash and Bank Balances	-	5,30,26,564	5,08,27,730	2,28,202	-	10,40,82,496	1,09,58,669
Investment	-	12,00,00,000	12,00,00,000	1,60,00,000	-	25,60,00,000	24,82,33,863
Interest accrued but not due	-	-	-	-	-	-	8,61,89,029
TDS Receivable	-	11,22,787	12,40,728	1,80,240	-	25,43,755	21,51,224
Balance lying with Institute A/c	-	24,04,288	71,824	22,84,581	6,68,117	54,28,810	40,49,325
<b>Total</b>	<b>-</b>	<b>17,65,53,639</b>	<b>17,21,40,282</b>	<b>1,86,93,023</b>	<b>6,68,117</b>	<b>36,80,55,061</b>	<b>35,15,82,110</b>



**NATIONAL INSTITUTE OF TECHNOLOGY SILCHAR**  
**SCHEDULE FORMING PART OF BALANCE SHEET AS AT 31ST MARCH 2019**

**SCHEDULE - 2 : DESIGNATED / EARMARKED / ENDOWMENT FUNDS**

*Amount in Rupees*

Particulars	Fund wise Breakup					Total	
	Instt. Dev. Fund	Employees Welfare Fund	Deptt. Promotion	Virtual Class Room	NMEICT Fund	Current Year	Previous Year
<b>(2) : A.</b>							
a) Opening Balance	23,34,039	5,53,511	23,34,039	1,91,656	1,67,419	55,80,664	4953156
b) Additions during the year	5,98,416	1,91,791	5,98,416	-	21,552	14,10,175	679073
c) Income from Investments made of the funds	-	-	-	-	-	-	-
d) Accrued Interest on Investments/Advances	-	-	-	-	-	-	-
e) Interest on Savings Bank a/c.	-	-	-	-	-	-	-
f) Other additions (specify nature)	-	-	-	-	-	-	-
<b>Total (A)</b>	<b>29,32,455</b>	<b>7,45,302</b>	<b>29,32,455</b>	<b>1,91,656</b>	<b>1,88,971</b>	<b>69,90,839</b>	<b>56,32,229</b>
<b>B : Utilization /Expenditure towards objective of funds</b>							
i) Capital Expenditure	-	-	-	-	-	-	-
ii) Revenue Expenditure	-	1,76,117	-	-	46,551	2,22,668	51,565
<b>Total (B)</b>	<b>-</b>	<b>1,76,117</b>	<b>-</b>	<b>-</b>	<b>46,551</b>	<b>2,22,668</b>	<b>51,565</b>
<b>Closing balance at the year end (2): (A-B)</b>	<b>29,32,455</b>	<b>5,69,185</b>	<b>29,32,455</b>	<b>1,91,656</b>	<b>1,42,420</b>	<b>67,68,171</b>	<b>55,80,664</b>
Represented by							
Cash and Bank Balances	-	-	-	-	-	-	-
Investment	-	-	-	-	-	-	-
Interest accrued but not due	-	-	-	-	-	-	-
Balance lying with Institute A/c	29,32,455	5,69,185	29,32,455	1,91,656	1,42,420	67,68,171	55,80,664
<b>Total</b>	<b>29,32,455</b>	<b>5,69,185</b>	<b>29,32,455</b>	<b>1,91,656</b>	<b>1,42,420</b>	<b>67,68,171</b>	<b>55,80,664</b>

**NATIONAL INSTITUTE OF TECHNOLOGY SILCHAR**  
**SCHEDULE FORMING PART OF BALANCE SHEET AS AT 31ST MARCH 2019**  
**SCHEDULE - 2 : DESIGNATED / EARMARKED / ENDOWMENT FUNDS**

*Amount in Rupees*

Particulars	Fund wise Breakup				Total	
	Gratuity Fund	Student Aid Fund	Corpus Fund		Current Year	Previous Year
<b>(3) : A.</b>						
a) Opening Balance	-	46,57,706	48,38,31,704	-	48,84,89,410	38,50,08,713
b) Additions during the year	-	10,75,000	36,02,015	-	46,77,015	41,74,863
c) Income from Investments made of the funds	-	-	86,09,699	-	86,09,699	-
d) Accrued Interest on Investments/Advances	-	-	-	-	-	67,17,186
e) Interest on Savings Bank a/c.	-	-	3,30,451	-	3,30,451	1,979
f) Others additions: Sweeping Interest received	-	-	1,09,96,602	-	1,09,96,602	-
g) Surplus of Income & Expenditure A/c transferred	-	-	17,22,27,316	-	17,22,27,316	9,25,86,669
<b>Total (A)</b>	<b>-</b>	<b>57,32,706</b>	<b>67,95,97,787</b>	<b>-</b>	<b>68,53,30,493</b>	<b>48,84,89,410</b>
<b>B : Utilization / Expenditure towards objective of funds</b>						
i) Capital Expenditure	-	-	-	-	-	-
ii) Revenue Expenditure	-	-	-	-	-	-
iii) Transferred to Corpus Fund	-	-	-	-	-	-
<b>Total (B)</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Closing balance at the year end (3): (A-B)</b>	<b>-</b>	<b>57,32,706</b>	<b>67,95,97,787</b>	<b>-</b>	<b>68,53,30,493</b>	<b>48,84,89,410</b>
Represented by						
Cash and Bank Balances (Including MOD)	-	-	20,27,726	-	20,27,726	89147315
Investment	-	-	24,80,00,000	-	24,80,00,000	105910710
Interest accrued but not due	-	-	-	-	-	35156492
TDS Receivable	-	-	5,85,993	-	5,85,993	462450
Balance lying with Institute A/c	-	57,32,706	42,89,84,068	-	43,47,16,774	257812443
<b>Total</b>	<b>-</b>	<b>57,32,706</b>	<b>67,95,97,787</b>	<b>-</b>	<b>68,53,30,493</b>	<b>48,84,89,410</b>
<b>Closing balance at the year end (1+2+3)</b>	<b>29,32,455</b>	<b>18,28,55,530</b>	<b>85,46,70,524</b>	<b>1,88,84,679</b>	<b>1,06,01,93,725</b>	<b>84,56,52,184</b>

**NATIONAL INSTITUTE OF TECHNOLOGY SILCHAR**  
**SCHEDULE FORMING PART OF BALANCE SHEET AS AT 31ST MARCH 2019**  
**SCHEDULE : 2A : DESIGNATED / EARMARKED / ENDOWMENT FUNDS**

Sl. No.	Name of the Endowment	Opening Balance		Addition during the year		Total		Expenditure on the object during the year	Closing Balance		Total (10+11)
		Endowment	Accumulated Interest	Endowment	Interest	Endowment (3+5)	Accumulated Interest (4+6)		Endowment	Accumulated Interest	
1	2	3	4	5	6	7	8	9	10	11	12
1	Depreciation Fund	12,28,96,020	4,50,09,522	6,34,940	80,13,157	12,35,30,960	5,30,22,679	-	12,35,30,960	5,30,22,679	17,65,53,639
2	Maintenance Fund	11,96,60,204	4,61,16,661	-	63,63,417	11,96,60,204	5,24,80,078	-	11,96,60,204	5,24,80,078	17,21,40,282
3	Staff Dev. Fund	1,26,83,775	46,57,416	6,34,940	7,16,892	1,33,18,715	53,74,308	-	1,33,18,715	53,74,308	1,86,93,023
4	Student Welfare Fund	5,58,512	-	1,09,605	-	6,68,117	-	-	6,68,117	-	6,68,117
5	Insttt. Dev. Fund	23,34,039	-	5,98,416	-	29,32,455	-	-	29,32,455	-	29,32,455
6	Employees Welfare Fund	5,53,511	-	1,91,791	-	7,45,302	-	1,76,117	5,69,185	-	5,69,185
7	Deptt. Promotion Fund	23,34,039	-	5,98,416	-	29,32,455	-	-	29,32,455	-	29,32,455
8	Virtual Class Room	1,91,656	-	-	-	1,91,656	-	-	1,91,656	-	1,91,656
9	NMEICT Fund	1,67,419	-	21,552	-	1,88,971	-	46,551	1,42,420	-	1,42,420
10	Pension Fund	-	-	1,32,33,549	-	1,32,33,549	-	1,32,33,549	-	-	-
11	Student Aid Fund	46,57,706	-	10,75,000	-	57,32,706	-	-	57,32,706	-	57,32,706
12	Corpus Fund	45,09,43,038	3,28,88,666	36,02,015	1,99,36,752	45,45,45,053	5,28,25,418	-	45,45,45,053	5,28,25,418	50,73,70,471
	<b>TOTAL</b>	<b>71,69,79,919</b>	<b>12,86,72,265</b>	<b>2,07,00,224</b>	<b>3,50,30,218</b>	<b>73,76,80,143</b>	<b>16,37,02,483</b>	<b>1,34,56,217</b>	<b>72,42,23,926</b>	<b>16,37,02,483</b>	<b>88,79,26,409</b>

Amount in Rupees

**NATIONAL INSTITUTE OF TECHNOLOGY SILCHAR**  
SCHEDULE FORMING PART OF BALANCE SHEET AS AT 31ST MARCH 2019

**SCHEDULE : 3 : CURRENT LIABILITIES AND PROVISIONS**

PARTICULARS	CURRENT YEAR	PREVIOUS YEAR
<b>A. CURRENT LIABILITIES</b>		
1. Deposits from staff	32,31,871	29,19,205
2. Deposits from Students	3,59,53,926	3,32,96,926
3. <b>Sundry Creditors:</b>		
a) For Goods & Services	1,26,41,747	7,75,21,206
b) Others	-	1,34,21,246
4. Deposits - Others (including EMD, Security Deposit & Project)	1,59,91,832	1,98,20,136
5. Statutory Liabilities (GSLI, P Tax, EPF, CPF)	30,85,335	1,58,033
6. <b>Other Current Liabilities:</b>		
a) Sponsored Project Liability (Including P Tax and others)	23,03,203	14,01,842
b) Receipts against sponsored projects	3,51,30,348	4,49,98,994
c) Receipts against sponsored fellowships & Scholarship	82,71,965	26,23,150
d) <b>Unutilized Grants :-</b>		
Under Non Recurring Grants (OH-35)	31,12,65,070	50,03,95,222
Under Recurring Grants (OH-31)	-	-
Under Recurring Grants (OH-36)	23,87,68,802	17,39,98,427
e) Sponsored Projects (Previous)		5,05,06,759
f) TEQIP PHASE-I	10,31,65,960	10,31,65,960
g) TEQIP PHASE-II	9,60,64,457	9,60,64,457
h) Other funds	5,55,46,732	1,18,27,239
i) Other liabilities	14,92,18,549	20,98,88,208
<b>Total (A)</b>	<b>1,07,06,39,797</b>	<b>1,34,20,07,009</b>
<b>B. PROVISIONS</b>		
1. For Taxation		
2. Gratuity		
3. Superannuation Pension		
4. Others if any		
<b>Total (B)</b>		-
<b>TOTAL (A+B)</b>	<b>1,07,06,39,797</b>	<b>1,34,20,07,009</b>



**NATIONAL INSTITUTE OF TECHNOLOGY SILCHAR**  
**SCHEDULE FORMING PART OF BALANCE SHEET AS AT 31ST MARCH 2019**  
**SCHEDULE : 3A : SPONSORED PROJECTS FUND**

Sl. No.	Name of the Project	Opening Balance		Receipts during the year		Total	Expenditure during the year	Refund to Ministry	Closing Balance	
		Credit	Debit	Grants	Interest/ Other Receipts				Credit	Debit
1	2	3	4	5	6	7	8	9	10	11
A	MCIT, Gol	7,67,232	-	55,22,710	1,91,642	64,81,584	55,01,548	-	9,80,036	-
B	DST, Gol	1,81,33,395	-	94,50,648	4,60,285	2,80,44,328	1,58,27,509	90,473	1,21,26,346	-
C	MINRE, Gol	1,00,664	-	-	11,891	1,12,555	-	-	1,12,555	-
D	MoESc., Gol	25,835	-	-	1,453	27,288	-	-	27,288	-
E	ICSSR	78,406	-	80,000	4,646	1,63,052	1,43,991	-	19,061	-
F	SERB, Gol	1,38,96,038	-	1,31,39,170	15,17,947	2,85,53,155	1,19,69,096	4,75,973	1,61,08,085	-
G	IBM	8,38,717	-	-	99,075	9,37,792	-	-	9,37,792	-
H	AICTE -RPS	12,08,752	-	-	14,557	12,23,309	377	10,62,340	1,60,592	-
I	AICTE -MODROBS	14,75,450	-	-	1,55,898	16,31,348	-	-	16,31,348	-
J	BRNS	12,02,596	-	3,70,854	64,548	16,37,998	13,69,319	-	2,68,679	-
K	NRRDA	32,562	-	-	3,846	36,408	-	-	36,408	-
L	DEITY (incl. Instt share)	16,13,044	-	10,00,000	84,873	26,97,917	10,04,394	10,87,701	6,05,822	-
M	UGC	65,625	-	78,883	3,643	1,48,151	1,48,151	-	-	-
N	CPRI	14,84,614	-	5,60,000	1,16,966	21,61,580	11,35,093	-	10,26,487	-
O	NMHS	20,28,535	-	-	58,134	20,86,669	16,41,557	-	4,45,112	-
P	DDMA	15,43,191	-	-	-	15,43,191	5,350	15,37,841	-	-
Q	CSIR	5,04,338	-	-	40,874	5,45,212	4,26,326	-	1,18,886	-
R	ARDB	-	-	6,47,000	11,657	6,58,657	1,32,806	-	5,25,851	-
<b>TOTAL</b>		<b>4,49,98,994</b>	<b>-</b>	<b>3,08,49,265</b>	<b>28,41,935</b>	<b>7,86,90,194</b>	<b>3,93,05,517</b>	<b>42,54,328</b>	<b>3,51,30,348</b>	<b>-</b>

Amount in Rupees

**NATIONAL INSTITUTE OF TECHNOLOGY SILCHAR**  
**SCHEDULE FORMING PART OF BALANCE SHEET AS AT 31ST MARCH 2019**

**SCHEDULE - 3 (1): SPONSORED PROJECTS FUNDS**

Particulars	Fund wise Breakup								Total	
	M C I T	D S T	M O E S	I C S S R	M N R E	D I E T Y	C P R I	N I M H S Current YB&NS	Previous Year	
<b>(1): A.</b>										
a) Opening Balance	7,67,232	1,81,33,395	25,835	78,406	1,00,664	16,13,044	14,84,614	12,02,596	2,54,34,321	2,37,47,842
b) Additions during the year	55,22,710	94,50,648		80,000		10,00,000	5,60,000	3,70,854	1,69,84,212	92,37,063
c) Interest on Savings Bank a/c.	1,91,642	4,60,285	1,453	4,646	11,891	84,873	1,16,966	64,548	9,94,438	11,40,883
d) Other additions				-	26,200					
e) Loan from Institute					-	83,572				
<b>Total (A)</b>	<b>64,81,584</b>	<b>2,80,44,328</b>	<b>27,288</b>	<b>1,63,052</b>	<b>1,12,555</b>	<b>26,97,917</b>	<b>21,61,580</b>	<b>16,37,998</b>	<b>4,34,12,971</b>	<b>3,42,35,560</b>
<b>B : Utilization /Expenditure towards objective of funds</b>										
<b>i) Capital Expenditure</b>										
Equipment		1,46,08,369				7,91,042	5,77,500		1,81,25,362	17,98,315
Computer				68,846	68,846	-				
Software				-	-					
Furniture				-	96,611					
Other Cost		97,175						97,175		
<b>ii) Revenue Expenditure</b>	55,01,548	11,21,965		1,43,991		2,13,352	5,57,593	4,04,022	83,32,028	64,81,136
iii) Refunded to Ministry		90,473				10,87,701			11,78,174	2,25,177
iv) Refund of Loan to Institute					-	2,00,000				
<b>Total (B)</b>	<b>55,01,548</b>	<b>1,59,17,982</b>	<b>-</b>	<b>1,43,991</b>	<b>-</b>	<b>20,92,095</b>	<b>11,35,093</b>	<b>16,41,557</b>	<b>2,78,01,585</b>	<b>88,01,239</b>
<b>Closing balance at the year end (1) (A-B)</b>	<b>9,80,036</b>	<b>1,21,26,346</b>	<b>27,288</b>	<b>19,061</b>	<b>1,12,555</b>	<b>6,05,822</b>	<b>10,26,487</b>	<b>4,45,112</b>	<b>1,56,11,386</b>	<b>2,54,34,321</b>

Amount in Rupees



**SCHEDULE - 3 (1): SPONSORED PROJECTS FUNDS**

Amount in Rupees

Particulars	Fund wise Breakup									Total	
	AICTE - RPS	AICTE - MODROB	I B M Project	S E R B	NRRDA	UGC	DDMA	CSIR	ARDB	Current Year	Previous Year
(2) : A.											
a) Opening Balance	12,08,752	14,75,450	8,38,717	1,38,96,038	32,562	65,625	15,43,191	5,04,338	-	1,95,64,673	1,76,00,575
b) Additions during the year				1,31,39,170		78,883		6,47,000		1,38,65,053	1,22,37,033
c) Interest on Savings Bank a/c.	14,557	1,55,898	99,075	15,17,947	3,846	3,643		40,874	11,657	18,47,497	10,84,089
d) Other additions (specify nature)											
Total (A)	12,23,309	16,31,348	9,37,792	2,85,53,155	36,408	1,48,151	15,43,191	5,45,212	6,58,657	3,52,77,223	3,09,21,697
B : Utilization /Expenditure towards objective of funds											
i) Capital Expenditure											
Equipment				70,47,418					70,47,418	67,47,104	
Computer				78,500				48,900		1,27,400	-
Software				-	-						
Furniture				-	-						
Books				-	-						
ii) Revenue Expenditure	377			48,43,178		1,48,151	5,350	3,77,426	1,32,806	55,07,288	44,53,193
iii) Refunded to Sanctioning authority	10,62,340			4,75,973			15,37,841			30,76,154	1,56,728
Total (B)	10,62,717	-	-	1,24,45,069	-	1,48,151	15,43,191	4,26,326	1,32,806	1,57,58,260	1,13,57,025
Closing balance at the year end (2): (A-B)	1,60,592	16,31,348	9,37,792	1,61,08,085	36,408	-	-	1,18,886	5,25,851	1,95,18,962	1,95,64,673
Closing balance at the year end (1+2)											
Closing balance at the year end (1+2)	11,40,628	1,37,57,694	9,65,080	1,61,27,146	1,48,963	6,05,822	10,26,487	5,63,998	7,94,530	3,51,30,348	4,49,98,994

