

National Institute of Technology Agartala

राष्ट्रीय प्रौद्योगिकी संस्थान अगरतला



ANNUAL REPORT

2019 - 2020

National Institute of Technology Agartala
Jirania, Tripura - 799046.
www.nita.ac.in

REPORTS/ PAPERS TO BE LAID ON THE TABLE OF LOK SABHA/ RAJYA SABHA

**ANNUAL REPORT AND ANNUAL ACCOUNTS
2019-2020**

(AUTHENTICATED)

MINISTER OF STATE IN THE
MINISTRY OF EDUCATION

NEW DELHI
DATED:



NATIONAL INSTITUTE OF TECHNOLOGY AGARTALA

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ANNUAL REPORT

2019 – 2020



*NATIONAL INSTITUTE OF
TECHNOLOGY AGARTALA*

1.0 INTRODUCTION

National Institute of Technology Agartala, a Centrally Funded Institution is one of the thirty one National Level Technical Institutes in India. The Institute has marked an important footprint in this short span of time after its conversion from the erstwhile Tripura Engineering College to NIT Agartala in the year 2006. Situated in the lap of nature, NIT Agartala has embarked on a journey to make its presence felt in the map of Technical education and innovation in the country. Presently at the Under Graduate Level, B. Tech Degree Courses are offered in Civil Engineering, Mechanical Engineering, Electrical Engineering, Computer Science & Engineering, Electronics & Communication Engineering, Production Engineering, Chemical Engineering, Electronics & Instrumentation Engineering and Bio Engineering, out of which seven branches also offer Post-Graduate courses. The Institute also offers courses of higher study in computer applications, science subjects and management programmes. To promote fundamental research, it also offers Ph.D along with Post-Doctoral Fellowship programs in various specializations of Engineering, Science, Management, Humanities & Social Sciences. The School of Management of NIT Agartala produces management professionals skilled with analytical and administrative ability.

The Institute has a dedicated Center for Career Development for organizing on campus placements process, Industrial Training, Study Tours, and Apprenticeship Training for the final year students. The Institute has several highly sophisticated laboratories empowered with the latest technical equipments that aim at catering the state of the art research. The Institute has a well-equipped workshop that provides centralized facilities for conducting classes at the undergraduate level and also meets the requirements of any state of the art project work and consultancy initiatives. The Library of the Institute is equipped with the latest RFID systems and dedicated digital section with online access to numerous international journals of repute and e-books from different online portals and subjects to quench the needs of our students and researchers.

The Institute has both Boys' and Girls' Hostel facilities. Students are accommodated in five Boys' Hostels and one Girls' Hostel. The students take active part in all sorts of activities held in cultural and technical festivals in and outside the campus. The NITA Student Gymkhana is a very active student organization that acts as a link between the students and the administration. The Gymkhana Club promotes the objectives of fostering extra-curricular activities and works for the welfare of students. Every year the students of NIT Agartala organize the Annual Technical Fest Aayam and Cultural fest called Moksha that witness spontaneous participation of students. Different Clubs such as Robotic Club, Soft Skills Development Club, Electronic Club, Music Club, Drama Club, Photographic Club, Art & Culture Club have been formed for encouraging the students to take part and develop themselves in various fields.

The entire NIT Agartala is sprawled over 365 acres of lush green land in nature's lap. Virtual class room through 10 Mbps High definition video conferencing has been established under the second phase of the Pilot project launched by NICSI, New Delhi to connect IITs, IISc, TIFR and NITs through NKN and, a Multimedia centre has been developed to cater to the needs of the CDAC curricula. Having regard to the concern for the environment, Solar panels have been installed with a 90% subsidy by MNRE for street lights and other Emergency loads like Hospital, Guest House, Girls' Hostel etc. The entire campus of NIT Agartala is a Wi-Fi

campus where internet facilities can be accessed from anywhere at any point of time. NIT Agartala is the first NIT to have started Kendriya Vidyalaya within its campus to provide education to the local people as well as the children of the faculty members and other staff members staying within the campus. NIT Agartala looks forward to work for a future that would empower our young generation with a quality technical education that will help them take greater responsibility to take our country forward.

The Government of India converted the Tripura Engineering College to National Institute of Technology Agartala on 1st April 2006 vide notification No. F. 20-20/2004/TS III/ dated 10.03.2006 of the Ministry of Human Resources Development (MHRD), Govt. of India. During the conversion, Tripura Engineering college was offering undergraduate degrees in Civil, Mechanical, Electrical, Electronics & Communication and Production Engineering.

In the academic session 2010-11, the institute started two UG courses, Electronics & Instrumentation Engineering and Chemical Engineering. After that, during the Academic Session 2012-13, a Bio-Engineering course at UG level was started. Apart from the UG courses, the institute now offers a postgraduate degree in MBA, MCA, MTech in 20 specialisations and MSc in basic science. Besides these academic curricula, the institute provides an opportunity for research. The research carried out at the departments of the institute has produced more than 100 PhD scholars. The institute presently has 13 departments offering UG, PG and PhD courses.

Majority of the admission to this institute is based on an all India entrance tests and or national counselling. The UG students are admitted to the institute for the seats that are allocated by central seat allocation board (CSAB) under joint seat allocation Authority (JoSAA), based on the performance of these students, in the joint national entrance examination main (JEE Main). The institute also invites international students to undergo UG studies under Direct Admission of Students Abroad (DASA) scheme.

For admission to M.Tech courses, students should have a valid GATE score and should appear in the centralised counselling for M.Tech./M.Arch./M.Plan (CCMT). Besides the regular intake, to promote higher education among the employed persons, few seats are kept reserved for sponsored candidates from academia and industry. Admission to the MCA course in the institute is based on the performance of the candidate in the national level entrance test NIT MCA Common Entrance Test (NIMCET). The students for the M.Sc programme are admitted through Centralised Counselling for M.Sc/ M.Sc Tech programmes in NITs and CFTIs (CCMN) based on the performance in joint admission test for M.Sc (JAM). The unfilled seats of M.Sc. are filled up locally based on a test and or interview. The regular PhD scholars are admitted through interview after they qualify in the written test. The institute makes wide publicity about the PhD admission in reputed All India as well as local newspapers. The curricula of UG, PG and PhD courses are strictly governed by the rules and regulations laid down for each course.

The classrooms and the laboratories of the Institute are equipped with modern facilities. The institute provides computer labs in each department, to provide the students access to the worldwide net to upgrade their knowledge. Besides the

computer centres of the departments, there is a central computational facility, mostly for the first year UG students. The Computer Science and Engineering department has a PARAM Shavak super-computer. The state of the art National Institute of Technology Agartala library cum knowledge centre has over fifty thousand textbooks and online e-resources. The centre for career development (CCD) assists to arrange internship and placement for the students of the institute. Besides the academic curriculum, the institute encourages its students to participate in extra-curricular activities after the academic hours. The students actively participate in sports and techno-cultural activities.

The faculties of the institute are highly qualified and have good expertise in their fields. The institute has established academic tie-ups with IIT Kharagpur, IIT Guwahati, Jadavpur University, IIST (Formerly BESU), NITK Surathkal, NIT Warangal apart from other renowned University / Institute of India and abroad. There is an agreement with IIT Madras, whereby the top 10% of the B.Tech students of engineering departments are allowed to pursue their final year at IIT Madras. After that, depending on their performance, they may be allowed to carry out integrated PhD programmes at IIT Madras. The institute has taken the initiative to go into a similar agreement with reputed national and international institutes. Apart from this, a continuing education cell in the form of a national-level research centre in areas like Geotechnology, Information Technology and Renewable energy have been established. Industry Institute Linkage has been revamped for catering to the needs of industrialization of the region at large and the State in particular.

The hostels in the institute accommodate more than 3000 boys and 500 girls. To take care of the health of the students, the institute has a medical unit in its campus. Doctors are present, round the clock, here. To help the students financially, the institute implements various scholarships of the government of India and various state governments.

1.1 Objectives:

The National Institute of Technology Agartala is an Institution of National Importance set up by Govt. of India. The vision and mission of the Institution is:

Vision:

National Institute of Technology, Agartala will transform its students through education, innovation, creativity, research and entrepreneurship to become professionals and impact the nation and the society to be at the forefront of ever-changing world.

Mission:

- i. To impart world class education in all frontiers of science and technology.
- ii. To integrate knowledge and experiences both inside and outside of the classroom by faculty-student interaction, experiential learning and embracing new technology – making every opportunity into a possible learning outcome.
- iii. To train future leaders who will serve the nation, society and the world with the highest standards of personal ethos and integrity coupled with patriotism.
- iv. To empower the nation with high quality research and propel the nation to become the leading country in innovation, creativity and entrepreneurship.

1.2 Goal:

Institutional Goal – Short term and Long term

The target of the Institute is to achieve Short Term Goals within 5 years and the Long Term Goals within 10 years.

Short term goals:

- To complete the construction of Students' Hostels.
- To construct roads & other amenities as proposed in the master plan.
- To procure adequate laboratory equipment and machineries for UG and PG classes.
- To develop modern laboratories for Central Research Facilities and consultancy activities.
- Upgradation of existing campus to the wide network to provide continuous high broadband internet connectivity.
- Upgradation of existing library with modern facilities namely RFID, digital library, library management system, connectivity to e-journals and e-books of reputed publications.
- Creation of all infrastructural and other facilities such as all weather internal roads with footpath and well planned campus to be developed keeping in view the architectural landscaping and beautification.
- Entrepreneurship development aided with Technology Incubation.

Long Term Goals:

- To make it one of the leading technological Institutions not only in India, but also in the world map of technical Institutes.
- To attract large number of foreign students.
- To produce high quality research scholars in all professional areas.
- To attract high quality experienced faculty members of national and international standards.
- To strengthen Industry Institute partnership linkages.
- To extend facilities in terms of technology transfer for developing infrastructural facilities of the Region.
- To establish community development centres for nurturing and motivating the local talents and resources.
- To establish itself as an Educational Hub in the North-East Region.

1.3 Education System:

The National Institute of Technology Agartala offers B. Tech, MCA, MBA, M. Tech., M. Sc. (courses in Physics, Chemistry and Mathematics), BS-MS (in Physics, Chemistry and Mathematics), BT-MT (in Engineering Physics) and Ph.D. courses in Engineering, Technology, Sciences, Management, Humanities & Social Sciences.

The Institute has introduced a new curriculum in the line of IITs where more number of elective subjects are offered to make the system flexible. The Institute follows a credit based system for academic evaluation. It offers Industrial training and projects as a part of the education system and students are also encouraged to take part in various activities through NSS, NCC, Sports and other co-curricular activities for their social and personality development.

1.4 New Initiatives:

The PG programmes have been aimed to fulfill the requirement of Tripura and North East as a whole. The campus has been partially made residential with four boys' hostels and one girls' hostel. A fully residential campus will be developed with modern facilities for overall requirement of the Institute within 3 years.