**NATIONAL INSTITUTE OF TECHNOLOGY SILCHAR**  
SCHEDULE FORMING PART OF BALANCE SHEET AS AT 31ST MARCH 2019

**SCHEDULE : 3B : SPONSORED FELLOWSHIPS AND SCHOLARSHIPS**

Sl. No.	Name of the Sponsors	Amount in Rupees			
		Opening Balance		Transaction during the year	
		Credit	Debit	Credit	Debit
1	2	3	4	5	6
1	Various Agencies	26,23,150	-	1,15,76,809	59,27,994
	<b>Total</b>	26,23,150	-	1,15,76,809	59,27,994
				82,71,965	-
				82,71,965	-

## NATIONAL INSTITUTE OF TECHNOLOGY, SILCHAR : ASSAM

## SCHEDULE 4 - FIXED ASSETS

Amount in Rupees

S. No	Assets Heads	Gross Block				Depreciation for the Year 2018-19				Net Block	
		Opening Balance as on 01.04.2018	Additions	Deduction	Cl. Balance	Dep Opening Balance	Depreciation for the Year	Deductions/Adjustment	Total Depreciations	31.03.2019	31.03.2018
1	Land	8,66,458	-	-	8,66,458	-	-	-	-	8,66,458	8,66,458
2	Site & Campus Development	6,02,84,627	-	-	6,02,84,627	1,92,33,703	20,52,546	-	2,12,86,249	3,89,98,378	4,10,50,924
3	Buildings	3,96,73,46,300	1,23,96,50,503	-	5,20,69,96,803	67,88,23,216	16,45,93,361	-	84,34,16,577	4,36,35,80,226	3,28,85,23,084
4	Roads & Bridges	7,85,63,211	1,69,05,910	-	9,54,69,121	1,73,73,845	31,47,824	-	2,05,21,669	7,49,47,452	6,11,89,366
5	Tubewells & Water Supply	18,65,06,164	-	-	18,65,06,164	3,91,69,974	73,66,810	-	4,65,36,784	13,99,69,380	14,73,36,190
5a	Sewerage & Drainage	5,84,25,054	11,67,500	-	5,95,92,554	-	29,21,252	-	29,21,252	5,66,71,302	5,84,25,054
6	Electrical Installation & Equipment	3,37,42,524	1,79,71,993	-	5,17,14,517	2,01,26,545	27,55,734	-	2,28,82,279	2,88,32,238	1,36,15,979
7	Plant & Machinery	10,83,90,027	28,56,788	-	11,12,46,815	5,72,07,604	77,35,316	-	6,49,42,920	4,63,03,895	5,11,82,423
8	Scientific & Laboratory Equipment	31,50,54,536	4,87,93,542	-	36,38,48,078	16,81,99,087	2,36,89,802	-	19,18,88,889	17,19,59,189	14,68,55,449
9	Office Equipment	2,07,11,264	2,18,300	-	2,09,29,564	1,18,89,445	13,46,418	-	1,32,35,863	76,93,701	88,21,819
10	Audio Visual Equipment	1,03,58,645	85,900	-	1,04,44,545	51,03,419	7,98,768	-	59,02,187	45,42,358	52,55,226
11	Computers & Peripherals	15,60,61,472	3,17,03,323	-	18,77,64,795	13,07,87,863	91,73,494	-	13,99,61,357	4,78,03,438	2,52,73,609
12	Furniture, Fixtures & Fittings	14,23,72,722	49,45,009	-	14,73,17,731	6,67,98,887	76,23,514	-	7,44,22,401	7,28,95,330	7,55,73,835
13	Vehicles	51,26,107	10,70,893	-	61,97,000	42,74,200	2,55,466	-	45,29,666	16,67,334	8,51,907
14	Lib. Books & Scientific Journals	6,25,91,440	89,05,527	-	7,14,96,967	4,92,92,722	43,21,184	-	5,36,13,906	1,78,83,061	1,32,98,718
15	Other Assets	8,51,61,352	6,20,270	-	8,57,81,622	5,93,41,200	75,44,970	-	6,68,86,170	1,88,95,452	2,58,20,152
Total (A)		5,29,15,61,903	1,37,48,95,458	-	6,66,64,57,362	1,32,76,21,710	24,53,26,460	-	1,57,29,48,170	5,09,35,09,192	3,96,39,40,193
16	Capital Works in Progress (B)	1,16,77,78,989	1,89,85,184	1,18,09,35,582	58,28,591	-	-	-	-	58,28,591	1,16,77,78,989
INTANGIBLE ASSETS :											
17	Computer Software	4,43,38,899	1,92,07,767	-	6,35,46,666	2,39,61,621	45,94,762	-	2,85,56,383	3,49,90,283	2,03,77,278
18	E- Books	87,72,895	63,78,342	-	1,51,51,237	-	-	-	-	1,51,51,237	87,72,895
19	E-Journals	10,61,13,477	3,10,83,168	-	13,71,96,645	10,61,13,477	3,10,83,168	-	13,71,96,645	-	-
20	Patents	2,51,521	47,730	-	2,99,251	-	-	-	-	2,99,251	2,51,521
Total (C)		15,94,76,792	5,67,17,007	-	21,61,93,799	13,00,75,098	3,56,77,930	-	16,57,53,028	5,04,40,771	2,94,01,694
21	TEQIP I Assets (D)	10,31,65,960	-	-	10,31,65,960	-	-	-	-	10,31,65,960	10,31,65,960
22	TEQIP II Assets (E)	9,60,64,457	-	-	9,60,64,457	-	-	-	-	9,60,64,457	9,60,64,457
Grand Total (A+B+C+D+E)		6,81,80,48,101	1,45,05,97,649	1,18,09,35,582	7,08,77,10,168	1,45,76,96,808	28,10,04,390	-	1,73,87,01,197	5,34,90,08,971	5,36,03,51,294

## NATIONAL INSTITUTE OF TECHNOLOGY, SILCHAR : ASSAM

**SCHEDULE 4(C) (I) - PATENTS AND COPYRIGHTS**

						Amount in Rupees	
Particulars	Op Balance 01.04.2018	Additions	Gross	Amortization	Net Block 2018-19	Net Block 2017-18	
<b>A. Patents Granted</b>							
1. Balance as on 31.03.2016 of Patents obtained in 2008-09 (Original Value - Rs. )	-	-	-	-	-	-	
2. Balance as on 31.03.2016 of Patents obtained in 2010-11 (Original Value - Rs. )	-	-	-	-	-	-	
3. Balance as on 31.03.2016 of Patents obtained in 2012-13 (Original Value - Rs. )	-	-	-	-	-	-	
4. Patents granted during the Current Year	-	-	-	-	-	-	
<b>Total</b>	-	-	-	-	-	-	
Particulars	Op Balance	Additions	Gross	Amortization	Net Block 2018-19	Net Block 2017-18	
<b>B. Patents Pending in respect of Patents applied for:</b>							
1. Expenditure incurred during 2013-14	-	-	-	-	-	-	
2. Expenditure incurred during 2014-15	-	-	-	-	-	-	
3. Expenditure incurred during 2015-16	42,180	-	42,180.00	-	42,180	42,180	
4. Expenditure incurred during 2016-17	83,551	-	83,551.00	-	83,551	83,551	
5. Expenditure incurred during 2017-18	1,25,790	-	1,25,790.00	-	1,25,790	1,25,790	
6. Expenditure incurred during 2018-19	-	47,730	47,730.00	-	47,730	-	
<b>Total</b>	2,51,521	47,730	2,99,251	-	2,99,251	2,51,521	
<b>Grand Total (A+B)</b>	<b>2,51,521</b>	<b>47,730</b>	<b>2,99,251</b>	<b>-</b>	<b>2,99,251</b>	<b>2,51,521</b>	

# NATIONAL INSTITUTE OF TECHNOLOGY SILCHAR

SCHEDULE FORMING PART OF BALANCE SHEET AS AT 31ST MARCH 2019

## SCHEDULE : 5 : INVESTMENTS FROM EARMARKED / ENDOWMENT FUNDS

Amount in Rupees

PARTICULARS	CURRENT YEAR	PREVIOUS YEAR
1. In Central Government Securities	-	-
2. In State Government Securities	-	-
3. Other approved Securities	-	-
4. Shares	-	-
5. Debantures and Bonds	-	-
<b>6. Term Deposits with Banks</b>		
Investment of Corpus Fund	24,80,00,000	10,59,10,710
Investment of Depreciation Fund	12,00,00,000	12,49,58,489
Investment of Maintenance Fund	12,00,00,000	11,35,00,000
Investment of Staff Development Fund	1,60,00,000	97,75,374
7. Others	-	-
<b>Total</b>	<b>50,40,00,000</b>	<b>35,41,44,573</b>

## SCHEDULE : 6 : INVESTMENTS - OTHERS

PARTICULARS	CURRENT YEAR	PREVIOUS YEAR
1. In Central Government Securities	-	-
2. In State Government Securities	-	-
3. Other approved Securities	-	-
4. Shares	-	-
5. Debantures and Bonds	-	-
6. Term Deposits with Banks: Short Term Deposit	51,00,00,000	1,45,00,000
7. Others : Margin Money Account (L.C.)	15,82,451	19,83,451
<b>Total</b>	<b>51,15,82,451</b>	<b>1,64,83,451</b>



## NATIONAL INSTITUTE OF TECHNOLOGY SILCHAR

## SCHEDULE SHOWING INVESTMENTS OF EARMARKED AND OTHER FUNDS AS ON 31.03.2019 (Corresponding to Schedule - 5 &amp; 6)

Sl	Bank	F.D No	Date	Face Value as on 01.04.2018	Addition during 2018-19	Matured during 2018-19	Face Value as on 31.03.19	Accrued Interests upto 31.03.18	Accrued Interest during 2018-19	Accrued Intt. Recd. during 2018-19	Interest Recd during 2018-19 (inc.TDS)	TDS receivable 2018-19	Accrued Interests Upto 31.03.19
A	Corpus Fund												
		<i>As per last account</i>		10,59,10,710	-	10,59,10,710	-	3,51,56,492	-	3,51,56,492	86,09,699	1,23,543	-
1	SBI NIT Sil	38362343252	30.03.2019		80,00,000		80,00,000	-					
2	- do -	36362381549	30.03.2019		80,00,000		80,00,000						
3	- do -	38362382270	30.03.2019		80,00,000		80,00,000						
4	- do -	38362382746	30.03.2019		80,00,000		80,00,000						
5	- do -	38362383386	30.03.2019		80,00,000		80,00,000						
6	- do -	38362385612	30.03.2019		80,00,000		80,00,000						
7	- do -	38362386285	30.03.2019		80,00,000		80,00,000						
8	- do -	38362386808	30.03.2019		80,00,000		80,00,000						
9	- do -	38362387369	30.03.2019		80,00,000		80,00,000						
10	- do -	38362387937	30.03.2019		80,00,000		80,00,000						
11	- do -	38362388512	30.03.2019		80,00,000		80,00,000						
12	- do -	38362388986	30.03.2019		80,00,000		80,00,000						
13	- do -	38362389479	30.03.2019		80,00,000		80,00,000						
14	- do -	38362390008	30.03.2019		80,00,000		80,00,000						
15	- do -	38362397162	30.03.2019		80,00,000		80,00,000						
16	- do -	38362397707	30.03.2019		80,00,000		80,00,000						
17	- do -	38362401624	30.03.2019		80,00,000		80,00,000						
18	- do -	38362402673	30.03.2019		80,00,000		80,00,000						
19	- do -	38362411780	30.03.2019		80,00,000		80,00,000						
20	- do -	3836412230	30.03.2019		80,00,000		80,00,000						
21	- do -	38362412897	30.03.2019		80,00,000		80,00,000						
22	- do -	38362413324	30.03.2019		80,00,000		80,00,000						
23	- do -	38362414135	30.03.2019		80,00,000		80,00,000						
24	- do -	38362415093	30.03.2019		80,00,000		80,00,000						
25	- do -	38362415616	30.03.2019		80,00,000		80,00,000						
26	- do -	38362416198	30.03.2019		80,00,000		80,00,000						
27	- do -	38362416686	30.03.2019		80,00,000		80,00,000						



Sl	Bank	F.D No	Date	Face Value as on 01.04.2018	Addition during 2018-19	Matured during 2018-19	Face Value as on 31.03.19	Accrued Interests upto 31.03.18	Accrued Interest during 2018-19	Accrued Intt. Recd. during 2018-19	Interest Recd during 2018-19 (inc.TDS)	TDS receivable 2018-19	Accrued Interests Upto 31.03.19
<b>A</b>	<b>Corpus Fund</b>												
28	- do -	38362417205	30.03.2019		80,00,000		80,00,000						
29	- do -	38362417873	30.03.2019		80,00,000		80,00,000						
30	- do -	38362418298	30.03.2019		80,00,000		80,00,000						
31	- do -	38362483733	30.03.2019		80,00,000		80,00,000						
		<b>TOTAL</b>		<b>10,59,10,710</b>	<b>24,80,00,000</b>	<b>10,59,10,710</b>	<b>24,80,00,000</b>	<b>3,51,56,492</b>	<b>-</b>	<b>3,51,56,492</b>	<b>86,09,699</b>	<b>1,23,543</b>	<b>-</b>
<b>B</b>	<b>Depreciation Fund</b>												
		<b>As per last account</b>		<b>12,49,58,489</b>	<b>-</b>	<b>12,49,58,489</b>	<b>-</b>	<b>3,50,05,843</b>	<b>-</b>	<b>3,50,05,843</b>	<b>70,88,014</b>	<b>40,328</b>	<b>-</b>
1	SBI NIT Sil	38362321545	30.03.2019		80,00,000		80,00,000						
2	- do -	38362340422	30.03.2019		80,00,000		80,00,000						
3	- do -	38362341299	30.03.2019		80,00,000		80,00,000						
4	- do -	38362345227	30.03.2019		80,00,000		80,00,000						
5	- do -	38362345884	30.03.2019		80,00,000		80,00,000						
6	- do -	38362346468	30.03.2019		80,00,000		80,00,000						
7	- do -	38362347075	30.03.2019		80,00,000		80,00,000						
8	- do -	38362347532	30.03.2019		80,00,000		80,00,000						
9	- do -	38362348308	30.03.2019		80,00,000		80,00,000						
10	- do -	38362348807	30.03.2019		80,00,000		80,00,000						
11	- do -	38362349469	30.03.2019		80,00,000		80,00,000						
12	- do -	38362350779	30.03.2019		80,00,000		80,00,000						
13	- do -	38362351503	30.03.2019		80,00,000		80,00,000						
14	- do -	38362353747	30.03.2019		80,00,000		80,00,000						
15	- do -	38362341903	30.03.2019		80,00,000		80,00,000						
		<b>TOTAL</b>		<b>12,49,58,489</b>	<b>12,00,00,000</b>	<b>12,49,58,489</b>	<b>12,00,00,000</b>	<b>3,50,05,843</b>	<b>-</b>	<b>3,50,05,843</b>	<b>70,88,014</b>	<b>40,328</b>	<b>-</b>
<b>C</b>	<b>Maintenance Fund</b>												
		<b>As per last account</b>		<b>11,35,00,000</b>	<b>-</b>	<b>11,35,00,000</b>	<b>-</b>	<b>4,74,40,931</b>	<b>-</b>	<b>4,74,40,931</b>	<b>58,57,468</b>	<b>3,09,559</b>	<b>-</b>
1	SBI NIT Sil	38362366451	30.03.2019		80,00,000		80,00,000						
2	- do -	38362367159	30.03.2019		80,00,000		80,00,000						
3	- do -	38362367692	30.03.2019		80,00,000		80,00,000						
4	- do -	38362368244	30.03.2019		80,00,000		80,00,000						
5	- do -	38362368890	30.03.2019		80,00,000		80,00,000						
6	- do -	38362329758	30.03.2019		80,00,000		80,00,000						
7	- do -	36362361588	30.03.2019		80,00,000		80,00,000						

Sl	Bank	F.D No	Date	Face Value as on 01.04.2018	Addition during 2018-19	Matured during 2018-19	Face Value as on 31.03.19	Accrued Interests upto 31.03.18	Accrued Interest during 2018-19	Accrued Intt. Recd. during 2018-19	Interest Recd during 2018-19 (inc.TDS)	TDS receivable 2018-19	Accrued Interests Upto 31.03.19
<b>C</b>	<b>Maintenance Fund</b>												
8	-do-	38362362344	30.03.2019		80,00,000		80,00,000						
9	-do-	38362362821	30.03.2019		80,00,000		80,00,000						
10	-do-	38362363201	30.03.2019		80,00,000		80,00,000						
11	-do-	38362363788	30.03.2019		80,00,000		80,00,000						
12	-do-	38362364238	30.03.2019		80,00,000		80,00,000						
13	-do-	38362364737	30.03.2019		80,00,000		80,00,000						
14	-do-	38362365209	30.03.2019		80,00,000		80,00,000						
15	-do-	38362365804	30.03.2019		80,00,000		80,00,000						
		<b>Total</b>		<b>11,35,00,000</b>	<b>12,00,00,000</b>	<b>11,35,00,000</b>	<b>12,00,00,000</b>	<b>4,74,40,931</b>	<b>-</b>	<b>4,74,40,931</b>	<b>58,57,468</b>	<b>3,09,559</b>	<b>-</b>
<b>D</b>	<b>Staff Development Fund</b>												
		<b>As per last account</b>		<b>97,75,374</b>	<b>-</b>	<b>97,75,374</b>	<b>-</b>	<b>37,42,255</b>	<b>-</b>	<b>37,42,255</b>	<b>6,28,937</b>	<b>42,644</b>	<b>-</b>
1	SBI NIT Sil	38362419100	30.03.2019		80,00,000		80,00,000						
2	-do-	38362419164	30.03.2019		80,00,000		80,00,000						
		<b>Total</b>		<b>97,75,374</b>	<b>1,60,00,000</b>	<b>97,75,374</b>	<b>1,60,00,000</b>	<b>37,42,255</b>	<b>-</b>	<b>37,42,255</b>	<b>6,28,937</b>	<b>42,644</b>	<b>-</b>
<b>E</b>	<b>RECURRING/NONRECURRING</b>												
		<b>As per last account</b>		<b>1,45,00,000</b>	<b>-</b>	<b>1,45,00,000</b>	<b>-</b>	<b>31,38,502</b>	<b>-</b>	<b>31,38,502</b>	<b>9,68,201</b>	<b>31,388</b>	<b>-</b>
1	SBI NIT Sil	38362521384	30.03.2019		10,00,00,000		10,00,00,000						
2	-do-	38362504415	30.03.2019		10,00,00,000		10,00,00,000						
3	-do-	38362522195	30.03.2019		10,00,00,000		10,00,00,000						
4	-do-	38362522865	30.03.2019		10,00,00,000		10,00,00,000						
5	-do-	38362420046	30.03.2019		1,00,00,000		1,00,00,000						
6	-do-	38362550393	30.03.2019		10,00,00,000		10,00,00,000						
		<b>Total</b>		<b>1,45,00,000</b>	<b>51,00,00,000</b>	<b>1,45,00,000</b>	<b>51,00,00,000</b>	<b>31,38,502</b>	<b>-</b>	<b>31,38,502</b>	<b>9,68,201</b>	<b>31,388</b>	<b>-</b>
7	Axis Bank	against LC	31.03.16	19,83,451	-	4,01,000	15,82,451	3,03,228	24,304	7,333	-	-	3,20,199
<b>Grand Total</b>				<b>37,06,28,024</b>	<b>1,01,40,00,000</b>	<b>36,90,45,573</b>	<b>1,01,55,82,451</b>	<b>12,47,87,251</b>	<b>24,304</b>	<b>12,44,91,356</b>	<b>2,31,52,319</b>	<b>5,47,462</b>	<b>3,20,199</b>

**NATIONAL INSTITUTE OF TECHNOLOGY SILCHAR**  
**SCHEDULE FORMING PART OF BALANCE SHEET AS AT 31ST MARCH 2019**

**SCHEDULE : 7 : CURRENT ASSETS**

		<i>Amount in Rupees</i>	
PARTICULARS	CURRENT YEAR	PREVIOUS YEAR	
<b>1. STOCKS:</b>			
a) Storers and spares	-	-	
b) Loose Tools	-	-	
c) Publications	-	-	
d) Laboratory Chemicals	-	-	
e) Building materials	-	-	
f) Electrical Materials	-	-	
g) Stationery	-	-	
h) Water supply materials	-	-	
<b>2. SUNDRY DEBTORS</b>			
a) Debts outstanding for a period exceeding six months	68,672	68,672	
b) Others	-	-	
<b>3. CASH AND BANK BALANCES</b>			
Cash in hand	8,837	51,225	
<u>Cash at Bank:</u>		-	
<b>A) With Scheduled Banks:</b>			
In Current Accounts	65,83,39,628	1,23,75,67,862	
In Savings Accounts	15,44,03,251	21,69,54,214	
<b>Total</b>	<b>81,28,20,389</b>	<b>1,45,46,41,974</b>	

## SCHEDULE FORMING PART OF BALANCE SHEET AS AT 31ST MARCH 2019

## SCHEDULE : 7 (A) ANNEXURE - CURRENT ASSETS

Amount in Rupees

PARTICULARS		CURRENT YEAR	PREVIOUS YEAR
<b>With Scheduled Banks:</b>			
<b>In Current Accounts</b>			
SBI-10521277057 (NON PLAN)		11,09,85,130	-3,75,79,938
Non Plan Auto Sweep A/c		-	8,47,25,840
SBI-10521277068 (PLAN GRANT)		54,72,93,998	76,69,343
SBI-34999649864 ONLINE FEE A/c		60,500	
Plan Auto Sweep A/c		-	1,18,27,52,618
<b>Total</b>		<b>65,83,39,628</b>	<b>1,23,75,67,862</b>
<b>In Savings Accounts</b>			
SBI-10521277818(CORPUS FUND)		20,27,726	51,315
SBI Auto Sweep A/c (Corpus Fund)		-	8,90,96,000
SBI-30052416379(STAFF DEV FUN)		2,28,202	20,36,325
SBI-30052438520(DEPRECIATION FUND)		5,30,26,564	54,403
SBI Auto Sweep A/c (Dep. Fund)		-	50,35,000
SBI-30052443879(MAINT.FUND)		5,08,27,730	59,941
AXIS-10049704315 (PLAN)		6,66,085	1,91,17,342
SBI-10521278244 (SCHOLARSHIP)		87,38,746	1,95,458
SBI Auto Sweep A/c (Scholarship))		-	32,80,626
SBI Auto Sweep A/c (Maint. Fund)		-	37,73,000
SBI-30763009570(NONPLAN FEE)		1,54,53,095	5,01,267
SBI Auto Sweep A/c (FEE A/c)		-	6,28,24,000
SBI-365335392913 (AWARD FUND)		4,56,217	4,40,592
SBI-36017852338 ( START UP INDIA FUND)		897	865
SBI-30293190682(TUC)		7,293	7,043
SBI-35538434664 (IEDC)		2,11,504	6,77,657
SBI-30033506221 (SMDP)		2,89,609	2,78,052
SBI-34671803739 (AM&MT/FIST)		39,797	3,64,964
SBI-30780415571(RPS SCHEME)		1,99,18,569	-13,83,940
Project Auto Sweep A/c		2,86,44900	
SBI-30780416041(MODROBS)		16,31,348	57,117
SBI-31306562769(BEHAVIOUR OF CLAY/MoEsc)		8,332	764
SBI-37093726031 (NHMS)		2,94,813	18,16,535
SBI-31306566082(REG EXTREME RAINFALL)		25,874	24,989
SBI-37808839310 (ARDB)		5,50,851	
<b>Total</b>		<b>15,44,03,251</b>	<b>21,69,54,214</b>



# **NATIONAL INSTITUTE OF TECHNOLOGY SILCHAR**

SCHEDULE FORMING PART OF BALANCE SHEET AS AT 31ST MARCH 2019

## **SCHEDULE : 8 : LOANS, ADVANCE AND DEPOSITS**

PARTICULARS		Amount in Rupees	
		CURRENT YEAR	PREVIOUS YEAR
1. Advances to employees (Non-interest bearing) :			
Festival Advance		82,089	2,89,064
HTC Advance		22,000	74,200
LTC Advance		8,03,883	1,60,000
Other Advance To Employees (for Medical treatment)		3,00,000	-
Recoverable Advance		82,50,229	57,21,910
TA Advance		2,20,800	1,45,252
2. Long Term Advances to employees: (Interest bearing) :			
Vehicle Loan		-	-
Home Loan		-	-
Soft Loan		6,25,265	10,86,333
3. Advances & other amt recoverable in cash or in kind or for value to be received :			
a) On Capital Account			
Deposit Work		11,42,640	1,35,84,358
Secured Advance		40,00,000	40,00,000
Advance - PHE Water Supply		124	124
Margin Money for LC		0	1,22,69,447
Adv- NCC Ltd		-	1,05,51,076
b) Suppliers/Firm			
c) Others			
Electricity Consumption Receivable		3,04,633	4,55,012
House Rent / Licence Fee receivable		49,443	1,43,892
Shop & Canteen Rent receivable		1,13,914	18,272
Advance Tax			
Receivable against Start Up India (Project)		15,61,301	15,61,301
Receivable from SBI (Against Saswat Chakraborty)			-
DST Receivable		1,69,687	
Receivable from Ashim Kumar Das (I Tax)		33,000	
Receivable from Consultancy		24,528	
Receivable from Shorlarship Fund		27,89,766	
SMDP Project Receivable		14,219	
RPS Project Receivable		3,17,752	
N C Roy			
		12,16,000	

Sudeep Nath		
Receivable from Wasim Arif(I Tax)	4,46,500	11,000
<b>4. Prepaid Expenses :</b>		
a) Insurance	13,61,084	7,98,621
b) Against E Journal	26,69,316	1,96,95,197
c) Digital Library		
d) Printed Journal		
e) AMC	4,00,854	4,00,854
<b>5. Deposits :</b>		
a) Telephone	10,000	10,000
b) Lease Rent	1,62,084	1,62,084
c) Electricity	46,200	46,200
d) AICTE		
e) SBI ATM (TDR)		
f) Security for POL		
g) Security against LPG		
<b>6. Income Accrued :</b>		
a) On investments from Earmarked / Endowment Fund	-	12,13,45,521
b) On Investment - Others	3,20,199	34,41,730
c) On Loans and Advances		
d) Others (including income due unrealized)		
<b>7. Other - Current assets receivable from UGC /Sponsored projects :</b>		
a) Debit balances in Sponsored Projects	10,00,00,000	
b) Debit balances in sponsored Fellowship & Scholarships		
c) Grants receivable		
d) Grants receivable from UGC		
e) Recoverable from MR Staff ( EPF Subscription)	27,08,310	27,08,310
f) TDS Receivable- Earmarked Fund	31,29,748	26,13,674
g) TDS Receivable- Sponsored Project	755	755
h) TDS Receivable- Others (Non Plan)	7,15,403	5,16,807
i) Adv to Firm- Balmer lawrie	45,36,665	
<b>8. Claims receivable :</b>	1,10,27,201	2,15,77,027
<b>Total</b>	<b>14,95,86,593</b>	<b>22,33,77,021</b>



**NATIONAL INSTITUTE OF TECHNOLOGY, SILCHAR : ASSAM**  
SCHEDULES FORMING PART OF INCOME & EXPENDITURE ACCOUNT

**SCHEDULE 9- ACADEMIC RECEIPTS**

		Amount in Rupees	
FEES FROM STUDENTS		Current Year	Previous Year
<b>Academic</b>			
1. Tuition fee		16,88,35,399	17,55,65,207
2. Admission fee		57,17,130	49,12,000
3. Enrolment fee			
4. Library Admission fee		34,20,250	32,47,400
5. Laboratory fee - I T System fee		67,05,050	64,56,500
6. Art & Craft fee			
7. Registration fee / Institutional fee			
8. Syllabus fee			
<b>Total (A)</b>		<b>18,46,77,829</b>	<b>19,01,81,107</b>
<b>Examinations</b>			
1. Admission test fee			
2. Annual Examination fee		64,01,510	67,63,100
3. Mark sheet, certificate fee			
4. Entrance fee			
<b>Total (B)</b>		<b>64,01,510</b>	<b>67,63,100</b>
<b>Others Fees</b>			
1. Identity card fee			6,86,826
2. Fine/Miscellaneous fee		10,72,621	19,35,900
3. Medical fee		21,39,060	19,35,900
4. Transportation fee		20,27,350	19,35,900
5. Hostel fee - Light & Water charges			

6. Migration fee		55,000	
7. Summer term course fee			
<b>Total (C)</b>		<b>52,94,031</b>	<b>45,58,626</b>
<b>Sale of Publications</b>			
1. Sale of Admission forms			
2. Sale of syllabus and question paper, etc.			
3. Sale of prospectus including admission forms			
<b>Total (D)</b>			<b>-</b>
<b>Other Academic Receipts</b>			
1. Registration fee for workshops, training programmes		20,000	
2. Registration fee (Academic Staff College)			
3. Training & Placement		6,69,500	7,46,000
<b>Total (E)</b>		<b>6,89,500</b>	<b>7,46,000</b>
<b>Grand Total (A+B+C+D+E)</b>		<b>19,70,62,870</b>	<b>20,22,48,833</b>



**NATIONAL INSTITUTE OF TECHNOLOGY, SILCHAR : ASSAM**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE ACCOUNT**  
**Schedule 11 - INCOME FROM INVESTMENT**

Particulars	Amount in Rupees			
	Earmarked/Endowment Funds		Other Investments	
	Current Year	Previous Year	Current Year	Previous Year
1 Interest				
a. On Government Securities				
b. Other Bonds/Debentures				
2 Interest on Term Deposits				
Interest on Stock Term Deposits from AXIS Bank				
Interest on Term Deposits against short term deposits.	3,44,13,514		3,43,715	4,04,375
3 Income accrued but not due on Term Deposits		2,86,93,411	-	
4 Interest on Savings Bank Accounts	6,16,704	1,25,520		
5 Others - Interest on Investment of Non-plan fund	-			
<b>Total</b>	<b>3,50,30,218</b>	<b>2,88,18,931</b>	<b>3,43,715</b>	<b>4,04,375</b>
<b>Transferred to Earmarked/Endowment Funds</b>	<b>3,50,30,218</b>	<b>2,88,18,931</b>		
<b>Balance</b>	<b>-</b>	<b>-</b>	<b>3,43,715</b>	<b>4,04,375</b>

**NATIONAL INSTITUTE OF TECHNOLOGY, SILCHAR : ASSAM**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE ACCOUNT**

**SCHEDULE 12: INTEREST EARNED**

Amount in Rupees		
Particulars	Current Year	Previous Year
<b>1 On Savings Accounts with scheduled banks :</b>		
Against fee account no. 30763009570	2,09,572	43,386
Against Scholarship account no. 10521278244	23,414	61,203
Against Auto Sweep A/c (Non Plan)	1,32,57,867	31,95,627
Against Auto Sweep A/c (Plan)	6,70,84,532	-
Against Auto Sweep A/c (Fees A/c)	63,00,463	37,06,982
Against on Auto sweep Scholarship account no. 10521278244	8,29,699	-
Interest on Axis Bank account no. 10049704315	3,50,827	-
Accrued Interest on Stock TDR	24,304	-
<b>Total (A)</b>	<b>8,80,80,678</b>	<b>70,07,198</b>
<b>2 On Loans :</b>		
a. Employees/Staff - Interest on Soft Loan	98,260	-
b. Others - Against Interest recovery of LTC/HTC	-	-
<b>Total (B)</b>	<b>98,260</b>	<b>-</b>
<b>3 On Debtors and Other Receivables</b>		
<b>Total (C)</b>	<b>-</b>	<b>-</b>
<b>Grand Total (A+B+C)</b>	<b>8,81,78,938</b>	<b>70,07,198</b>

**NATIONAL INSTITUTE OF TECHNOLOGY, SILCHAR : ASSAM**  
SCHEDULES FORMING PART OF INCOME & EXPENDITURE ACCOUNT

**SCHEDULE 13- OTHER INCOME**

Amount in Rupees		
<b>A. Income from Land &amp; Buildings</b>	<b>Current Year</b>	<b>Previous Year</b>
1. Hostel room Rent	65,03,461	62,77,750
2. License fee	30,44,486	23,91,929
3. Hire Charges of Auditorium/Play ground/Convention Centre, Shop etc.	14,64,017	20,95,384
4. Guest House Rent	25,75,138	18,40,330
5. Electricity charges recovered	56,61,445	54,91,562
6. Light & Water charges recovered	62,34,500	62,77,750
<b>Total</b>	<b>2,54,83,048</b>	<b>2,43,74,705</b>
<b>B. Sale of Institute's Publications</b>	-	-
<b>C. Income from holding events</b>		
1. Gross Receipts from annual function/Sports Carnival		
<b>Less:</b> Direct expenditure incurred on the annual function/Sports Carnival		
2. Gross Receipts from fetes		
<b>Less:</b> Direct expenditure incurred on the fetes		
3. Gross Receipts for educational tours		
<b>Less:</b> Direct expenditure incurred on the tours		
4. Others (to be specified and separately disclosed)		
<b>Total</b>	<b>-</b>	<b>-</b>



<b>D. Others</b>			
1. Institute Overhead ( Project)	20,07,929	16,65,937	
2. RTI Fees	790	712	
3. Income from Royalty	-	-	
4. Sale of application form (Recruitment)	36,93,992	14,79,384	
5. Misc. receipts (Sale of Tender Form, waste paper, etc.)	3,56,000	9,57,102	
6. Profit on sale/disposal of Assets	-	-	
a) Owned assets	-	-	
b) Assets received free of cost	-	-	
7. Others (Lake)	-	-	
8. Pension Fund Contribution	1,32,33,549	2,33,58,451	
9. KIDS NITS Fund Contribution (Appropriation)	-	6,76,851	
10. Capital Fund appropriation against Depreciation	28,10,04,390	25,02,39,808	
a) Misc. Receipts	8,22,835	-	
<b>Total</b>	<b>30,11,19,485</b>	<b>27,83,78,245</b>	
<b>Grand Total (A+B+C+D)</b>	<b>32,66,02,533</b>	<b>30,27,52,950</b>	

**NATIONAL INSTITUTE OF TECHNOLOGY, SILCHAR : ASSAM**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE ACCOUNT**

**SCHEDULE 14- PRIOR PERIOD INCOME**

<b>Particulars</b>	<i>Amount in Rupees</i>	
	<b>Current Year</b>	<b>Previous Year</b>
1. Academic Receipts	-	-
2. Income from Investments	-	-
3. Interest earned	-	-
4. Other Income	-	-
<b>Total</b>	<b>-</b>	<b>-</b>