The Institute gets a 33 KV dedicated power supply through Tripura State Electricity Corporation Limited for uninterrupted supply in the campus. Some other initiatives taken up for augmenting the Institute with more infrastructure facilities are as follows:

- (1) Revamping of lakes, water harvesting and beautification of water bodies in NIT Agartala.
- (2) CCTV Surveillance System, LAN networking and telephone/ intercom system in Central Library at NIT Agartala.
- (3) HVAC System in Central Library at NIT Agartala.
- (4) Area Development works in and around Central Plaza, Academic Zone, NIT Agartala in progress.
- (5) Construction of Laboratory to conduct the experiment of Geotechnical Engineers for Ph. D. Scholars at NIT Agartala.

2.0 AN OVERVIEW

2.1 Historical Background:

National Institute of Technology Agartala, a Centrally Funded Institution was set up to impart quality technical education into various levels of higher learning. It may be mentioned here that the 23rd February 2006 is a Red Letter Day in the history of Tripura Engineering College as well as in the State of Tripura as the Union Cabinet approved the proposal of the State Government for conversion of Tripura Engineering College to National Institute of Technology, a fully Central Government funded Institution with Deemed to be University status.

The Institute (i.e. erstwhile Tripura Engineering College) was established in 1965 with the three traditional branches of Civil, Electrical and Mechanical Engineering. It was initially affiliated to Calcutta University and had the same curriculum structure and examination system at par with Bengal Engineering College (presently Bengal Engineering and Science University, Shibpur). After the establishment of Tripura University, the Institute was then affiliated to Tripura University w.e.f. 1987.

2.2 Institute Administration:

The Institute is administered by the Director of the Institute under the direct supervision of Board of Governors (BoG) of the Institute headed by the Chairman. The Institute is governed as per NIT Act 2007. His Excellency, the President of India, is the Visitor of the Institute. The academic policies of the institute are implemented by the Dean Academic Affairs after the approval by the SENATE of the Institute and ratification by the Board of Governors (BoG). The Planning and Development of the institute are implemented through Dean (P&D). All the student-related affairs are looked after by the Dean(SW). The works of Research and Consultancy are looked after by the Dean(R&C) while Dean(FW) is In-Charge of all the faculty related works in the Institute. Chairman (AA&IR) looks after all alumni affairs and affairs of Institutional Relations. The Registrar is responsible to the Director for proper implementation of all the policies of the institute.

2.3 Location:

The Institute is located on a site, 20 km. away from the capital city of Agartala and 4 km. away from National Highway (NH-44) connecting Agartala to Shillong. Agartala is linked to the rest of the country by road and rail-link via Silchar and Guwahati. It has got direct air link to New Delhi, Kolkata, Guwahati, Silchar, Imphal, Mumbai, Bangalore and Chennai. NIT Agartala is situated at 91°21'22.681" E (E 339387.823 m.) longitudes and 23°50'26.906" N (N 2637495.384 m.) latitude at a height of 43.786 metres above the sea level. The climate in the institute campus is moderate. The temperature varies from a minimum 6⁰C in the winter season to a maximum of 35⁰ C in the summer season. The area has an approximate annual rainfall of 2200 mm.

The Institute is connected to the National Highway with all weather-metalled roads. Regular bus and jeep services are available from Agartala city to College Chowmuhani (NH 44 junction) near the Institute. Auto-rickshaw services are also available on the route from College Chowmuhani to the Institute and back. Direct regular bus service form Agartala (Nagerjala) to NIT Campus via Ranirbazar is

now available. The nearest railway station at Jirania is about 2.5 km. from the Institute. The Institute also has its own bus service for campus dwellers.

2.4 Campus and Common Facilities:

The campus of the Institute is spread over an area of 365 acres, set amidst a sprawling landscape of natural quietness. It presents a spectacle of harmony in modern architecture, natural beauty aided with picturesque surroundings.

A well-equipped Medical Unit with four Medical Officers, two Pharmacists and other supporting staff is available in the campus for rendering medical care to the students, staff and other inmates of the campus. In case of emergency, arrangements are made for transferring the patients to the Jirania Primary Health Centre which is 4 km. away from the campus or to the State Hospital in Agartala. An ambulance service is also provided for students and staff.

A full-fledged Branch of State Bank of India named SBI NIT Agartala Branch is functioning in the Institute campus with the Core Banking facility since 28th March 2008. The SBI has opened an ATM counter in the Institute campus. Teachers, staff, students and local inhabitants are getting benefit out of it. With the introduction of nationalized Banking facility in the campus, a long pending demand of the students and staff of the Institute has been fulfilled. Two ATM counters one by CANARA Bank and the other by Punjab National Bank have also been operating in the campus. CANARA Bank opened their branch in the Institute's premises.

The Tripura Gramin Bank has a branch operating from the Institute campus named as NIT Agartala Branch. The campus also has a Sub-Post Office by the name "NIT Agartala" having PIN: 799046.

2.5 Placements:

The Institute has a Centre for Career Development (CCD) under the Chairmanship of Dr. Tara Sen with supporting staff. The CCD helps the students to get proper placements in various Public and Private Sector Organizations by arranging the campus interviews. Study Tours and Industrial Trainings are also organized by this Cell.

2.6 Games and Sports:

The students actively participate in all co-curricular activities like Games and Sports, Debates, Cultural-Functions, Essay Competitions, Drama Competitions, Rallies on various themes, NSS programmes, etc. being sponsored by the State Government and Central Government and other statutory bodies and also by the institute authority. N.S.S. or N.C.C. is a compulsory subject for all the students of first year.