**NATIONAL INSTITUTE OF TECHNOLOGY, SILCHAR : ASSAM**  
SCHEDULES FORMING PART OF INCOME & EXPENDITURE ACCOUNT

**SCHEDULE 15 - STAFF PAYMENTS & BENEFITS (ESTABLISHMENT EXPENSES)**

National Institute of Technology Silchar							Annual Report 2018-19	247
Particulars	Current Year			Previous Year			Total	
	Plan	Recurring	Total	Plan	Recurring	Total		
A) Salaries and Wages		26,15,03,434	26,15,03,434	-	24,39,02,769	24,39,02,769		
i) Teaching & Admin		1,53,07,780	1,53,07,780		2,22,03,970	2,22,03,970		
ii) Group B & C		3,12,14,928	3,12,14,928		3,98,07,526	3,98,07,526		
iii) Group D								
B) Other Adhoc				-	-	-		
i) Salary of outsourced staff		2,67,871	2,67,871		2,49,284	2,49,284		
ii) Salary of Contractual Teaching & Admin		3,00,28,965	3,00,28,965		3,45,47,596	3,45,47,596		
iii) Salary of M R Staff		1,71,65,721	1,71,65,721		1,88,13,313	1,88,13,313		
C) Allowances & Bonus				-	-	-		
i) Bonus		-	-		9,14,992	9,14,992		
ii) Cumulative Professional Dev. Allowance		43,25,115	43,25,115		1,22,82,620	1,22,82,620		
D) Contribution to Other Fund				-	-	-		
i) NPS Contribution		1,48,33,240	1,48,33,240		1,27,30,342	1,27,30,342		
ii) Pension contribution (Deputation)		-	-		69,972	69,972		
iii) EPF Contribution(Employer) MR		21,00,611	21,00,611		30,22,629	30,22,629		
iv) EPF Contribution FFW Workers' Society		-	-		3,07,906	3,07,906		
v) CPF Contribution		2,09,916	2,09,916					
vi) EPF Contribution Contractual & others		26,71,717	26,71,717					
E) Staff Welfare Expenses				-	-	-		
i) Mobile & Telephone expenditure		6,67,128	6,67,128		8,09,250	8,09,250		
F) Retirement and Terminal Benefits				-	-	-		
i) Death cum Retirement Gratuity		98,35,533	98,35,533		1,57,22,465	1,57,22,465		
ii) Pension		11,39,25,075	11,39,25,075		5,59,81,703	5,59,81,703		
iii) Commuted Pension		86,82,378	86,82,378		78,91,657	78,91,657		

iv) Leave Encashment	1,32,08,812	1,32,08,812			66,63,385	66,63,385
v) Leave Salary (Deputation)					-	-
<b>G) LTC facility</b>						
i) Home Travel Concession	7,30,357	7,30,357			22,49,228	22,49,228
ii) Leave Travel Concession	65,14,900	65,14,900			30,14,933	30,14,933
<b>H) Medical facility</b>						
i) Medical Reimbursement	20,04,736	20,04,736			29,05,418	29,05,418
ii) Medicine & Dispensary expenses	4,29,844	4,29,844			7,98,363	7,98,363
<b>I) Children Education Allowances</b>	17,569	17,569			19,22,370	19,22,370
<b>J) Honorarium</b>	3,67,500	3,67,500			6,98,333	6,98,333
<b>K) Others :</b>						
i) Security Services	5,56,69,866	5,56,69,866			3,03,11,670	3,03,11,670
ii) House Keeping	3,33,21,554	3,33,21,554			2,63,82,522	2,63,82,522
iii) Joining Time TA	2,38,924	2,38,924			2,725	2,725
iv) Relocation Charges	3,30,565	3,30,565			14,160	14,160
<b>Total</b>	<b>62,55,74,039</b>	<b>62,55,74,039</b>	<b>-</b>	<b>-</b>	<b>54,42,21,101</b>	<b>54,42,21,101</b>

**NATIONAL INSTITUTE OF TECHNOLOGY, SILCHAR : ASSAM**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE ACCOUNT**  
**SCHEDULE 15 A - EMPLOYEES RETIREMENT AND TERMINAL BENEFITS**

Amount in Rupees				
Particulars	Pension	Gratuity	Leave Encashment	Total
Opening Balance as on.....	-	-	-	-
Addition : Capitalized value of Contributions received from other Organisations	-	-	-	-
Total (a)	-	-	-	-
Less : Actual payment during the year (b)	-	-	-	-
Balance Available on 31.03..... (a-b)	-	-	-	-
Provision required on 31.03..... As per Actuarial Valuation (d)	-	-	-	-
A. Provision to be made in the Current year (d-c)	-	-	-	-
B. Contribution to New Pension Scheme	-	-	-	-
C. Medical Reimbursement to Retired Employees	-	-	-	-
D. Travel to Hometown on Retirement	-	-	-	-
E. Deposit Linked Insurance Payment	-	-	-	-
<b>Total (A+B+C+D+E)</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>

**NATIONAL INSTITUTE OF TECHNOLOGY, SILCHAR : ASSAM**  
SCHEDULES FORMING PART OF INCOME & EXPENDITURE ACCOUNT

**SCHEDULE 16- ACADEMIC EXPENSES**

Particulars	Current Year			Previous Year		
	Plan	Recurring		Plan	Recurring	
		Total	Total		Total	Total
a) Laboratories expenses		10,94,894	10,94,894		9,98,920	9,98,920
b) Field work/Participation in Conferences		1,11,573	1,11,573		-	-
c) Expenses on Seminars/workshops		1,92,464	1,92,464		69,521	69,521
d) Payment to visiting faculty		7,55,214	7,55,214		3,48,792	3,48,792
e) Examination		34,96,079	34,96,079		29,39,307	29,39,307
f) Students Welfare expenses - Student Internship		-	-		-	-
g) Admission expenses		-	-		-	-
h) Convocation expenses		26,52,922	26,52,922		27,66,253	27,66,253
i) Publications		-	-		-	-
j) Stipend/Means-cum-Merit Scholarship		14,74,33,534	14,74,33,534		11,83,64,948	11,83,64,948
k) Subscription expenses		-	-		-	-
l) Contingency to Ph.D. Scholars		-	-		-	-
m) Students Project		7,91,504	7,91,504		2,37,632	2,37,632
n) Library Contingency		2,37,131	2,37,131		2,17,010	2,17,010
o) Industry Institute Partnership exp		-	-		-	-
p) STIS Project Exp		-	-		4,82,773	4,82,773
q) Internship Exp		-	-		-	-
r) Industry Visit (MBA)		2,57,785	2,57,785		-	-
s) Student Orientation Program		1,18,330	1,18,330		-	-
t) Summer Term Course Expenses		-	-		-	-
Total		15,71,41,430	15,71,41,430	-	12,64,25,156	12,64,25,156



**NATIONAL INSTITUTE OF TECHNOLOGY, SILCHAR : ASSAM**  
SCHEDULES FORMING PART OF INCOME & EXPENDITURE ACCOUNT

**SCHEDULE 17 - ADMINISTRATIVE AND GENERAL EXPENSES**

	Amount in Rupees					
	Current Year			Previous Year		
	Plan	Recurring	Total	Plan	Recurring	Total
<b>A. Infrastructure</b>						
a) Electricity		2,97,82,954	2,97,82,954		3,26,27,942	3,26,27,942
b) Water Charges		65,00,570	65,00,570		76,75,104	76,75,104
c) Insurance		-	-		-	-
d) Rent, Rates Taxes (including Property Tax)		-	-		-	-
<b>B. Communication</b>						
e) Postage		3,351	3,351		3,30,956	3,30,956
f) Telephone, Fax and Internet Charges		6,90,083	6,90,083		8,35,029	8,35,029
<b>C. Others</b>						
g) Printing and Stationery (consumption)		18,87,551	18,87,551		10,87,017	10,87,017
h) Travelling and Conveyance Expenses		21,00,749	21,00,749		12,98,027	12,98,027
i) Hospitality		3,47,351	3,47,351		2,76,751	2,76,751
j) Auditors Remuneration		8,850	8,850		6,68,520	6,68,520
k) Professional Charges - Legal fee		1,94,800	1,94,800		3,49,392	3,49,392
l) Advertisement and Publicity		71,76,795	71,76,795		34,04,375	34,04,375
m) Magazines & Journals - News paper		43,117	43,117		16,673	16,673
n) Training & Placement expenses		4,27,587	4,27,587		4,76,406	4,76,406
o) Board & Committee meeting		7,24,133	7,24,133		31,61,526	31,61,526
p) Computer Consumable		3,16,349	3,16,349		2,46,663	2,46,663
q) Initiative to foster Social Responsibility		-	-		-	-
r) Misc. Expenses		55,146	55,146		63,737	63,737
s) Lverage		-	-		-	-
t) Gyan Sagar expenses		70,034	70,034		88,363	88,363
u) Celebration of National Day		9,78,323	9,78,323		12,68,703	12,68,703
v) NCC & NSS Activity		2,19,449	2,19,449		4,74,354	4,74,354

w) Promotion of Rashtra Bhasha	52,664	52,664		2,17,960	2,17,960
x) Consumable expenses	5,94,402	5,94,402		3,52,006	3,52,006
y) Academic Audit Exp	-	-		1,31,200	1,31,200
z) Contingency Exp	1,35,137	1,35,137		-	-
aa) Border Village Developemt Exp	-	-		2,50,000	2,50,000
bb) Transit House Rent	-	-		-	-
cc) Award & Prizes	-	-		-	-
dd) ETH Project Exp	-	-		-	-
ee) HPC Cell Expenses	4,57,961	4,57,961		-	-
ff) Incubation Centre CDAC	-	-		-	-
gg) Innovation Lab Exp	8,51,366	8,51,366		1,81,234	1,81,234
hh) Other Admin Exp	14,09,460	14,09,460		16,09,555	16,09,555
ii) Registration/Nomination fee	-	-		13,570	13,570
jj) RPC Project Exp	-	-		-	-
kk) Short Term Training Program	-	-		-	-
ll) NABL Expenses	3,40,675	3,40,675		-	-
mm) Start-up conclave expense	77,223	77,223		-	-
nn) Workshop & Seminar	-	-		-	-
oo) Mobilization expenditure	-	-		-	-
pp) NSDL Service Charges	19,367	19,367		23,260	23,260
qq) Gymkhana Expenditure	8,32,992	8,32,992		13,76,488	13,76,488
rr) Swachh Bharat Mission Exp	-	-		-	-
ss) Insurance against Assets	6,97,055	6,97,055		7,98,288	7,98,288
tt) NITs Conclave Exp	-	-		26,74,802	26,74,802
uu) Innovation expenses	29,666	29,666		-	-
<b>TOTAL</b>	<b>5,70,25,160</b>	<b>5,70,25,160</b>	<b>-</b>	<b>6,19,77,902</b>	<b>6,19,77,902</b>

# **NATIONAL INSTITUTE OF TECHNOLOGY, SILCHAR : ASSAM**

## **SCHEDULES FORMING PART OF INCOME & EXPENDITURE ACCOUNT**

### **SCHEDULE 18 - TRANSPORTATION EXPENSES**

Particulars	Amount in Rupees					
	Current Year			Previous Year		
	Plan	Recurring	Total	Plan	Recurring	Total
1. Vehicles (owned by Institution)						
a) Running Expenses		27,02,865	27,02,865	-	22,84,203	22,84,203
b) Insurance Expenses		2,29,503	2,29,503	-	1,18,167	1,18,167
2. Vehicles taken by Rent/Lease		-	-	-	-	-
a) Rent/Lease Expenses		-	-	-	-	-
3. Vehicle (Taxi) hiring Expenses		-	-	-	-	-
<b>TOTAL</b>		<b>29,32,368</b>	<b>29,32,368</b>	<b>-</b>	<b>24,02,370</b>	<b>24,02,370</b>

**NATIONAL INSTITUTE OF TECHNOLOGY, SILCHAR : ASSAM**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE ACCOUNT**

**SCHEDULE 19 - REPAIRS & MAINTENANCE**

Particulars	Current Year			Previous Year		
	Amount in Rupees					
	Plan	Recurring	Total	Plan	Recurring	Total
a) Buildings		1,16,33,671	1,16,33,671	-	77,27,279	77,27,279
b) Furniture & Fixtures		4,49,126	4,49,126	-	3,89,977	3,89,977
c) Plant & Machinery		45,36,734	45,36,734	-	-	-
d) Office Equipment			0	-	8,16,769	8,16,769
e) Scientific Equipment - (Digital Labrary)			0	-	-	-
f) Audio Visual Equipment			0	-	-	-
g) Cleaning Materials & Casual work		9,90,483	9,90,483	-	47,929	47,929
h) Book Binding Charges			0	-	-	-
i) Gardening		89,165	89,165	-	99,531	99,531
j) Estate Maintenance (Electrical)		44,86,610	44,86,610	-	19,41,321	19,41,321
k) Bio Gas Contingency expenses			0	-	-	-
l) D.G. Set		67,60,417	67,60,417	-	44,94,316	44,94,316
m) Networking including AMC		20,95,223	20,95,223	-	29,26,672	29,26,672
n) Guest House Maintenances		4,14,549	4,14,549	-	3,08,354	3,08,354
<b>TOTAL</b>		<b>3,14,55,978</b>	<b>3,14,55,978</b>	<b>-</b>	<b>1,87,52,148</b>	<b>1,87,52,148</b>

**NATIONAL INSTITUTE OF TECHNOLOGY, SILCHAR : ASSAM**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE ACCOUNT**

**SCHEDULE 20 - FINANCE COSTS**

Particulars	Current Year			Previous Year		
	Plan	Recurring	Total	Plan	Recurring	Total
a) Bank Charges	-	-	-		-	-
b) Others	-	-	-	-	-	-
<b>TOTAL</b>	-	-	-	-	-	-

**SCHEDULE 21 - OTHER EXPENSES**

Particulars	Current Year			Previous Year		
	Plan	Recurring	Total	Plan	Recurring	Total
a) Provision for Bad and Doubtful Debts/Advances		-	-	-	-	-
b) Irrecoverable Balances/Written-off		-	-	-	-	-
c) Grants to Kendriya Vidyalaya		3,37,77,000	3,37,77,000	-	3,25,57,000	3,25,57,000
d) Support/Salaries to NITS-KIDS staff		-	-	-	6,76,851	6,76,851
<b>TOTAL</b>		<b>3,37,77,000</b>	<b>3,37,77,000</b>	-	<b>3,32,33,851</b>	<b>3,32,33,851</b>

**SCHEDULE 22 - PRIOR PERIOD EXPENSES**

Particulars	Current Year			Previous Year		
	Plan	Recurring	Total	Plan	Recurring	Total
1) Establishment Expenses (CEA)				-	-	-
2) Academic Expenses				-	-	-
3) Administrative Expenses				-	-	-
4) Transportation Expenses				-	-	-
5) Repair & Maintenance				-	-	-
6) Others				-	-	-
<b>TOTAL</b>	-	-	-	-	-	-



## **NATIONAL INSTITUTE OF TECHNOLOGY SILCHAR**

### **SIGNIFICANT ACCOUNTING POLICIES**

#### **SCHEDULE: 23**

##### **1. BASIS FOR PREPARATION OF ACCOUNTS**

The financial statements are prepared under the Historical cost convention and on the basis of Generally Accepted Accounting Principles in India. Institute's accounts are maintained on accrual system of accounting in terms of the New System.

##### **2. REVENUE RECOGNITION**

- 2.1 Fees from students (except Tuition Fees), Application fee, Interest on Savings Bank accounts are accounted on cash basis. Tuition Fees collected separately for each semester is accounted on accrual basis.
- 2.2 Income from Land, Buildings & other Property and Interest on Investments are accounted on accrual basis.
- 2.3 Interest on interest bearing advances to staff for Soft Loan is accounted on actual basis every year.

##### **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 and commissioning.
- 3.2 Depreciation on Fixed assets is provided on written down value method as followed in earlier years, at the rates mentioned below. As regard to Govt. of India guidelines for providing depreciation on straight line method, the same could not be given effect during 2018-19 also, due to the fact that, change in method and rate of depreciation on the assets procured prior to 2014-15 will attracts complicity.



### **Tangible Assets**

	<b><u>Rate of Depreciation</u></b>
1. Land	0%
2. Site Development	5%
3. Buildings	5%
4. Roads & Bridges	5%
5. Tube wells & Water Supply	5%
6. Electrical Installation and equipment	15%
7. Plant & Machinery	15%
8. Scientific & Laboratory Equipment	15%
9. Office Equipment	15%
10. Audio Visual Equipment	15%
11. Computers & peripherals	30%
12. Furniture, Fixtures & Fittings	10%
13. Vehicles	20%
14. Lib. Books & Scientific journals	30%

### **Intangible Assets (amortization):**

1. E-Journals	100%
2. Computer Software	15%

3.3 Depreciation is worked out 100% on the opening balance and proportionately on additions during the year. The amount of depreciation has been adjusted with the Capital Fund account and simultaneously shown under “Other Income” in the Income & Expenditure A/c.

3.4 Assets created out of Sponsored Projects funds, are setup by credit to Current Liabilities (Schedule No. 3.A), with separate entity and merged with the Fixed Assets of the Institution. Depreciation is charged at the rates applicable to the respective assets.

3.5 Electronic Journals (E-journals) are separated from Library Books in view of the limited benefit that could be derived from the on-line access provided. E-journals are not in a tangible form, but temporarily capitalized in view of the magnitude of expenditure and the benefit derived in terms of perpetual knowledge of academic and Research Scholars. Depreciation is provided in respect of E-journals at a higher rate of 100% as against depreciation of 30% provided in respect of Library Books, since the access is permitted for a specific period only.

4. **STOCKS:** Expenditure on purchase of chemicals, glassware, publications other stores as revenue expenditure, they are valued at cost.

#### 5. **RETIREMENT BENEFITS**

Retirement benefits of employees appointed prior to the year 2004 are entitled to pension and terminal benefits such as Gratuity, commuted value of pension, Leave encashment etc., are shown at actual as per provisions made by the Institute in annual Budget as Grants in Aid and provided for as per orders of the Govt. of India and paid as per schemes as applicable from time to time. Employees appointed after 2004 are governed by the New Pension Scheme to whom on a monthly basis matching employers contribution is paid from the salary grants provided under Non-plan Grant duly budgeted. Value of pension and gratuity received from previous employers of the Institution's employees, who have been absorbed in the Institution, is credited to the respective Provision Accounts.

#### 6. **INVESTMENT**

Institute has invested temporary surplus in Multi Option Deposit Scheme and Term Deposits with banks. Investments are stated at cost. A schedule showing details of Investments of various funds annexed with the statement of accounts.

#### 7. **Earmarked/ Endowment Funds.**

The following long term funds are earmarked for specific purpose. Most of the funds have separate bank account. Those with large balances also have investments in term deposits with Banks. The income from Investment/advances, interest on savings Bank Accounts are credited to the respective Funds. The expenditure and advances are debited to the fund. The balance in the respective funds is carried forward and is represented on the assets side by the balance at Bank, Investments and accrued interest.

7.1 **CORPUS FUND** is created in compliance with Govt. of India, MHRD, Department of Higher Education, New Delhi vide letter no. F.21-7/2006-TS.III dated 31.03.2006. This fund is in the nature of Endowment Fund. Income from the investments of the fund is added to the fund. The balance in the Corpus Fund which is carried forward is represented by the balance in a separate bank Account, investment in Fixed deposits with the Bank and Accrued interest on investments. Surplus of Institute Revenue Generation is transferred to Corpus fund account and this fund is administered as per guidelines of the BOG.

9. **GOVERNMENT GRANTS**

- 9.1 Government Grants are accounted on accrual basis (as per date of sanction letters).
- 9.2 To the extent utilized towards capital expenditure, (on accrual basis) government grants are transferred to the Capital fund.
- 9.3 Government Grants for meeting revenue Expenditure (on accrual basis) are treated utilized and simultaneously transferred to Income & Expenditure a/c as Income from Grants and Subsidies.
- 9.4 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 ON SUCH INVESTMENTS:**

To the extent not immediately required for the expenditure, the amounts available against such funds are invested in fixed term deposits with Banks, leaving the balance in savings Bank Accounts.

Interest received, interest accrued due and interest accrued but not due on such investments are added to the respective funds as income of the institution.

11. **SPONSORED PROJECTS**

In respect of ongoing Sponsored Projects, the amount received from sponsors is credited to the head "Current Liabilities and Provisions- Current Liabilities-Other Liabilities-Receipt against ongoing sponsored projects". As and when expenditure is incurred/ advances are paid against such projects, or the concerned project account is debited with allocated overhead charges, the liability account is debited.

- 12. The Institution itself also awards Scholarships to M.Tech./ M.Sc. & Ph.D. scholars, which are accounted as academic expenses.

Registrar

Director



## **SCHEDULE: 24**

### **CONTINGENT LIABILITIES AND NOTE TO ACCOUNTS (ILLUSTRATIVE)**

- 1. CONTINGENT LIABILITIES:** There is no contingent liability during the year under report.
- 2. CAPITAL COMMITMENTS:** The value of the ongoing contract works remaining to be executed on Capital account and not provided for amounted to Rs.1346.40lacs as on 31.03.19.
- 3. FIXED ASSETS:**
  - 3.1 Addition in the year to Fixed Assets in Schedule 4 includes Assets purchased out of Plan Funds Rs.2696.14 lakh. The assets have been set up by credit to Capital Fund.
  - 3.2 In the Balance Sheet as on 31.03.19 and the Balance Sheets of earlier years, fixed assets created out of Plan funds were exhibited distinctly. The additions during the years, from plan and other funds, and the depreciation on those additions respectively have been exhibited in the Sub Schedules A, B, C, D & E to the main schedules of Fixed Assets (Schedules 4).

### **4. CURRENT ASSETS, LOANS, ADVANCES AND DEPOSITS**

- In the opinion of the management, the current assets, Loans, Advances and Deposits have a value on realization in the ordinary course, equal to at least the aggregate amount shown in the Balance Sheet.
- 5.** The details of the Balances in the Savings Bank accounts, Current accounts with Banks are depicted in Schedule 7A of Schedule of Current assets. The details of Investment with banks against various funds are annexed separately in page no. 17 & 18 of the Annual Accounts.
  - 6.** Figures in the Final accounts have been rounded off to the nearest rupee.
  - 7.** Schedules 1 to 22 are annexed and form an integral part of Balance Sheet at 31<sup>st</sup> March 2019, and the Income & Expenditure account for the year ended on that date.
  - 8.** Provident fund accounts and the New Pension Scheme account are separated from the Institute Accounts. A Receipt & Payments Account, an Income & expenditure Account and a balance sheet of the Provident fund Accounts as well as the New Pension Schemes for the year 2018-19 have been attached with the Institute accounts. The balance held in New Pension Scheme as on 31.03.2019 is Rs. 88.91 lakh. Out of which, of Rs. 39.94 lakh for the month of March 2019, remitted in April 2019 and the remaining amount in respect of 39 members amounting to Rs.48.97 lakh are yet to be transferred to NSDL, due to non-allotment of PRA number till date.

9. Pension Fund Contribution(Schedule-2): During the year a total amount of 132.34 Lacs has been appropriated as income from the Pension Fund Contribution and the same has been stated as revenue expenditure against the Pension Fund (Endowment Fund).
10. Fixed Assets (Schedule-4): Addition of fixed assets during the year amounting to Rs.14,505.97 Lac includes Rs.11,809.36 Lac being adjustment of WIP. Expenditure incurred against Patent from IRG amounting Rs 0.47 Lac also taken into account. Thus total capital expenditure of Rs.2,696.14Lac booked as capital expenditure from Plan Grant (OH-35) only.
11. A statement showing the details of investment and interest accrued is annexed, which is corresponding to Schedule 5 and 6.
12. Grants and Subsidies (Schedule-10):, The balance under Non Recurring Grant (OH-35) isRs. 3,112.65 lakh and Recurring Grant under (OH-36) is Rs.2,387.69 lakhs as on 31.03.2019.
13. TEQIP III project has been allotted to the Institute during last year. The project is implemented as a Central Sector Scheme implying that it is 100% funded by the Union Govt. and implemented by the Central Government machinery. With this background MHRD has developed Direct Fund Transfer System through PFMS. Accordingly the Institute is registered on PFMS and all the transaction under TEQIP III are made through PFMS. A consolidated statement showing details of expenditure under TEQIP III is annexed with the Books of Account.
14. The Institute had spent an amount of Rs.191.96 lakh through foreign currency transaction against procurement of Equipment and other expenses.
15. Capital fund account (Sch-1) has been corrected during the year.

Director

Registrar

**NATIONAL INSTITUTE OF TECHNOLOGY, SILCHAR : ASSAM**  
**RECEIPTS AND PAYMENTS ACCOUNT FOR THE YEAR ENDED 31ST MARCH 2019**

RECEIPTS	Amonut in Rupees			
	Current Year	Previous Year	PAYMENTS	Current Year      Previous Year
<b>I. Opening Balances:</b>			<b>I. Expenses:</b>	
a) Cash Balances	51,225	15,322	a) Establishment expenses	60,18,73,542      45,42,23,119
b) Bank Balance			b) Academic Expenses	14,12,91,113      11,42,93,939
i. Current Accounts	1,23,75,67,862	67,72,15,479	c) Administrative Expenses	5,28,46,766      5,29,71,115
ii. Savings Account	21,69,54,214	24,21,86,904	d) Transportation Expenses	21,41,635      20,36,887
			e) Repairs & Maintenance	2,90,96,801      1,63,98,196
			f) Finance Cost	83,697      38,360
			g) Prior Period Expenses	-      -
			h) Other Expenses	3,43,95,774      3,31,76,651
<b>II. Grants Received:</b>			<b>II. Payments against</b>	
a) Non Recurring Grant: From Govt of India	6,67,00,000	41,99,50,000	Earmarked/Endowment Funds	2,36,668      63,565
b) Recurring Grant: From Govt of India	71,37,20,000	78,15,50,000		
<b>Grants-in-Aid Receivable :</b>			<b>III. Payments against Sponsored Projects</b>	
a) Non Recurring Grant: From Govt of India	-	-	Misc Payments against Grant/Conference	2,47,11,565      1,78,68,515
b) Recurring Grant: From Govt of India	-	-		
<b>III. Academic Receipts</b>			<b>IV. Payments against Sponsored Scholarshi</b>	
	19,63,11,915	20,24,86,784		63,30,215      45,09,927
<b>IV. Receipts against Earmarked/Endowment Funds</b>			<b>V. Investments and Deposits made</b>	
	3,55,82,608	66,79,400	a) Out of Earmarked	50,40,00,000      -
<b>V. Receipts against Sponsored Project:</b>			b) Out of own funds(Investments-others	-      -
Grants Received from AICTE/GOI	2,21,95,719	2,14,74,096	VI. Term Deposits with Schedule Banks	51,00,00,000      -
Other Misc Receipts against Conference	94,00,453	1,45,90,334		
<b>VI. Receipts against sponsored Fellowships &amp; Scholarships</b>			<b>VII. Expenditure on Fixed Assets and Capital Works- in -Progress</b>	
	91,89,264	21,91,500	a) Fixed Assets	15,67,03,559      7,20,25,942



# RECEIPT AND PAYMENTS ACCOUNT FOR THE YEAR ENDED 31ST MARCH 2019

RECEIPTS			Amonut in Rupees			
	Current Year	Previous Year	PAYMENTS	Current Year	Previous Year	
VII. Income on Investments from			b) Capital works -in- Progress	2,91,18,663	13,91,48,445	
a) Earmarked/Endowment funds	1,57,17,952.00	1,23,541.00	Viii. Other Payments including statutory	5,50,28,915	4,53,99,358	
b) Other investments			IX. Refund of Grants (Sponsored Projects)	42,54,328	3,81,905	
VIII. Interest received :			X. Deposits and Advances	11,90,46,269	11,45,93,120	
a) Bank Deposit	22,75,452	75,57,341				
b) Loans and Advances	6,53,231	1,04,589				
c) Savings Bank Account	9,03,79,741	69,02,609				
d) Interest on Auto Sweep A/c	-	22,51,172				
e) Against Project Account			XI. Other Payments	33,85,26,971	18,03,74,163	
IX. Investments encashed						
X. Term Deposits with Scheduled Banks encashed	36,90,45,573	25,37,371	XII. Closing balances			
XI. Other income (including prior Period Income)	3,17,88,293	2,64,36,932	a) Cash in hands	8,837	51,225	
XII. Deposits and Advances			b) Bank balances			
Plant Machinery & Equipment	13,74,15,014	6,57,169	i. Current Accounts	65,83,39,628	1,23,75,67,862	
Other Deposits ( S Debtors)	10,46,42,153	11,15,16,838	ii. Savings Account	15,44,03,251	21,69,54,214	
Loans & Advances	9,47,20,196	6,49,31,994				
XIII. Miscellaneous Receipts including Statutory Receipts						
XIV. Any other Receipts	6,81,27,332	11,07,17,136				
TOTAL	3,42,24,38,197	2,70,20,76,510	TOTAL	3,42,24,38,197	2,70,20,76,510	

Dated, Silchar

The 18th September 2019

Registrar

Director

**NATIONAL INSTITUTE OF TECHNOLOGY, SILCHAR : ASSAM**  
**SCHEDULES FORMING PART OF RECEIPTS & PAYMENTS ACCOUNTS FOR THE YEAR ENDED 31ST MARCH 2019**

**RECEIPTS :**

*Amount in Rupees*

Particulars	Current Year	Previous Year
<b>GRANTS-IN-AID RECEIVED FROM GOVT OF INDIA:</b>		
NON RECURRING GRANT : RECEIVED FROM GOVT OF INDIA: OH-35	6,67,00,000	41,99,50,000
RECURRING GRANT: RECEIVED FROM GOVT OF INDIA OH-36 (SALARIES)	36,11,00,000	78,15,50,000
RECURRING GRANT: RECEIVED FROM GOVT OF INDIA OH-31 (GENERAL)	35,26,20,000	
<b>Total</b>	<b>78,04,20,000</b>	<b>1,20,15,00,000</b>
<b>GRANTS-IN-AID RECEIVABLE FROM GOVT OF INDIA:</b>		
<b>Total</b>	<b>-</b>	<b>-</b>
<b>Academic Receipts</b>		
<b>Academic Fee</b>		
Tuition Fees	16,53,16,444	17,47,63,358
Admission Fee	56,62,630	46,75,000
Library Fee	33,92,750	31,28,900
I.T System Fee	66,50,050	62,19,500
Examination Fee	63,47,010	65,26,100
Late Fine/Penalty	1,52,044	1,60,296
Misc Fees	8,93,577	4,08,030
Medical Facility Fee	21,22,560	18,64,800
Transportation Fees	20,10,850	18,64,800
Summer Term Course Fee	55,000	
<b>Other Academic Receipts</b>		
Training & Placement Fee	6,25,000	5,09,000
Short Term Training Programme Fee	20,000	
Development Fee	30,64,000	23,67,000
<b>Total</b>	<b>19,63,11,915</b>	<b>20,24,86,784</b>
<b>EARMARKED / ENDOWMENT FUND:</b>		
Pension Fund Contribution	1,32,33,549	45,07,569
Employees welfare fund	42,187	-
NMEICT Fund		78,565
Student Aid Fund	10,28,000	7,95,000
<b>Total (A)</b>	<b>1,43,03,736</b>	<b>53,81,134</b>
<b>CORPUS FUND :</b>		
Corpus Fund	1,99,36,752	46,582
Corpus fee received from Students	10,28,000	7,95,000
Migration fee (Charged under income of Corpus Fund)	2,000	2,200

Institute Share from Transcript fee & Verification Fee	3,12,120	4,52,505
Corpus Fund interest on Savings Bank		1,979
<b>Total (B)</b>	<b>2,12,78,872</b>	<b>12,98,266</b>
<b>Grand Total (A+B)</b>	<b>3,55,82,608</b>	<b>66,79,400</b>
<b><u>SPONSORED PROJECTS:</u></b>		
<b>Grants Received against Sponsored Projects:</b>		
MCIT : GoI	55,56,217	47,33,989
SERB : GoI	1,31,39,180	1,00,38,810
DST: GoI	6,69,096	4,67,279
MNRE: GoI	1,453	
BRNS: GoI	3,70,854	3,86,795
UGC	78,883	1,97,556
ICSSR	80,000	80,000
DEITY (Institute)	10,00,000	
CPRI	5,83,245	14,97,000
ARDB	6,58,657	
NMHS	58,134	20,72,000
DDMA		15,18,000
CSIR		4,82,667
<b>Total</b>	<b>2,21,95,719</b>	<b>2,14,74,096</b>
<b><u>OTHER MISC. GRANTS/SPONSORSHIP:</u></b>		
Received from SERB (DST)	3,00,000	1,57,548
Received from CBSE	72,000	72,000
Manish Roy Memorial Scholarship Fund	7,388	8,316
K.K Mrinalini Kroni Gold Medal Fund	3,694	4,160
Abhijit Hom Choudhury Memorial Award Fund	543	15,315
Saswata Purkayastha Memorial Fund	4,000	1,26,801
YFRFs Visvesvaraya scheme (Project A/c)	14,80,000	
DST- FIST		88,00,000
Unnat Bharat Abhiyaan		1,75,000
DST- Inspire Scholarship	8,00,000	3,50,000
IGNCA		95,257
DST (WORKSHOP)	1,00,000	
Education Loan Refundable	1,16,000	
GIAN Course Fee	57,500	3,36,850
GIAN FUND	19,04,000	38,08,000
IIT GATE		1,01,250
GPF Payable ( Against Auto Sweep)	2,96,847	
AICTE Exam	5,28,000	



NMHS Project	22,295	5,16,163
NISE-Solar Energy Awareness Fund		49
START UP India	32	
West Bengal JEE	33,880	23,625
CHSL online Exam	5,05,258	
Academic Development Fee (MBA)	15,00,000	
NRCs Wwayam PMMMNMTT Scheme	14,70,000	
Indian Academic Science	1,99,016	
<b>Total</b>	<b>94,00,453</b>	<b>1,45,90,334</b>
<b>VI. Receipts against sponsored Fellowships and Scholarships:</b>		
Outside Scholarship	87,87,043	21,91,500
Doctoral Fellowship (ICSSR)	4,02,221	
<b>Total</b>	<b>91,89,264</b>	<b>21,91,500</b>
<b>INTEREST RECEIVED FROM EARMARKED FUND:</b>		
Depreciation Fund Interest on Savings Account	80,13,157	2,491
Maintenance Fund Interest on Savings Account	63,63,417	47,924
Staff Dev Fund Interest on Savings Account	7,16,892	73,126
Kids Fund Interest on Savings Account	6,24,486	
<b>Total</b>	<b>1,57,17,952</b>	<b>1,23,541</b>
<b>Interest Earned</b>		
<b>Interest on Saving A/c</b>		
Interest on Fees A/c	2,09,572	43,386
Interest on Scholarship A/c	23,414	61,203
Interest on Savings Bank A/c	3,50,827	
Interest on Savings Bank A/c (Project)	69,418	
<b>Total</b>	<b>6,53,231</b>	<b>1,04,589</b>
<b>Interest Others</b>		
Interest on (Auto Sweep) Non Plan	1,34,80,014	31,95,627
Interest on Auto Sweep A/c (Fee)	63,00,463	37,06,982
Interest on Auto Sweep A/c (Scholarship account)	8,29,699	
Interest Others (from Paln/Non-plan Investment)	3,43,715	
Interest on Auto Sweep A/c (Plan)	6,70,84,532	
Interest on Auto Sweep First / Modrom & Other Projects	23,41,318	
<b>Total</b>	<b>9,03,79,741</b>	<b>69,02,609</b>
<b>Interest Against Project A/c</b>		
Interest on Saving A/c & Auto Sweep (Sponsored projects a/c.)		22,24,972
Misc Receipts	-	26,200
<b>Total</b>	<b>-</b>	<b>22,51,172</b>
<b>Investment with scheduled banks</b>		

Investment (Corpus Fund)	10,59,10,710	
Investment (Depreciation Fund)	12,49,58,489	
Investment (Maintenance Fund)	11,35,00,000	
Investment (Staff Dev. Fund)	97,75,374	
Investment (KIDS NITS Fund)	1,00,00,000	
Investment (Nonplan Fees)	45,00,000	
Investment (Plan- Margin Money A/C)	4,01,000	25,37,371
<b>Total</b>	<b>36,90,45,573</b>	<b>25,37,371</b>
<b>Other Income ( Including Prior Period Income)</b>		
<b>Income From Land &amp; Building</b>		
License Fee	29,95,043	22,48,037
Hire Charges for Shops Canteen and Office	13,50,103	20,77,112
Seat Rent/Hostel Room Rent	64,55,961	60,40,750
Guest House Room Rent	25,65,188	18,99,792
Electricity Consumption Receipts	53,56,812	47,01,837
Light & Water (Hostel)	61,87,000	60,40,750
<b>Other Income</b>		
RTI Fees	790	712
Application Fee	36,93,992	14,79,384
Tender Form Fee	3,56,000	1,68,300
Institute Overhead on Project	5,08,527	3,24,225
Misc Receipts	8,22,835	7,88,802
Institute Overhead on Consultancy	14,96,041	6,67,231
<b>Total</b>	<b>3,17,88,293</b>	<b>2,64,36,932</b>
<b>Margin Money for LC</b>	<b>22,75,452</b>	<b>75,57,341</b>
<b>Total</b>	<b>22,75,452</b>	<b>75,57,341</b>
<b>OTHER DEPOSITS:</b>		
Accrued Interest on LC Investment	7,333	1,50,977
Accrued Interest on Corpus Fund	3,51,56,492	
Accrued Interest on Depreciation Fund	3,50,05,843	
Accrued Interest on Maintenance Fund	4,74,40,931	
Accrued Interest on Staff Dev Fund	37,42,255	
Accrued Interest on Non Plan Fund	15,36,286	
Accrued Interest on KIDS NITS Fund	16,02,216	
Electricity Consumption Receivable	4,55,012	2,91,842
House Rent/Licence Fee Recivable	1,43,892	53,773
Shops & Canteen Rent Recivable	18,272	1,46,577
Hydraulic Engineering Lab Building (Recovery)	5,34,638	
Earth Quik Engg Building (Recovery)	10,83,872	