3.0 ADMINISTRATION

3.1 Introduction:

Recognizing the growing need of quality technical education in the North Eastern Region, the Union Cabinet approved the proposal of the State Government for the conversion of the erstwhile Tripura Engineering College to National Institute of Technology, to a fully Central Government funded Institution with Deemed to be University status on 23rd February, 2006. The Ministry of Human Resource Development, Government of India issued the official notification No. F. 26-20/2004/TS-III dated 10.03.2006 that marked the emergence of National Institute of Technology Agartala with effect from 01.04.2006.

National Institute of Technology Agartala (NITA) is an autonomous statutory organization set up by NIT ACT. NIT Act and first Statutes framed under the ACT have provision for 4 Authorities. Board of Governors (BOG) is the highest authority, responsible for overall administration and control of the Institution. Under the supervision of BOG, three (3) other authorities work in different areas for proper supervision, maintenance and implementation of decisions and policies of the Institution. The other authorities are (1) Finance Committee, (2) Building & Works Committee and (3) Senate. The functions, responsibilities, powers of BOG, Finance Committee, Building & Works Committee and Senate are provided in the NIT ACT and Statutes.

Members of the Board of Governors (BOG)

<u>Sl. No.</u>	<u>Name and Designation of the Members</u>
1	Prof. H. K. Sharma, Director, NIT Agartala, Tripura.
2	The Special Secretary/ Additional Secretary/ Joint Secretary dealing with Technical Education, Department of Higher Education, Ministry of Human Resource Development, Govt. of India.
3	The Financial Adviser, Department of Higher Education, Ministry of Human Resource Development, Govt. of India.
4	The Principal Secretary to the Govt. of Tripura, Dept. of Higher Education, Tripura.
5	The Director, Indian Institute of Technology (IIT), Guwahati, Guwahati – 781039, Assam.
6	Dr. S. C. Saha, Professor, Mechanical Engineering Department, NIT Agartala.
7	Dr. Shubhadeep Bhattacharjee, Assistant Professor, Department of Electrical Engineering, NIT, Agartala.
8	Dr. Govind Bhargava, Registrar, Secretary of BOG.

Members of the Finance Committee

<u>Sl. No.</u>	<u>Name and Designation of the Members</u>
1	Prof. H. K. Sharma, Director, NIT Agartala, Tripura.
2	The Joint Secretary dealing with NITs or his nominee, Department of Higher Education, Ministry of Human Resource Development, Govt. of India.
3	The Financial Advisor or his nominee, Department of Higher Education, Ministry of Human Resource Development, Govt. of India.

- 4 Dr. S. C. Saha, Professor, Mechanical Engineering Department, NIT Agartala.
- 5 Dr. Shubhadeep Bhattacharjee, Assistant Professor, Department of Electrical Engineering, NIT, Agartala.
- 6 Dr. Govind Bhargava, Registrar, Member Secretary of FC.

Members of the Building and Works Committee

<u>Sl. No.</u>	<u>Name and Designation of the Members</u>
1	Prof. H. K. Sharma, Director, NIT Agartala, Tripura.
2	The Director or Dy. Secretary or his nominee dealing with NITs, Department of Higher Education, Ministry of Human Resource Development, Govt. of India.
3	The Director or Dy. Secretary or his nominee dealing with Finance of NITs, Ministry of Human Resource Development, Govt. of India.
4	The Dean (P&D), NIT Agartala.
5	Mrs. S. Das, Chief Engineer, PWD (Building), Govt. of Tripura
6	Shri Kajal Banik, Executive Engineer, Electrical Inspectorate, Govt. of Tripura.
7	Dr. S. C. Saha, Professor, Mechanical Engineering Department, NIT Agartala.
8	Dr. Govind Bhargava, Registrar, Member Secretary of BWC.

Members of the Senate meeting

<u>Sl. No.</u>	<u>Name and Designation of the Members</u>
1	Prof. H. K. Sharma, Director, NIT Agartala, Tripura, Chairman of the Senate.
2	Prof. Rajeev Tripathi, MNNIT Allahabad.
3	Prof. Minati Baral, NIT Kurukshetra, Haryana.
4	Prof. Kapil Deo Mishra, Vice Chancellor, Rani Durgavati Vishwavidyalaya.
5	Prof. Subhas Chandra Saha, Professor, NIT Agartala.
6	Prof. Umesh Mishra, Professor, NIT Agartala.
7	Prof. R. P. Sharma, Civil Engineering Department, NIT Agartala (Tripura).
8	Dr. Govind Bhargava, Registrar, Member Secretary of the Senate.

3.2 Number of Meetings of the Authorities:

During the period under report, the number of meetings held by various authorities are mentioned below:

A.	Board of Governors	: 4 Nos.
B.	Finance Committee Meeting	: 3 Nos.
C.	Building & Works Committee Meeting	: 2 Nos.
D.	Senate	: 2 Nos.