Girls Hostel No.3 (Recovery)	84,453	14,000
Receivable from SBI ( Sashwata Chakraorty)		
Lab Equipment	4,70,040	
Boys Hostel No.9	1,01,33,479	
<b>Grand Total</b>	<b>13,74,15,014</b>	<b>6,57,169</b>
<b>Loans,Advances &amp; Deposits</b>		
<b>Sundry Debtors</b>		
Panorama International		4,00,000
<b>Advance to Employees</b>		
HTC Advance	1,46,789	14,66,977
LTC Advance	41,13,370	20,53,493
<b>Other Advance To Employees</b>		
Recoverable Advance	86,10,419	89,86,749
Recoverable Advance (Project)	1,96,276	44,337
TA Advance	15,58,943	39,61,269
TA Advance (Project)	35,560	
Soft Loan (Staff)	8,84,328	8,25,588
Festival Advance	6,88,975	7,16,986
Medical Advance		6,00,000
<b>Deposit Work</b>		
CPWD	1,54,50,000	
Secured Advance Recovery		4,19,07,760
Adv to NCC Ltd	30,40,000	39,48,924
Adv to N C Roy	8,68,000	
Adv to Dipak Nath		49,42,000
Adv to Firm - Gangwal Engg. & Const. Co Pvt Ltd		64,05,000
Receivable from CSAB against Fee	2,72,95,000	2,48,18,657
Receivable from CCMT against Fee	71,50,000	70,40,000
Receivable from CCMT-Others	3,10,793	3,95,000
Receivable from CCMN	6,72,500	3,42,500
Receivable from CP Fund (Against Pension Contb.)	1,88,50,882	14,63,027
Receivable from NIDM		1,26,087
Receivable from Consultancy Cell		7,129
Receivable from RPS Fund	13,41,712	
Loan to CSAB	2,00,000	4,15,275
Loan to SMDP Project		2,00,000
Loan to TEQIP (Recovery)	1,32,28,606	4,50,080
<b>Total</b>	<b>10,46,42,153</b>	<b>11,15,16,838</b>
<b>MISCELLANEOUS RECEIPTS INCLUDING STATUTORY RECEIPTS:</b>		



<b>Provision -TAX:</b>			
VAT			66,84,662
GST (PAYABLE)		28,50,517	
GST (PAYABLE) Project		75,450	
Vat Project			1,07,989
Income Tax (Against Salary & Contracts)		5,21,84,896	2,98,60,116
Income Tax -Project		20,450	33,000
Professional Tax		9,44,382	7,78,060
Professional Tax (Project)		10,924	10,402
Labour Cess		2,43,150	14,91,473
GSLI		5,73,450	6,09,500
EPF Subscription MR Employee		19,30,378	17,65,929
EPF Subscription FW Workers Society/Housekeeping		14,29,361	95,281
EPF Subscription Contractual Staff		11,44,185	13,13,422
GPF Advance Recovery		15,80,348	14,04,327
GPF		1,31,73,000	
GPF Subscription (Other org)		4,15,000	1,08,96,750
CPF Subscription		2,21,161	58,727
NPS Subscription		1,79,23,544	98,22,356
<b>Total</b>		<b>9,47,20,196</b>	<b>6,49,31,994</b>
<b>CURRENT LIABILITIES</b>			
<b>OTHER DEPOSITS FROM STUDENTS:</b>			
Hostel Caution Money		5,000	26,50,000
Institute Caution Money		51,60,000	40,05,000
<b>Sundry Creditors &amp; Others</b>			
CIS Bureaus Services Pvt Ltd		3,65,174	7,82,168
CIS Bureaus Services Pvt Ltd (As per Labour Union)		14,93,540	
M/s Sify Technologies Ltd			
Balmer Lawrie & Co		8,47,838	
Shree Ganesh Associates			3,24,130
Nurul Hussain Barbhuiya			44,142
Niharendu Bhattacharjee			13,17,889
T.K Das & Co.			20,52,676
NCC Ltd		36,18,680	3,31,72,788
Trishul Security & Services			4,02,552
Gulanur Hussain Choudhury		9,15,035	10,72,697
M/s New Air Conditioner			5,248
DDF Consultant Pvt. Ltd.		4,71,025	
Duttco Instruments		12,947	

Integrated Micro system	69,825	
J V Enterprises	19,793	
Labtech Electronics	5,691	
LCGC Bioanalytic Solutions	43,485	
Rajiv Sen	4,58,979	
Swapan & Associates	400	
Mukesh & Associates	2,69,867	
Nanda Kr. Singh	3,78,447	
Earnest Money Deposit	53,23,847	34,27,749
Security Deposit	26,47,776	41,82,136
Performance Security (BRNS project)	42,825	
Performance Security (Proect A/c)	2,20,977	
SD Project		12,738
Load Security from Nielit, Guwahati		1,49,730
Alumini Association Fee	10,29,000	7,95,000
CSIR- NISTADS		70,472
Deposit Remittance	9,29,412	10,28,309
Deposit Remittance (project)	583	96,611
Recovery of Electricity Charges (Project)	30,765	28,053
Recovery of Licence Fee (Project)	34,200	26,139
CCTV Payable	9,34,647	8,91,124
DASA		25,000
Group Insurance Claim	12,10,954	9,71,241
Gymkhana	66,96,650	62,09,500
Hostel Management	6,000	2,75,500
JEE - Main		31,900
Leave Encashment Payable (Other Org)	1,20,395	53,496
Liability Towards DCRG	1,50,000	4,10,000
L.I.C.I Payable	44,20,533	44,94,682
Pension Fund Contribution (Other Org)	2,51,735	90,850
Mediclaime Insurance	16,72,750	16,84,640
Mess Advance		27,000
Mess Establishment	61,54,000	58,70,500
Processing Charges	4,38,500	2,23,525
Refundable Excess Deposit	6,16,475	3,86,059
Student Mediclaim	5,61,958	14,82,661
Transcript Fee	7,00,400	7,73,600
RPS Project A/c	19,80,637	28,16,767
Verification fee	1,49,650	1,85,500

Ishan Bikash -2016			13,100
DST FIST (Adv Mfg for LC Margin Money) (Project A/c)			1,57,00,000
DST FIST (M.E Adv Mfg)		1,57,00,000	
Self Finance Course (STTP- Applied Fine Element)			55,500
Recovery against Trainee Teachers (RD)		2,20,800	2,20,800
Refundable to CCMN			92,500
Unclassified receipts (Institute)		2,80,515	2,75,697
Unclassified receipts (Project A/c)		50,000	20,000
APDCL Exam		78,600	
BHM Fee		46,500	
CEE 2018		53,410	
SSC - Exam			5,05,000
ASME Travel Grant (Project A/c)			2,06,847
IUSSTF Base Fellowship (Project A/c)		51,027	5,90,500
Tezpur University Exam			1,65,000
Relief fund receipts		1,70,713	
Plan interest on Auto Sweep			99,59,683
Plan Interest on Mobilization Adv			
Plan Grant (Axis Bank & Others)			3,62,737
Blue Star Ltd.		1,81,000	
INSA Visiting fellowship		29,405	
BMG Informatics		8,04,967	
<b>Total</b>	<b>Total</b>	<b>6,81,27,332</b>	<b>11,07,17,136</b>



**NATIONAL INSTITUTE OF TECHNOLOGY, SILCHAR : ASSAM**  
**SCHEDULES FORMING PART OF RECEIPTS & PAYMENTS ACCOUNTS FOR THE YEAR ENDED 31ST MARCH 2019**

**PAYMENTS :**

<i>Amount in Rupees</i>		
Particulars	Current Year	Previous Year
<b>Establishment Expenses</b>		
Salary Teach & Admin	26,15,03,434	19,27,24,822
Salary Class-III	1,53,07,780	1,65,68,382
Salary Class-IV	3,12,14,928	3,14,34,283
Salary of Cont. Staff (Teach/admin/III/IV)	2,77,74,302	3,11,85,664
Salary of MR Staff	1,57,06,799	1,73,64,635
Salary of Outsourced Staff	2,67,871	2,49,284
Bonus	-	9,14,992
Professional Dev Allowance	40,98,838	1,14,09,569
NPS Contribution	1,48,33,240	98,22,356
CPF Contribution	2,09,916	58,727
EPF Contribution on FFW Workers		3,07,906
EPF Contribution on MR Salary	21,00,611	18,80,425
EPF Contribution on Contract Staff Salary	26,71,717	11,42,204
Mobile & Telephone Bill Reimbursement	6,67,128	2,80,471
Death Cum Ret. Gratuity	98,35,533	1,57,22,465
Pension	11,39,25,075	5,59,81,703
Commuted Pension	86,82,378	78,91,657
Leave Encashment	1,11,72,652	66,63,385
Home Travel Concession	5,60,846	17,94,427
Leave Travel Concession	54,75,277	25,76,499
Medical Reimbursement	19,23,222	24,32,764
Medicine & Dispensary Exp	3,95,202	7,16,395
Children Education Allowance	17,569	92,253
Honorarium/Sitting Fees	3,67,500	6,98,333
Security Services	4,19,32,686	2,18,40,344
House Keeping	3,06,59,549	2,24,52,289
Joining Time T.A	2,38,924	2,725

Relocation Charges (Transportation)	3,30,565	14,160
<b>Total</b>	<b>60,18,73,542</b>	<b>45,42,23,119</b>
<b>Academic Expenses</b>		
Lab Consumable	8,61,535	8,23,615
Conferences	1,11,573	43,998
Visiting Faculty Remuneration	7,43,214	3,17,500
Examination Expenses	31,38,397	23,32,773
Convocation Expenses	26,00,225	25,82,824
Stipend to M. Tech/ Ph.D	13,24,57,526	10,73,87,221
Student Project Expenses	6,97,094	1,33,084
Library Contingency	2,17,131	1,90,151
Industry Visit (MBA)	2,57,785	
STIS Project	-	4,82,773
Student orientation programme	1,18,330	
Workshop & Seminar expense	88,303	
<b>Total</b>	<b>14,12,91,113</b>	<b>11,42,93,939</b>
<b>Administrative Expenses</b>		
Electricity & Power Charges	2,97,82,954	3,02,55,418
Water and Electricity Charges to PHIE	65,00,570	64,57,831
Postage Exp	3,351	3,30,956
Internet Expenses	6,62,359	7,69,274
Telephone Charges	27,724	64,793
Printing and Stationary Exp	17,27,100	9,83,985
Local Conveyance	4,600	4,730
TA/DA Expenses	18,78,979	12,34,684
Hospitality Exp/Refreshment	3,01,488	2,65,975
Audit Fees	8,850	6,68,520
Professional Fee & Legal Exp	1,94,800	3,49,392
Advertisement Expenses	67,44,732	33,13,972
News Paper & Periodicals	43,117	16,673
Training & Placement Expenses	4,27,587	4,66,558
Board & Committee Meeting	1,97,570	9,88,838
Computer Consumable Exp	2,34,779	1,98,846
Miscellaneous Exp	40,803	62,085

Gyan Sagar Exp	54,222	55,841
Celebration of National Day	6,59,543	9,04,146
NCC & NSS Activities	2,19,449	3,00,011
Promotion of Rashtriya Bhasha	-	1,81,220
Consumable	5,06,620	3,02,354
Academic Audit Expenses	-	1,06,200
Transit House Rent	-	2,50,000
Innovation Lab Exp	-	9,846
Other Admin Exp	10,90,993	11,07,245
Registration/Nomination Fee	-	13,570
NSDL Service Charges	19,367	23,260
Gymkhana Expenditure	5,65,077	6,10,090
NIT Conclave	-	26,74,802
Contingency expenditure	1,35,137	
HPC Cell exp	4,57,961	
NABL expense	2,50,145	
Start-up conclave expense	77,223	
Innovation expense	29,666	
<b>Total</b>	<b>5,28,46,766</b>	<b>5,29,71,115</b>
<b>Transportation Expenses</b>		
Vehicle Running Expenses	20,13,698	19,18,720
Insurance Exp- Vehilces	1,27,937	1,18,167
<b>Total</b>	<b>21,41,635</b>	<b>20,36,887</b>
<b>Repairs and Maintenance Expenses</b>		
Repairs & Maintenance- Building & Others	1,10,54,925	63,55,543
Maintenance of Furniture & Fixtures	4,49,126	3,89,977
Repairs and Maintenance- Tools & Equipments	40,24,129	6,98,161
Casual Work & Carriage	5,33,278	20,730
Gardening & Horticulture	79,165	
Repairs & Maintenance- Electricity	38,86,619	17,87,489
Maintenance of D.G Set	67,60,417	39,21,270
Manitenance of Networking	1,21,939	29,26,672
Repairs & Maintenance of Guest House	2,13,919	2,98,354
AMC for IT Facility	19,73,284	



<b>Finance Cost</b>	<b>Total</b>	<b>2,90,96,801</b>	<b>1,63,98,196</b>
Bank Charges		83,697	38,360
<b>Prior Period Expenses</b>	<b>Total</b>	<b>83,697</b>	<b>38,360</b>
<b>Other Expenses</b>	<b>Total</b>	<b>-</b>	<b>-</b>
Support to NITS KIDS School		6,18,774	6,19,651
Support to Kendriya Vidyalaya		3,37,77,000	3,25,57,000
<b>EARMARKED FUND / ENDOWMENT FUND :</b>	<b>Total</b>	<b>3,43,95,774</b>	<b>3,31,76,651</b>
Corpus Fee		7,000	6,000
Pension fund Contribution			
NMICT Awareness Program Fund		46,551	21,565
Student Aid Fund		7,000	6,000
Employees' Welfare Fund		1,76,117	30,000
<b>SPONSORED PROJECTS:</b>	<b>Total</b>	<b>2,36,668</b>	<b>63,565</b>
<b>Expenditure against Sponsored Projects</b>			
<b>Capital Expenditure</b>			
Equipment		11104540	76,45,914
Computer		1,96,246	
Books		97,175	96,611
<b>Revenue Expenditure</b>		<b>1,33,13,604</b>	<b>1,01,25,990</b>
<b>FELLOWSHIP / SCHOLARSHIP :</b>	<b>Total</b>	<b>2,47,11,565</b>	<b>1,78,68,515</b>
Outside Scholarship Payable		59,27,994	45,09,927
Doctoral Fellowship (ICSSR)		4,02,221	
<b>INVESTMENTS &amp; DEPOSITS:</b>	<b>Total</b>	<b>63,30,215</b>	<b>45,09,927</b>
<b>OUT OF EARMARKED/ENDOWMENT FUNDS;</b>			
Corpus Fund Investment		24,80,00,000	
Depreciation Fund Investment		12,00,00,000	
Maintenance Fund Investment		12,00,00,000	

Staff-Dev Fund Investment	1,60,00,000	
<b>Total</b>	<b>50,40,00,000</b>	-
<b>OTHER INVESTMENT</b>		
Investment (Recurring)	41,00,00,000	
Investment (Fee)	10,00,00,000	
<b>Total</b>	<b>51,00,00,000</b>	-
<b>OUT OF OWN FUNDS:</b>		
Investment- LC Margin Money A/C		
<b>Total</b>	-	-
<b>EXPENDITURE ON FIXED ASSETS</b>		
Software Developments	1,84,20,267	9,44,000
E-Journals	78,88,149	2,85,36,416
E-Books	63,78,342	87,72,895
Patent and Copyright	47,730	1,25,790
<b>Buildings</b>		
NABL Lab Building		9,93,504
Institute Building Renovation	43,29,606	4,94,988
Married Scholar Hostels		4,15,000
Staff Quarters Type VI		16,57,432
Girls Hostel No.3		90,97,257
Renovation of Hostels	19,11,712	
Renovation of Staff qtr.	3,37,949	
Security Barrack 2	2,77,348	
New Administrative Building	10,42,962	
Non Faculty Staff qtrs.	18,84,101	
Staff qtr. Type V	5,00,000	
Eat out Dhaba	1,54,952	
Electrical renovation	12,84,240	
Girls Hostel No.3	2,80,427	
<b>Roads &amp; Bridges</b>		
Renovation of Internal Road and gate	37,13,258	
Road & Power supply	86,40,400	
<b>Plant, Machinery &amp; Equipments</b>		
Audio Visual Equipments	85,900	5,01,710

Electrical Equipments	1,75,47,453	5,43,747
Equipments of Health Centre	-	
Lab Equipments	3,63,96,283	1,49,47,458
Gym Equipment	6,72,785	
Furniture Including Hostels	48,97,488	4,20,350
Tools & Equipments	1,70,721	
Office Equipments	8,89,831	
Institute Contribution Towards Dicoba Scheme	10,00,000	
Computer Peripherals	3,17,03,323	13,19,592
Books	42,66,418	32,55,803
Networking	1,79,000	
Electronics Equipment	2,90,751	
Other assets (Kitchen eqpt. For Hostel)	4,41,270	
Vehicle	10,70,893	
<b>Total</b>	<b>15,67,03,559</b>	<b>7,20,25,942</b>
<b><u>CAPITAL WORK IN PROGRESS:</u></b>		
Boys Hostel-9 (WIP)	2,77,85,584	7,05,12,811
Library Building (WIP)	13,33,079	11,50,000
New Academic Building(WIP)		2,93,86,067
New Admin Building(WIP)		10,40,000
Type (V)Qtr 20 Units (WIP)		1,76,95,411
Expansion of E.E Building (WIP)		71,74,533
Eatout Dhaba		83,84,671
Earthquake Engg Lab Bldg		38,04,952
<b>Total</b>	<b>2,91,18,663</b>	<b>13,91,48,445</b>
<b><u>PROVISIONS : (TAX)</u></b>		
VAT	1,16,48,986	
Vat (project)	1,07,989	
Income Tax (Against Salary & Contrats)	5,18,77,132	3,08,55,140
GST	16,88,675	
GST (Project)	75,450	
Income Tax (Project)	20,450	33,000
Professional Tax	9,23,463	7,38,337
Professional Tax (Project)	10,924	27,355