3.3 Staff Position:

3.3.1 Name of Director, Registrar, Deans and HoDs

DIRECTOR : Prof. H. K. Sharma

REGISTRAR : Dr. Govind Bhargava

Deans:

1) Dean (Academic)	:	Dr. Ajoy Kumar Das
2) Dean (Faculty Welfare)	:	Dr. Sujit Paul
3) Dean (R & C)	:	Dr. Ardhendu Saha
4) Chairman (Allumni)	:	Dr. Prasun Chakraborti
5) Dean (S.W.)	:	Dr. Rajsekhar Panua, (S &W-1) & Dr. R.N.Rai, Dean (S & W-2)
6) Dean (P & D)	:	Dr. Ajay Chakraborty

Name of the Deans**Heads of the Departments/Schools**

1) Civil Engineering	:	Dr. Rama Debbarma
2) Electrical Engineering	:	Dr. Subhadeep Bhattacharjee
3) Mechanical Engineering	:	Dr. Pritam Das
4) Computer Science & Engineering	:	Dr. Diptendu Bhattacharya
5) Electronics & Communication Engineering	:	Dr. S.N. Pradhan
6) Production Engineering	:	Dr. Uttam Kr. Mandal
7) Physics	:	Dr. (Mrs.) Aparna Nath
8) Chemistry	:	Dr. Mitali Saha
9) Mathematics	:	Dr. Baby Bhattacharya
10) Management, Humanities & Social Science	:	Dr. Debasis Neogi
11) Chemical Engineering	:	Dr. Srimanta Ray
12) Electronics & Instrumentation Engineering	:	Dr. Jayanta Kumar Rakshit
13) Bio Engineering	:	Dr. T. K. Bandopadhyay

Name of the HODs**Head of Central Services, Facilities and Sections:**

Chairman (AA & IR)	:	Dr. Prasun Chakrabarti
Medical Officer	:	(i) Dr. Soumen Purkayastha (ii) Dr. Parimal Chakraborty (Retd.) (iii) Dr. Supriti Tripura
Chief Warden	:	Mr. R. K. Bhogendra Meitei
Faculty in Charge, Workshop	:	Dr. Barnik Saha Roy
Chairman, Library	:	Dr. Partha Pratim Sarkar
Training & Placement Officer	:	Dr. Tara Sen
Centre Co-ordinator of TEQIP	:	Dr. Ardhendu Saha
Chairman of CCD	:	Dr. Tara Sen
Chairman, Industrial Institute Interaction Cell	:	Prof. (Dr.) Umesh Mishra

Engineering Unit:

Estate Engineer (Civil) : Sri Sunil Das (on deputation)

3.3.2 List of Faculty Members:**3.3.2.1 Regular faculty members**

Sl. No	Faculty Name	Present Position	Branch	Date of Joining
1	Dr. Harish Kumar Sharma	Director		03-12-2017

Professor				
1	Dr. Richi Prasad Sharma	Professor	C. E	01-04-2006
2	Dr. Umesh Mishra	Professor	C. E.	03-10-2008
3	Dr. Swapan Bhowmik	Professor	M.E	01-04-2006
4	Dr. Prasun Chakrabarti	Professor	M.E.	01-04-2006
5	Dr. Ajoy kumar Das	Professor	M.E.	01-04-2006
6	Dr. Manish Pal	Professor	C. E.	01-04-2006
7	Dr. Ratul Das	Professor	C.E.	01-04-2006
8	Dr. Sujit Kumar Pal	Professor	C.E.	01-04-2006
9	Dr. Ardhendu Saha	Professor	E.E	01-04-2006
10	Dr. Ajoy kumar Chakraborty	Professor	E.E	01-04-2006
11	Dr. Priyanath Das	Professor	E.E	01-04-2006
12	Dr. Ram Naresh Rai	Professor	P.E	25-06-2010
13	Dr. Aparna Nath	Professor	Physics	01-04-2006
14	Dr. Debasish Bhattacharya	Professor	Maths	01-04-2006
15	Dr. Debasis Neogi	Professor	MHSS	22-08-2008
Associate Professor				
1	Dr. Rama Debbarma	Associate Prof.	CE	01-04-2006
2	Dr. Rupnarayan Roy	Associate Prof.	E.E	01-04-2006
3	Dr. Rajsekhar Panua	Associate Prof.	M.E	24-05-2010
4	Dr. Diptendu Bhattacharya	Associate Prof.	C.S.E	01-04-2006
5	Dr. Dibyendu Ghoshal	Associate Prof.	E.C.E	29-04-2010
6	Dr. Saroj kumar Das	Associate Prof.	Chemistry	01-04-2006
7	Dr. Tarun Kumar Mishra	Associate Prof.	Chemistry	01-04-2012
8	Dr. Uttam Kumar Bera	Associate Prof.	Maths	01-09-2010
9	Dr. Paritosh Bhattacharjee	Associate Prof.	Math.	27-03-2012
10	Dr. John Deb Barma	Associate Prof.	M.E.	01-04-2006
11	Dr. Mrinal Kanti Debbarma	Associate Prof.	CSE	01-04-2006
12	Dr. Pritam Das	Associate Prof.	M.E.	01-04-2006
13	Dr. Mrs. Sima Ghosh	Associate Prof.	C.E.	01-04-2006
14	Dr. Rajib Saha	Associate Prof.	C.E.	01-04-2006
15	Dr. Apu kumar Saha	Associate Prof.	Math.	01-04-2006
16	Dr. Debdulal Tripura	Associate Prof.	C.E.	01-04-2006
17	Dr. Partha Pratim Sarkar	Associate Prof.	C.E.	08-09-2008
18	Dr. Baby Bhattacharya	Associate Prof.	Math	06-02-2009
19	Dr. Subhadeep Bhattacharjee	Associate Prof.	E.E.	13-04-2010
20	Dr. Mrs. Mitali Saha	Associate Prof.	Chemistry	12-04-2010
21	Dr. Sambhu Nath Pradhan	Associate Prof.	ECE	28-05-2010
22	Dr. Keisham Surjit Singh	Associate Prof.	Chemistry	On lien
23	Dr. Munesh Chandra	Associate Prof.	CSE	01-04-2019
24	Dr. Manish Bhargava	Associate Prof.	M.E.	03-04-2019
25	Dr. Arvind Kumar Jain	Associate Prof.	E.E.	29-04-2019
Asstt. Professor (Grade-I)				
1	Dr. Sumita Deb	Asstt. Prof. (Gr-I)	EE	01-04-2006
2	Dr. Atanu Chowdhury	Asstt. Prof. (Gr-I)	ECE	22-09-2008
3	Dr. Kishan Choudhuri	Asstt. Prof. (Gr-I)	PE	18-09-2008
4	Dr. Barnik Saha Roy	Asstt. Prof. (Gr-I)	M.E.	01-04-2006
5	Dr. Dipankar Sarkar	Asstt. Prof. (Gr-I)	C.E.	01-04-2006
6	Dr. Swarup Paul	Asstt. Prof. (Gr.I)	P.E.	20-02-2009