Labour Cess Payable	4,32,821	19,88,551
<b>Total</b>	<b>5,50,28,915</b>	<b>4,53,99,358</b>
<b>Refund to Ministry (Project A/C)</b>		
Refund from Project Account	42,54,328	3,81,905
<b>Total</b>	<b>42,54,328</b>	<b>3,81,905</b>
<b><u>Loans, Advances &amp; Deposits</u></b>		
<b><u>Sundry Debtors</u></b>		
Panorama International		4,00,000
<b>Advance to Employees</b>		
HTC Advance	2,64,100	18,07,200
LTC Advance	56,86,500	24,31,000
<b>Other Advance To Employees</b>		
Recoverable Advance	1,88,80,967	1,89,16,573
Recoverable Advance (Project)	4,94,030	3,88,000
TA Advance	18,99,900	50,24,900
Soft Loan (Staff)	3,25,000	12,50,000
Festival Advance	4,82,000	7,03,000
Medical & Other Advance	3,00,000	1,00,000
TA Advance (Project)	35,560	
Adv To Balmer Lawrie & co.	56,59,306	
<b><u>Advances &amp; Other Receivable on Capital A/c</u></b>		
<b><u>Deposit Work</u></b>		
Deposit Work-CPWD For Internal Road	3,00,000	
Deposit Work-CPWD New Admin Building	2,98,60,000	
Deposit Work-CPWD Non Faculty-100 Units Qtr	3,14,61,000	
Deposit Work-CPWD Swage Disposl. Sytm	30,68,000	
Secured Advance		2,97,56,000
Margin Money for LC against Equipment	1,47,59,406	1,22,69,447
Advance to NCC Ltd	30,40,000	1,45,00,000
Advance to N.C.Roy	20,84,000	
Advance to Sudeep Nath	4,46,500	
Advance to Dipak Nath		49,42,000
Advance to Gangwal Engg Co Pvt Ltd		64,05,000
DST FIST (Adv Mfg for LC Margin Money) (Project A/c)		1,57,00,000

<b>Current Liabilities &amp; Provisions</b>	<b>Total</b>	<b>11,90,46,269</b>	<b>11,45,93,120</b>
Hostel Caution Money		2,05,000	88,40,000
Institute Caution Money		25,68,000	28,68,000
M/s Sify Technologies		17,82,336	21,11,400
M/s Panorama International			1,02,127
M/s P. T Books International			1,55,153
Niharendu Bhattacharjee			17,51,422
T. K Das & Co.			20,52,676
M/s Trishul Security & Services Pvt Ltd			4,02,552
Gulanur Hussain Choudhury		16,29,249	3,58,483
M/s NCC Ltd		7,78,11,786	
Nurul Hussain Barbhuiya			30,692
Shree Gonesh Associates		1,56,034	1,59,096
Earnest Money Deposit		33,40,985	8,07,445
Security Deposit		84,58,942	1,78,24,029
Performance Security (project)		42,825	
GSLI Payable		5,75,400	6,14,550
EPF Subscription MR Employees		19,30,445	17,65,844
EPF Subscription FFW Workers' Society/Housekeeping		13,25,934	2,80,782
EPF Subscription Contract Staff		11,37,779	11,03,958
GPF Advance Recovery		10,46,802	15,50,260
GPF Payable (Others)			3,80,000
GPF Subscription Payable		1,31,73,000	1,13,79,850
CPF Subscription Payable		2,21,161	58,727
NPS Subscription Payable		1,77,41,226	1,05,72,136
NRFCC BRNS Projects			3,86,795
PM-MNT Fund		-	7,87,904
Sashwata Purkayastha Award Fund			14,000
Fund from Assam Disaster Management			1,62,000
ASME Travel Grant (Project A/c)			2,06,847
IUSSTF Base Fellowship (Project A/c)		51,027	5,90,500
Electricity Recovery (Project A/c)		30,765	29,875
Recovery of Licence Fee (Project)		34,200	27,416



Payable to R.G Nair (Project A/c)			5,645
Loan refund to Institute (Project A/c)			2,00,000
YFRF's Visvevaraya PhD	9,80,000		
NRDC Fund		1,99,864	
Business Environment Law Curriculum Fund	2,62,831		5,37,169
IGNICA	5,75,632		
VSLI Hands on Training			63,000
IIT Gate Exam		2,10,325	
Unnat Bharat Abhiyaan	18,667		41,613
GIAN Course Fee	71,725		3,12,526
GIAN Fund	20,35,553		36,74,411
NISE Solar Energy Awareness Fund			5,25,000
START UP India		184	
DST Inspire Scholarship	10,451		2,76,064
Alumini Association Fee	8,000		6,000
CCTV Payable	4,61,135		3,48,030
Deposit Remittance			8,51,998
Deposit Remittance (Project A/c)			1,14,781
Group Insurance Claim	10,39,960		13,80,364
Gymkhana	50,32,784		39,00,415
Hostel Management	500		32,62,000
Hostel Welfare		2,24,510	
Liability Towards DCRG	2,10,000		1,50,000
L.I.C.I Payable	44,19,997		48,86,634
Sponsored Project Liability	14,01,842		
Sponsored Project Current Year	1,42,98,159		
DDF Consultant Pvt Ltd	4,71,025		
Mr.Rajib Sen	4,58,979		
M/S.P.Swapan & Associates	400		
Nando Kumar Singh	3,78,447		
Mediclaime Insurance	18,31,788		17,60,004
Mess Advance	-		26,000
Mess Dues	87,594		26,000
Mess Establishment	4,81,451		34,95,603

Processing Charges		38,000
Refundable Excess Deposit	65,53,627	49,41,244
Salary teach/Admin Payable	6,51,86,778	
Student Mediclaim	6,52,415	12,88,191
Transcript Fee	7,54,400	8,52,900
Pension Payable		20,99,858
CPF Contribution Payable	11,245	
Advertisement Exp Payable	90,360	94,944
DG Set Maintenance Payable	5,73,046	3,64,170
Gardening & Horticulture Exp Payable	20,006	96,403
Repairs & Maintenance Electricity Payable	1,01,499	1,77,480
Repairs & Maintenance Build & Others Payable	5,24,778	4,87,563
Repairs & Maintenance Tools & Equip. Payable		4,18,656
Water & Electricity Charges to PHE Payable	12,17,273	7,51,542
RPS Project A/c	19,80,637	28,16,767
NPS Contribution Payable	29,07,986	7,49,780
Administrative Exp Payable		34,457
Celebration of National Day Exp Payable		5,11,190
HTC/LTC Exp Payable	2,19,506	42,710
Medical Reimbursement Exp Payable	4,72,654	8,11,308
Printing & Stationery Exp Payable	12,870	31,549
Refreshment Exp Payable		2,256
STIS Project Exp Payable		1,59,739
Ishan Bikash-2016 Payable		13,100
CPDA Exp Payable		1,61,339
Digital Library Exp Payable		1,99,025
E-Journal Subscripion Exp Payable		11,65,097
Guest House Maint. Exp Payable	59,462	14,053
BHM Fee	15,500	
CEE 2018	4,000	
DST Inspire Payable	8,00,000	
Education Loan Refundable	1,16,000	
Payable To Pulak Nath	37,026	
Payable to Lalu Seban		39,888

Payable Against AICTE Exam	5,28,000	
Payable Against CHSL Online Exam	5,05,258	
Payable Against Indian Academic of Sciences (IASc)	1,99,016	
SSC Exam Exp Payable		5,05,000
Tezpur University Exam Exp Payable		1,65,000
Children Education Allowance Payable	18,30,117	17,58,233
Electricity & Power Charges Payable	23,72,524	25,62,115
Contractual Staff Salary Payable	35,68,325	30,00,535
MR Staff Salary Payable	14,48,678	9,59,072
Security Service Charges Payable	84,71,326	17,40,025
Stipend to M. Tech/ Ph.D Payable	1,09,77,727	94,40,399
Support to NITS KIDS Staff Payable	57,200	49,432
Telephone Charges payable	5,29,691	6,16,445
Vehicle Repair Expenses Payable	1,18,474	4,67,683
Unclassified Receipts		17,000
EPF Contb MR Staff Payable		1,28,117
House Keeping Charges Payable	39,30,233	14,48,246
Provision Plan Others	4,65,372	
Verification Fee	1,46,000	3,27,700
Prepaid E-Journals	26,69,316	1,96,95,197
Prepaid Insurance	13,61,084	7,98,621
Relief fund remittance	1,70,713	
Mooc project - Library	80,000	
INSA Visiting Fellowship	29,405	
BMG Informatics	8,04,967	
CIS Bureau Services Pvt. Ltd.	8,32,168	
DST Project - SERB	19,67,661	
PMMMNT Scheme Fund	1,92,743	
West Bengal JEE	33,880	
CSIR - NISTADS	70,472	
Payable against Visweswaria Contingency (Project)	1,35,612	
Payable to BMG Informatics(Project)	9,00,000	
Payable to Chandra Drug Distributors (Project)	87,960	
Payable to NS Moyon (Project)	39,719	

Payable to Saubrata Bera (Project)	17,607	
Payable to Wasim Arif (project)	4,835	
Payable to Biplab Das (Project)	94,875	
<b><u>Other Receivable</u></b>		
Receivable from Startup India Project		14,84,119
Receivable from CCMN	5,60,000	3,42,500
Receivable from CCMT	2,01,400	1,95,000
DST Inspire Recoverable	1,69,687	
Receivable From Consultancy A/c	24,528	
RPS Project Recoverable	3,17,752	
Loan to CSAB		4,15,275
Receivable from CCMT against Fee	60,44,500	70,40,000
Receivable CSAB	1,64,95,000	1,35,55,000
Receivable From Project A/c	11,43,283	
Loan Solar RTC Project		37,000
Receivable From BHM (Mess Adv)	6,43,000	
Loan to TEQIP	1,58,07,550	5,41,794
TDS Receivable (I Tax) including Project	6,28,818	81,155
Receivable From SMDP Project	14,219	
IIT GHY Project Adv (Project A/c)	23,01,025	2,12,000
<b>Total</b>	<b>33,85,26,971</b>	<b>18,03,74,163</b>

**NATIONAL INSTITUTE OF TECHNOLOGY, SILCHAR : ASSAM**  
**GPF and NPS ACCOUNT**

**BALANCE SHEET AS AT MARCH 31, 2019**

LIABILITIES	Current Year	Previous Year	ASSETS	Current Year	Previous Year
<b><u>CAPITAL FUND (GPF):</u></b>					
Opening Balance	26,05,10,970	28,46,63,312	<b>INVESTMENT:</b>	3,00,00,000	23,67,13,141
Less: Final Payment	1,81,84,449	2,79,51,499	Investment with Bank	-	3,22,29,562
Less: Fund towards Pension Fund transferred	1,32,33,549	2,33,58,451	Interest accrued on FD		
<b>Balance</b>	<b>22,90,92,972</b>	<b>23,33,53,362</b>	<b>CURRENT ASSETS:</b>		
Add: GPF Subscription	1,31,73,000	1,05,16,750	Advance to Subscriber	39,80,722	39,95,660
Add: GPF Subscription (Other Org)	4,15,000	4,45,000	Receivable from Institute (NPS Sub & Contr)	3,64,636	
Add: Excess payment recovered		-	Receivable from Institute against GPF Subs.	4,15,000	
Add: Excess of Income Over Exp	1,55,41,368	1,61,95,859	TDS receivable	7,65,192	3,98,866
<b>Capital Fund</b>	<b>25,82,22,340</b>	<b>26,05,10,970</b>	GPF Advance receivable from Institute	5,33,546	-
<b>CURRENT LIABILITIES &amp; PROVISIONS:</b>			Interest receivable against Auto sweep a/c	847	
Pension Fund Contribution Payable (2017-18)	-	1,88,50,882	Autosweep with Bank	2,96,000	
<b>Total</b>	<b>25,82,22,340</b>	<b>27,93,61,852</b>	<b>CASH AT BANK</b>	<b>23,07,57,079</b>	<b>70,52,805</b>
<b>NPS Account:</b>					
<b>Opening Balance</b>	<b>10,28,183</b>	<b>22,21,976</b>			
Add: Subscription & Contribution (Received)	3,58,47,088	1,96,44,712			
Add: Subscription & Contribution (Other Org)		-			
Less: Paid during the year (NSDL)	2,79,84,588	2,08,38,506			
<b>Total (Payable to NSDL)</b>	<b>88,90,683</b>	<b>10,28,182</b>			
<b>Grand Total</b>	<b>26,71,13,022</b>	<b>28,03,90,034</b>	<b>Grand Total</b>	<b>26,71,13,022</b>	<b>28,03,90,034</b>

Date: 18th September 2019

Place: Silchar

Registrar

Director



**NATIONAL INSTITUTE OF TECHNOLOGY, SILCHAR : ASSAM**  
**GPF & NPS ACCOUNT**  
**INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED MARCH 31, 2019**

EXPENDITURE	(Amount in Rupees)			
	Current Year	Previous Year	INCOME	Current Year
Bank Commission	-	266	Interest Received on FD	1,50,18,805
Excess of Income over Expenditure	1,55,41,368	1,61,95,859	Interest Accrued on Investment	-
			Interest received on Savings Account	1,12,980
			Interest Received against Autosweep	4,09,583
<b>Total</b>	<b>1,55,41,368</b>	<b>1,61,96,124</b>	<b>Total</b>	<b>1,55,41,368</b>
				<b>1,61,96,124</b>

Date: 18th September 2019  
Place: Silchar

Registrar

Director

**NATIONAL INSTITUTE OF TECHNOLOGY, SILCHAR : ASSAM**  
**GPF & NPS ACCOUNTS**

**RECEIPTS AND PAYMENTS ACCOUNTS FOR THE YEAR ENDED 31ST MARCH 2019**

			(Amount in Rupees)			
RECEIPTS	Current Year	Previous Year	PAYMENTS	Current Year	Previous Year	
Opening Balance: (As on 01.04.2017)						
Cash at Bank	70,52,805	1,57,40,149	ACCUMULATED FUND:			
ACCUMULATED FUND:						
GPF Subscription	1,31,73,000	1,05,16,750	GPF Adv./Withdrawal	15,80,410	7,76,000	
GPF Subscription Received ( Other Org)		4,45,000	Adavce to Subscriber	3,20,84,431	45,07,569	
GPF Advance recovery	10,61,802	16,49,327	Pension Fund Contrb. Paid	-	-	
NPS Subscription ( Institute)	1,77,41,226	98,22,356	GPF Subscription			
NPS Contribution ( Institute)	1,77,41,226	98,22,356	Final payment	1,81,84,449	2,82,95,499	
NPS Subscription ( Other Org)	-	-	Leave salary other Organisation transferred	-	-	
NNPS Contribution ( Other Org)	-	-	Acculated Capital Fund			
GPF Subscription recovery	-	3,84,000	NPS Subscription ( Institute)	1,39,92,294	1,04,19,253	
Pension Fund Contrb. Refunded	-	-	NPS Contribution ( Institute)	1,39,92,294	1,04,19,253	
GPF Subscription Receivable (2016-17)	-	8,68,247	NPS Subscription ( Other Org)	-	-	
NNPS Contribution Receivable (2016-17)	-	7,49,780	NPS Contribution ( Other Org)	-	-	
NNPS Subscription Receivable (2016-17)	-	7,49,780	TDS Receivable	3,66,326		
GPF Advance Receivable (2016-17)	-	1,35,186	Deposit Remittance	-	14,63,027	
INVESTMENT			INVESTEMENT			
Investment Matured	23,67,13,141	90,00,000	Investment during the year	3,00,00,000	-	
Accrued Interest Received (Maturity)	3,22,29,562	8,02,806	Autosweep investment receivable	2,96,000		
			Interest receivable	847		
INTEREST			EXPENSES			
Interest Received against FD	1,50,18,805	4,33,741	Bank Charges	-	266	
Interest Received against Autosweep	4,09,583	3,28,028	Closing Balance:			
Interest on SB A/c	1,12,980	23,139	Cash at Bank	23,07,57,079	70,52,805	
CURRENT LIABILITY						
Deposit Remittance	-	14,63,027				
Total	34,12,54,130	6,29,33,672	Total	34,12,54,130	6,29,33,672	

Date: 18th September 2019  
Place: Silchar

Registrar

Director

# NATIONAL INSTITUTE OF TECHNOLOGY, SILCHAR : ASSAM

## Schedule of Investment & Interest accrued of G P Fund upto 31.03.2019

(Amount in Rupees)

Sl	Name of Bank	Fixed Deposit/Bond Account No	Dated	Face Value as on 01.04.2018	Addition during 2018-19	Matured during 2018-19	Face Value as on 31.03.19	Accrued Interest upto 2017-18	Accrued Interest during 18-19	Accrued Intt. Recd. during 2018-19	Intt Received during 18-19	TDS Receivable during 2018-19	Net Accrued Interests Upto 31.03.19
1	IDBI Bank	Balance as per last Account		5,13,40,732	-	5,13,40,732	-	88,48,590	-	88,48,590	38,72,624	-	-
2	Vijaya Bank	Balance as per last Account		11,10,00,000	-	11,10,00,000	-	1,64,93,909	-	1,64,93,909	57,40,898	-	-
3	Canara Bank	Balance as per last Account		5,43,72,409	-	5,43,72,409	-	35,16,710	-	35,16,710	36,63,252	3,66,326	-
4	UCO Bank	Balance as per last Account		2,00,00,000	-	2,00,00,000	-	33,70,353	-	33,70,353	13,75,705	-	-
5	SBI/NIT Sil	38362654224	30.03.2019	-	80,00,000	-	80,00,000	-	-	-	-	-	-
6	- do -	38362656243	30.03.2019	-	80,00,000	-	80,00,000	-	-	-	-	-	-
7	- do -	38362656742	30.03.2019	-	80,00,000	-	80,00,000	-	-	-	-	-	-
8	- do -	38362657134	30.03.2019	-	40,00,000	-	40,00,000	-	-	-	-	-	-
9	- do -	38362657521	30.03.2019	-	20,00,000	-	20,00,000	-	-	-	-	-	-
<b>Total Rs.</b>				23,67,13,141	3,00,00,000	23,67,13,141	3,00,00,000	3,22,29,562	-	3,22,29,562	1,46,52,479	3,66,326	-

**N.B:** Earlier investments were matured and credited in the bank of the Institute in March, 2019 and fresh investments of Rs.3.00 Cr. made on 30/03/2019. Further, investment of Rs.16.00 Cr. made in 2nd of April, 2019.

## TECHNICAL EDUCATION QUALITY IMPROVEMENT PROGRAMME [TEQIP PHASE- III]

IDA Credit/ No. 5874-0 IN

BALANCE SHEET AS AT 31ST MARCH, 2019

		(Amount in Rs.)	
S. No.	PARICULARS	CURRENT YEAR	PREVIOUS YEAR
A	<b><u>SOURCE OF FUNDS:</u></b>		
	Opening Balance		-
	1) Amount allocated from: Govt of India, NPIU	3,44,94,378	39,67,168
	2) <u>Less: Expenditure</u>		
	As per last Account Rs. 27,49,168.00		27,49,168
	Add during the year Rs.3,08,45,610.00	3,35,94,778	
	<b>TOTAL</b>	<b>8,99,600</b>	<b>12,18,000</b>
B	<b><u>APPLICATION OF FUNDS</u></b>		
	1) Fixed Assets	-	-
	2) Investment	-	-
	3) Work in progress - Scheme work under implementation	-	-
	<b>TOTAL</b>	-	-
	<b><u>4) A. Current Assets, Loans and Advances</u></b>		
	a) Cash Balance	-	-
	b) Bank Balance	-	-
	c) Advance for Capital Goods	-	-
	d) Loans and Advances	8,99,600	12,18,000
	<b>TOTAL (A)</b>	<b>8,99,600</b>	<b>12,18,000</b>
	<b><u>B. Less: Current Liabilities</u></b>		
	i. Earnest Money Deposit Etc	-	-
	ii. Deposit Remittance	-	-
	<b>Net Current Assets (A - B)</b>	<b>8,99,600</b>	<b>12,18,000</b>
	<b>TOTAL</b>	<b>8,99,600</b>	<b>12,18,000</b>

Dated, Silchar

The 18th September 2019

Registrar

Director

TECHNICAL EDUCATION QUALITY IMPROVEMENT PROGRAMME [TEQIP] [Ph- III]  
IDA Credit/ No. 5874-0 IN  
INCOME AND EXPENDITURE ACCOUNT  
FOR THE YEAR ENDED 31/03/2019

(in Rupees)

EXPENDITURE				INCOME		
Previous Year	Particulars	Amount (Rs.)	Amount (Rs.)	Previous Year	Particulars	Amount (Rs.)
-	<b>Procurement of Goods</b>					
-	1.3.1.1 Equipment	69,78,890		27,49,168	Receipt from NPIU	3,05,27,210
45,654	1.3.1.2 Learning Resources	1,03,55,883	1,73,34,773		Settlement of adv for the FY 17-18	12,18,000
3,360	<b>Academic Process:</b>					
-	1.3.2.11 Industry-Institute Interaction	8,82,336				
-	1.3.2.1 Improve Student Learning	15,97,696				
-	1.3.2.2 Research Assistantship	1,40,000				
-	1.3.2.3 Graduate Employability	9,48,267				
-	1.3.2.10 Services	94,400				
4,58,210	1.3.2.4 Faculty/staff Development & Motivation	52,82,338				
10,04,637	1.3.2.5 Research and Development	29,33,419				
83,195	1.3.2.7 Monitoring/ Twinning System	2,08,276				
1,66,564	1.3.2.8 Reforms, Governance	11,17,736				
-	1.3.2.9 Management capacity development	64,407	1,32,68,875			
10,095	<b>Operating Cost:</b>					
2,19,580	1.3.3.1 Consumables	-				
4,99,574	1.3.3.3 Office Expenses	19,140				
2,58,299	1.3.3.4 Meetings	1,01,492				
	1.3.3.6 Travel Cost	1,21,330	2,41,962			
	<b>Others:</b>					
	Payment against advance during FY 18-19 (unadjusted)	8,99,600	8,99,600			
<b>27,49,168</b>	<b>Total</b>		<b>3,17,45,210</b>	<b>27,49,168</b>	<b>Total</b>	<b>3,17,45,210</b>

Dated, Silchar  
The 18th September 2019

Registrar

Director



## TECHNICAL EDUCATION QUALITY IMPROVEMENT PROGRAMME [TEQIP] [Ph- III]

IDA Credit/ No. 5874-0 IN

## RECEIPT AND PAYMENT ACCOUNT FOR THE FINANCIAL YEAR 2018-19

(From 01/04/2018 to 31/03/2019)

RECEIPTS				PAYMENTS			
Sl No	Particulars	Amount (Rs.)	Cumulative Amt (Rs.)	Sl No	Particulars	Amount (Rs.)	Cumulative Amt (Rs.)
1	Opening Balance	-	-	1	Release to	-	-
	a) Cash	-	-	2	Payment to Consultants, Seminar & workshops	1,32,68,875	1,50,30,495
	b) Bank	-	-				
2	Received From NPIU through PFMS	3,05,27,210	3,44,94,378	3	Procurement of Assets	1,73,34,773	1,73,34,773
3	<b>Other Receipts (Adjst. Various Adv):</b>			4	Administration Expenditure	2,41,962	12,29,510
	Settlement of unadjusted adv of last FY, settled in FY 18-19	12,18,000	14,28,000	5	<b>Other Payments :</b>		
		-	-		payment against advance during FY 18-19 (Unsettled)	8,99,600	23,27,600
				6	Closing Balance		
					a) Cash	-	-
					b) Bank	-	-
<b>Total</b>		<b>3,17,45,210.00</b>	<b>3,59,22,378.00</b>	<b>Total</b>		<b>3,17,45,210.00</b>	<b>3,59,22,378.00</b>

Dated, Silchar

The 18th September 2019

Registrar

Director

**TECHNICAL EDUCATION QUALITY IMPROVEMENT PROGRAMME - PHASE-III [TEQIP-III]**

**Schedules Forming Part of Balance Sheet as at 31st March 2019**

<b>Amount in Rs</b>	
<b>SCHEDULE-I : GRANTS-IN-AID :</b>	<b>Current Year</b>
Opening Balance as per last account	39,67,168
Received from MHRD, GOI (through PFMS) during the period	3,05,27,210
<b>Total</b>	<b>3,44,94,378</b>

<b>SCHEDULE-II : EXPENDITURE</b>	<b>Current Year</b>
<b>Opening Balance as per last Account</b>	<b>27,49,168</b>
Transferred from Income & Expenditure Statement	3,08,45,610
<b>Total</b>	<b>3,35,94,778</b>

<b>SCHEDULE-III : FIXED ASSETS :</b>	<b>Gross Balance as on 01/04/2018</b>	<b>Addition during the year</b>	<b>Deletion during the year</b>
Equipment	-	69,78,890	-
Furniture	-	-	-
Books & LRs & Software	-	1,03,55,883	-
Minor Works	-	-	-
<b>Total</b>	<b>-</b>	<b>1,73,34,773</b>	<b>-</b>

**N.B.:** Certified that the Assets acquired during the period under report is physically verified.

Schedules Forming Part of Balance Sheet as at 31st March 2019*Amount in Rs*

<b>SCHEDULE-III (A): INVESTMENT:</b>	<b>Current Year</b>
STDR (FIXED DEPOSIT)	-
<b>Total</b>	-

<b>SCHEDULE-IV : Current Assets, Loans and Advances:</b>	<b>Current Year</b>
1. Cash in Hand	-
2. Cash at Bank (SBI, NIT Silchar Branch)	-
<b>Total (A)</b>	-
<b>3. Loan and Advances :</b>	
i) Advances for workshop	8,39,000
ii) TA Advances	60,600
<b>Total (B)</b>	<b>8,99,600</b>
<b>Total (A+B)</b>	<b>8,99,600</b>

<b>SCHEDULE-V : Current Liabilities :</b>	<b>Current Year</b>
EARNEST MONEY DEPOSIT	-
<b>Total</b>	-

# TECHNICAL EDUCATION QUALITY IMPROVEMENT PROGRAMME [TEQIP] [Ph- III]

IDA Credit No. 5874-0 IN

## Reconciliation of Claims to Total Applications of Funds

Report for the year ended 31/03/2019

Particulars	Schedules	Amount in Rupees		
		Current Year	Previous Year	Project to date
Bank Funds claimed during the year (A)	I	3,05,27,210.00	39,67,168.00	3,44,94,378.00
Total Expenditure made during the year (B)		3,08,72,308.00	27,86,831.00	3,36,59,139.00
Less: Outstanding bills ©	II	-	-	-
Ineligible expenditure (D)	III	-	16,163.00	16,163.00
Expenditure not claimed €	IV	26,698.00	21,500.00	48,198.00
Total Eligible Expenditures claimed [(F) = (B)-(C)-(D)-(E)]		3,08,45,610.00	27,49,168.00	3,35,94,778.00
World Bank Share @ x% of (F) above (G)		-	-	-

## TECHNICAL EDUCATION QUALITY IMPROVEMENT PROGRAMME [TEQIP]

## Phase-III

IDA Credit No. 5874-0 IN

## STATEMENT OF SOURCES AND APPLICATION OF FUNDS

Report for the year ended 31/03/2019

Particulars	Amount in Rupees		
	Current year	Previous Year	Project to date
<b>Opening Balance (A)</b>	-	-	-
<b>Receipts:</b>			
Funds equivalent to expenditure shown in PFMS (Funds made available by MHRD)	3,05,27,210.00	27,86,831.00	3,33,14,041.00
Less: Debit Failures	-	21,500.00	21,500.00
Less: Ineligible expenditure*	-	16,163.00	16,163.00
Add: Settlement of Unadjusted advance (related to FY 2017-18)	12,18,000.00	-	12,18,000.00
<b>Total receipts (B)</b>	<b>3,17,45,210.00</b>	<b>27,49,168.00</b>	<b>3,44,94,378.00</b>
<b>Total sources (C=A+B)</b>	<b>3,17,45,210.00</b>	<b>27,49,168.00</b>	<b>3,44,94,378.00</b>
<b>Expenditures by Component:</b>			
A. Procurement of Goods	1,73,34,773.00	-	1,73,34,773.00
B. Academic Process	1,32,68,875.00	17,61,620.00	1,50,30,495.00
C. Operating Costs	2,41,962.00	9,87,548.00	12,29,510.00
<b>Total Expenditures (D)</b>	<b>3,08,45,610.00</b>	<b>27,49,168.00</b>	<b>3,35,94,778.00</b>
<b>Closing Balance (C-D) (unadjusted adv in FY 2018-19)</b>	<b>8,99,600.00</b>	<b>-</b>	<b>8,99,600.00</b>



# TECHNICAL EDUCATION QUALITY IMPROVEMENT PROGRAMME [TEQIP] [Ph- III]

IDA Credit No. 5874-0 IN

## Schedules for Reconciliation of Claims to Total Applications of Funds

For the year ended 31/03/2019

### Schedules - I

Particulars	Current Year	Previous Year	Project to date
Bank Funds claimed during the year	3,05,27,210	39,67,168	3,44,94,378
Total	3,05,27,210	39,67,168	3,44,94,378

### Schedules - II

Particulars	Current Year	Previous Year	Project to date
Outstanding bills during the year (Exp booked but not shown in M32)	-	-	-
Total	-	-	-

### Schedules - III

Particulars	Current Year	Previous Year	Project to date
Ineligible expenditure during the year	-	16,163	16,163
Total	-	16,163	16,163

### Schedules - IV

Particulars	Current Year	Previous Year	Project to date
Expenditure not claimed during the year	26,698.00	21,500	48,198
Total	26,698.00	21,500	48,198

TECHNICAL EDUCATION QUALITY IMPROVEMENT PROGRAMME [TEQIP] [Ph- III]  
IDA Credit/ No. 5874-0 IN

**Report - 1 : PFMS RECONCILIATION STATEMENT**

FOR THE YEAR ENDED 31/03/2019

Sl No.	Statement of Expenditure	Amount (Rs.)	Amount (Rs.)
A	Expenditure as per PFMS Statement (According to M32 Report)	3,08,72,308.00	3,36,59,139.00
	Less: Ineligible Expenditure	-	16,163.00
	Less: Expenditure not claimed during the year	26,698.00	
	<b>Total</b>	3,08,45,610.00	3,36,42,976.00
B	Less: Debit failure (payments not made by PFMS but shown in the expenditure) - [Report EP-04]	-	21,500.00
C	Expenditure as per books of accounts (A - B)	3,08,45,610.00	3,36,21,476.00

**Report - 2 : STATUS OF ADVANCES**

Sl No.	Date	Amount (Rs.)	Amount (Rs.)
A	Opening Balance as on 1st day of the Quarter	12,18,000.00	12,18,000.00
B	Plus: Advances paid in the quarter	-	45,53,000.00
C	Less: Adjustment/ Settlement of advances	-	48,71,400.00
D	Balance as on Last date of Quarter/ Period	<b>8,99,600.00</b>	<b>8,99,600.00</b>

TECHNICAL EDUCATION QUALITY IMPROVEMENT PROGRAMME [TEQIP] [Ph- III]

**Report - 1 : PFMS RECONCILIATION STATEMENT**

FOR THE YEAR ENDED 31/03/2019

**Report - 2 (a) : AGENCIES OF ADVANCES**

Sl No.	Particulars	Period	Amount (Rs.)	Remarks (Reason)
1	Ageing of Advances in closing Balance	upto 15 days	-	
2		upto 30days	-	
3		more than 30 days	8,99,600.00	

**Report - 3 : PHYSICAL AND FINANCIAL PROGRESS (PROCUREMENT)**

FOR THE YEAR ENDED 31/03/2019

Sl No.	Particulars	Amount (Rs.)
A	Procurement made during the quarter as per PFMS report	1,73,34,773.00
B	Procurement made during the quarter as per PMSS report	1,73,34,773.00
C	Variation, if any	-
D	Reasons for the variations	-

**TECHNICAL EDUCATION QUALITY IMPROVEMENT PROGRAMME [TEQIP] - PHASE-III****IDA Credit/ No. 5874-0 IN****STATEMENT OF LOANS AND ADVANCES as on 31st March, 2019**

(Rupees in lakhs)	
Recoverable Advance	Amount
WASIM ARIF	1,70,000.00
PULAK NATH	59,000.00
P.J. Roy	10,000.00
SAROJ KUMAR BISWAS	41,600.00
Director NIT silchar	70,000.00
SUDIP DEY	1,50,000.00
BANANI BASU	1,00,000.00
PANKAJ BISWAS	1,50,000.00
SUDIP DEY	30,000.00
AVISHEK RAY	1,00,000.00
Amit Kumar Das	19,000.00
<b>Total</b>	<b>8,99,600</b>

TEQIP - III--Monthly Financial Management Report												
Consolidation of Sub-Component 1.1.1.2.1.3 and Component 2												
Scheme : Technical Education Quality Improvement Programme of Government of India (EAP)												
Month/Quarter/Year : March/Q4/2018-2019												
State : -All-												
S.No.	Agency Name	Activities	Sub - Component	Total Funds allocated /Project Life Allocation (PLA) in Q4	Cumulative Exp. since Inception till 18-06-2019	Exp. in March	Total Cumulative Exp. Upto March in quarter Q4	Total Cumulative Exp. Upto March in Fin Year 2019	Payments Under processing in March	Total Advance in March	Balance Funds allocated/Project Life allocation (PLA) H = A-[D+F]	
												A
122	National Institute of Technology,Silchar [NIT15]	1 - Improving Quality & Equity in Focus States	1.3 - Twinning arrangements	1.3.1 - Procurement of Goods	Total :	2,45,35,000.00	3,36,59,139.00	25,98,306.00	1,49,78,085.00	3,08,72,308.00	0.00	95,56,915.00
					1.3.1.1 - Equipments	1,20,00,000.00	69,78,890.00	0.00	69,78,890.00	0.00	0.00	50,21,110.00
					1.3.1.2 - Learning resources	0.00	1,03,55,883.00	0.00	1,03,55,883.00	0.00	0.00	0.00
					1.3.1.3 - Furniture	0.00	0.00	0.00	0.00	0.00	0.00	0.00
					1.3.1.4 - Minor civil works	0.00	0.00	0.00	0.00	0.00	0.00	0.00
					1.3.2.1 - Improve students learning	7,50,000.00	15,71,056.00	6,24,321.00	11,26,375.00	15,67,696.00	0.00	-3,76,375.00
					1.3.2.10 - Services	7,00,000.00	94,400.00	0.00	94,400.00	0.00	0.00	6,05,600.00
					1.3.2.11 - Industry-Institute Interaction	7,00,000.00	7,27,990.00	0.00	2,87,021.00	6,82,336.00	0.00	4,12,979.00
					1.3.2.2 - Assistantships	2,25,000.00	1,40,000.00	0.00	1,00,000.00	1,40,000.00	0.00	1,25,000.00
					1.3.2.3 - Graduates employability	9,00,000.00	6,58,267.00	0.00	6,30,901.00	6,58,267.00	0.00	2,69,099.00
					1.3.2.4 - Faculty/staff development and motivation	45,00,000.00	63,26,246.00	14,38,013.00	32,82,336.00	58,68,036.00	0.00	12,17,664.00
					1.3.2.5 - Research and development	18,00,000.00	38,96,219.00	4,40,613.00	11,70,678.00	28,75,419.00	0.00	6,29,322.00
					1.3.2.6 - MOOCs and digital learning	1,00,000.00	0.00	0.00	0.00	0.00	0.00	1,00,000.00
					1.3.2.7 - Mentoring/Twinning system	3,00,000.00	2,91,471.00	15,000.00	1,98,526.00	2,08,276.00	0.00	1,01,474.00
					1.3.2.8 - Reforms and governance	13,00,000.00	13,03,300.00	0.00	9,12,878.00	11,36,736.00	0.00	3,87,122.00
					1.3.2.9 - Management capacity development	5,00,000.00	64,407.00	0.00	64,407.00	64,407.00	0.00	4,35,593.00
					1.3.3.1 - Consumables	30,000.00	10,095.00	0.00	0.00	0.00	0.00	30,000.00
					1.3.3.2 - Operation & maintenance of equipments	50,000.00	0.00	0.00	0.00	0.00	0.00	50,000.00
					1.3.3.3 - Office expenses	30,000.00	2,19,580.00	0.00	0.00	0.00	0.00	30,000.00
1.3.3.4 - Meetings	2,50,000.00	6,41,706.00	0.00	40,000.00	1,20,632.00	0.00	2,10,000.00					
1.3.3.5 - Hiring of vehicles	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
1.3.3.6 - Travel cost	4,00,000.00	3,79,629.00	80,359.00	91,673.00	1,21,330.00	0.00	3,08,327.00					
1.3.3.7 - Salary	0.00	0.00	0.00	0.00	0.00	0.00	0.00					



## NOTES

This image shows a single page of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.