7	Dr. Madhujit Deb	Asstt. Prof. (Gr.I)	M.E.	01-04-2006
8	Dr. Jayanta Pal	Asstt. Prof. (Gr-I)	C.E.	01-04-2006
9	Dr. Rahul Banerjee	Asstt. Prof. (Gr-I)	M.E.	12-04-2010
10	Dr. (Mrs.) Tara Sen	Asstt. Prof. (Gr-I)	C.E.	12-04-2010
11	Dr. Gyanabati Khuraijam	Asstt. Prof. (Gr-I)	HSS	07-05-2010
12	Dr. Pankaj kumar Das	Asstt. Prof. (Gr-I)	M.E.	01-04-2006
13	Dr. (Mrs.) Soma Nag	Asstt. Prof. (Gr.I)	Chemical Engg.	14-06-2010
14	Dr. Swapan Deb Barma	Asstt. Prof. (Gr-I)	CSE	01-04-2006
15	Dr. Jayanta Kr. Rakshit	Asstt. Prof. (Gr-I)	EIE	23-08-2010
16	Dr. Tarun Kanti Bandyopadhyay	Asstt. Prof. (Gr-I)	Chemical Engg.	04-05-2012
17	Dr. Srimanta Ray	Asstt. Prof. (Gr-I)	Chemical Engg.	04-05-2012
18	Dr. Kalyan Gayen	Asstt. Prof. (Gr-I)	Chemical Engg.	04-05-2012
19	Dr. Surajit Das	Asstt. Prof. (Gr.I)	C.E.	16-05-2012
20	Dr. Vidyut Dey	Asstt. Prof. (Gr.I)	P.E.	01-06-2012
21	Dr. Sanjay Paul	Asstt. Prof. (Gr-I)	C.E.	24-05-2012
22	Dr. Subrata Kr. Ghosh	Asstt. Prof. (Gr-I)	M.E.	07-06-2012
23	Dr. Uttam Kumar Mandal	Asstt. Prof. (Gr-I)	P.E.	28-05-2012
24	Dr. Animesh Debnath	Asstt. Prof. (Gr-I)	C.E.	21-06-2012
25	Dr. Sushant Kr. Biswal	Asstt. Prof. (Gr-I)	C.E.	21-06-2012
26	Dr. (Mrs.) Tamasi Moyra (Panua)	Asstt. Prof. (Gr.I)	ECE	13-06-2012
27	Dr. Ajoy Biswas	Asstt. Prof. (Gr.I)	M.E.	23-07-2012
28	Dr. Ashim Saha	Asstt. Prof. (Gr-I)	CSE	12-10-2012
29	Dr. Suvra Prakash Mondal	Asstt. Prof. (Gr-I)	Physics	01-11-2012
30	Dr. Anirban Dutta	Asstt. Prof. (Gr-I)	MHSS	06-11-2012
31	Dr. Mrinmoy Majumder	Asstt. Prof. (Gr-I)	C.E.	16-11-2012
32	Dr. Ajay kumar Manna	Asstt. Prof. (Gr-I)	Chemical Engg.	17-12-2012
33	Dr. Biswajit Saha	Asstt. Prof. (Gr.I)	Physics	30-11-2012
34	Dr. Jawahar Paulraj	Asstt. Prof. (Gr.I)	M.E.	13-03-2019
Asstt. Professor (Grade-II)				
1	Smt Anindita Jamatia	Asstt. Prof. (Gr-II)	E.E.	01-04-2006
2	Sri Abanishwar Chakraborti	Asstt. Prof. (Gr.II)	E.E.	01-04-2006
3	Sri Prabir Ranjan Kasari	Asstt. Prof. (Gr.II)	E.E.	01-04-2006
4	Dr. Minakshi Deb Barma	Asstt. Prof. (Gr-II)	E.E.	01-04-2006
5	Sri Bikram Das	Asstt. Prof. (Gr.II)	E.E.	01-04-2006
6	Sri Prasenjit Debnath	Asstt. Prof. (Gr.II)	E.E.	30-07-2010
7	Sri Nikhil Deb Barma	Asstt. Prof. (Gr-II)	CSE	01-04-2006
8	Sri Kunal Chakma	Asstt. Prof. (Gr.II)	CSE	01-04-2006
9	Ms. Smita Das	Asstt. Prof. (Gr.II)	CSE	01-04-2006
10	Sri Dwijen Rudra Pal	Asstt. Prof. (Gr-II)	CSE	01-04-2006
11	Sri Suman Deb	Asstt. Prof. (Gr.II)	CSE	01-04-2006
12	Sri Anupam Jamatia	Asstt. Prof. (Gr.II)	CSE	01-04-2006
13	Sri Tribid Deb Barma	Asstt. Prof. (Gr-II)	CSE	01-04-2006
14	Sri Nirmalya Kar	Asstt. Prof. (Gr.II)	CSE	29-07-2010

15	Sri Kamalesh Debnath	Asstt. Prof. (Gr-II)	ECE	12-04-2010
16	Sri Anirban Bhattacharya	Asstt. Prof. (Gr.II)	ECE	21-05-2012
17	Dr. Mitra Barun Sarkar	Asstt. Prof. (Gr.II)	ECE	15-06-2012
18	Sri Somnath Roy Choudhury	Asstt. Prof. (Gr-II)	ECE	21-05-2012
19	Sri Prasenjit Datta	Asstt. Prof. (Gr.II)	PE	01-04-2006
20	Sri Abhik Majumder	Asstt. Prof. (Gr.II)	M.E.	01-04-2006
21	Sri Gopinanday Dey	Asstt. Prof. (Gr-II)	C.E.	01-04-2006
22	Sri Manik Bhowmik	Asstt. Prof. (Gr.II)	ECE	01-04-2006
23	Dr. Ankuran Saha	Asstt. Prof. (Gr.II)	M.E.	21-05-2012
24	Smt. Lipika Halder	Asstt. Prof. (Gr-II)	C.E.	01-04-2006
25	Mr. Nilotpal Debbarma	Asstt. Prof. (Gr.II)	C.E.	01-04-2006
26	Mr. Biman Debbarma	Asstt. Prof. (Gr.II)	ECE	01-04-2006
27	Mr. Arindam Majumder	Asstt. Prof. (Gr-II)	M.E.	20-04-2010
28	Mrs. Seena P	Asstt. Prof. (Gr.II)	P.E.	13-05-2010
29	Mr. R.K. Bogendra Meiti	Asstt. Prof. (Gr.II)	M.E.	29-06-2012
30	Dr. Joyshree Das	Asstt. Prof. (Gr-II)	E.E.	11-10-2012

3.3.2.2 Contractual faculty members.

Sl. No.	Name	Designation	Department	Date of Joining
1.	Ms. Moumita Majumder	Asstt. Prof.	Comp. Sc. & Engg.	18-08-2010
2.	Ms. Priyanka Sarkar	Asstt. Prof.	Comp. Sc. & Engg.	01-04-2013
3.	Sri Dhrubajyoti Bhowmik	Asstt. Prof.	Comp. Sc. & Engg.	01-04-2013
4.	Sri Parthasarathi De	Asstt. Prof.	Comp. Sc. & Engg.	08-04-2013
5.	Sri Kishore Kr. Dhar	Asstt. Prof.	Comp. Sc. & Engg.	10-07-2014
6.	Sri Prashant Bhardwaj	Asstt. Prof.	Comp. Sc. & Engg.	10-07-2014
7.	Ms. Tannistha Pal	Asstt. Prof.	Comp. Sc. & Engg.	10-07-2014
8.	Sri Subhajit Deb	Asstt. Prof.	Civil Engg.	06-08-2010
9.	Ms. Tillotama Chakraborty	Asstt. Prof.	Civil Engg.	30-08-2011
10.	Ms. Nabanita Bhowmik	Asstt. Prof.	Civil Engg.	06-12-2012
11.	Ms. Subhra Das	Asstt. Prof.	Civil Engg.	12-12-2012
12.	Ms. Sadria Begam	Asstt. Prof.	Civil Engg.	14-07-2014
13.	Ms. Dipika Debnath	Asstt. Prof.	Civil Engg.	14-07-2014
14.	Sri Chirabrata Debnath	Asstt. Prof.	Civil Engg.	10-10-2014
15.	Ms. Nabina Khanam	Asstt. Prof.	Civil Engg.	21-01-2015
16.	Sri Ratnadeep Modak	Asstt. Prof.	Civil Engg.	22-01-2015
17.	Sri Debashish Karmakar	Asstt. Prof.	Civil Engg.	07-07-2015
18.	Sri Sajal Rudra Paul	Asstt. Prof.	Civil Engg.	01-09-2016
19.	Sri Bibhab Kr. Lodh	Asstt. Prof.	Chemical Engg.	05-08-2011
20.	Dr. Abhijit Mandal	Asstt. Prof.	Chemical Engg.	21-01-2013
21.	Dr. Mriganka Sekhar Manna	Asstt. Prof.	Chemical Engg.	17-07-2014
22.	Dr. Swarup Biswas	Asstt. Prof.	Chemical Engg.	22-08-2016
23.	Dr. Abhijit Baidya	Asstt. Prof.	Maths. Dept.	23-08-2010
24.	Dr. Susmita Roy	Asstt. Prof.	Maths. Dept.	01-08-2011

25.	Dr. Jayanta Debnath	Teaching Asstt.	Maths. Dept.	01-08-2011
26.	Dr. Pinki Majumder	Teaching Asstt.	Maths. Dept.	01-08-2011
27.	Dr. Jayasree Chakraborty	Asstt. Prof.	Maths. Dept.	05-09-2012
28.	Dr. Mantu Das	Asstt. Prof.	Maths. Dept.	17-07-2014
29.	Ms. Sudipa Choudhury	Teaching Asstt.	Maths. Dept.	29-07-2015
30.	Dr. Sayanta Chakraborty	Asstt. Professor	Maths. Dept.	19-08-2016
31.	Dr. Kalyani Debnath	Asstt. Prof.	Maths. Dept.	19-08-2016
32.	Dr. Piyali Debnath	Asstt. Prof.	Maths. Deptt.	04-09-2017
33.	Sri Subharaj Paul	Teaching Asstt.	Physics Dept.	01-08-2012
34.	Dr. Manash Kr. Paul	Asstt. Prof.	Physics Dept.	16-07-2010 17-10-2012
35.	Dr. Sanjay Kr. Mandal	Asstt. Prof.	Physics Dept.	05-11-2012
36.	Dr. Thingujam Kiranmala Devi	Asstt. Prof.	Physics Dept.	21-07-2014
37.	Dr. Nandini Roy	Asstt. Prof.	Physics Dept.	23-07-2014
38.	Dr. Biswajit Paul	Asstt. Prof.	Physics Dept.	20-07-2015
39.	Dr. Santanu Chakraborty	Asstt. Prof.	Physics Dept.	13-07-2015
40.	Dr. Chakradhar Behra	Asstt. Prof.	Physics Dept.	16-08-2016
41.	Dr. Ngangbam Ishwarchandra	Asstt. Prof.	Physics Dept.	11-08-2016
42.	Dr. Saswati Roy	Teaching Asstt.	Physics Dept.	16-08-2016
43.	Dr. Debanjan Bhattacharjee	Teaching Asstt.	Physics Deptt.	14-03-2017
44.	Dr. Saroj Kumar Parida	Asstt. Prof.	Physics Deptt.	13-02-2017
45.	Sri Durbadal Debroy	Asstt. Prof.	Mech. Engg.	03-08-2011
46.	Dr. Ashis Acharjee	Asstt. Prof.	Mech. Engg.	11-07-2014
47.	Sri Arindam Sinha	Asstt. Prof.	Mech. Engg.	14-07-2014
48.	Ms. Moutoshi Singha Roy	Asstt. Prof.	Mech. Engg.	29-07-2015
49.	Dr. Sagnik Pal	Asstt. Prof.	Mech. Engg.	30-07-2015
50.	Sri Dipak Ch. Das	Asstt. Prof.	Mech. Engg.	30-07-2015
51.	Dr. Joydeep Roy	Asstt. Prof.	Mech. Engg.	07-03-2016
52.	Dr. Pinku Debnath	Asstt. Prof.	Mech. Engg.	14-09-2016
53.	Ms. Sharmistha Sharma	Asstt. Prof.	Elect. Engg.	12-08-2009
54.	Sri Diptanu Das	Asstt. Prof.	Elect. Engg.	08-08-2011
55.	Dr. Bidyut Kr. Bhattacharya	Professor	Elect. Engg.	17-01-2013
56.	Dr. Nivedita Laskar	Asstt. Prof.	Elect. Engg.	15-11-2012
57.	Sri Diptanu Dey	Asstt. Prof.	Elect. Engg.	14-07-2014
58.	Dr. Arup Ratan Bhowmik	Asstt. Prof.	Elect. Engg.	11-07-2014
59.	Dr. Nabamita Goswami	Asstt. Prof.	Elect. Engg.	11-07-2014
60.	Sri Bishop Debbarma	Asstt. Prof.	Prod. Engg.	24-08-2010
61.	Dr. Sujay Chakraborty	Asstt. Prof.	Prod. Engg.	01-08-2011
62.	Ms. Pushparenu Bhattacharjee	Asstt. Prof.	Prod. Engg.	08-08-2013
63.	Sri Nabarun Biswas	Asstt. Prof.	Prod. Engg.	11-07-2014

64.	Sri Debashis Podder	Asstt. Prof.	Prod. Engg.	18-07-2014
65.	Sri Shiladitya Chakraborty	Teaching Asstt.	Electronics & Comm. Engg.	25-07-2008
66.	Dr. Priyanka Chowdhury	Asstt. Prof.	Electronics & Comm. Engg.	13-08-2014
67.	Sri Apangshu Das	Asstt. Prof.	Electronics & Comm. Engg.	10-08-2012
68.	Dr. Abhishek Nag	Asstt. Prof.	Electronics & Comm. Engg.	13-07-2015
69.	Sri Partha Kr. Deb	Asstt. Prof.	Electronics & Comm. Engg.	02-07-2015
70.	Ms. Smita Banik	Asstt. Prof.	Electronics & Comm. Engg.	22-08-2016
71.	Dr. Apurba Chakraborty	Asstt. Prof.	Electronics & Comm. Engg.	22-08-2016
72.	Dr. Subhojit Das	Asstt. Prof.	Chemistry Dept.	24-07-2014
73.	Dr. Manojit Roy	Asstt. Prof.	Chemistry Dept.	07-08-2014
74.	Dr. Jhinuk De	Teaching Asstt.	Chemistry Dept.	12-01-2015
75.	Dr. Chitraniva Datta	Asstt. Prof.	Chemistry Dept.	03-08-2015
76.	Dr. Sajal Kundu	Asstt. Prof.	Chemistry Dept.	29-07-2015
77.	Dr. Manas Roy	Asstt. Prof.	Chemistry Dept.	26-08-2016
78.	Dr. Susanta Ghanta	Asstt. Prof.	Chemistry Dept.	22-08-2016
79.	Dr. Chanchal Bhowmik	Asstt. Prof.	Chemistry Dept.	22-08-2016
80.	Sri Bidhyasagar Debnath	Teaching Asstt.	MHSS	04-08-2008
81.	Dr. Kaju Nath	Asstt. Prof.	MHSS	24-07-2014
82.	Sri Nabendu Debnath	Teaching Asstt.	MHSS	01-09-2014
83.	Dr. Anuradha Nongmaithem	Asstt. Prof.	MHSS	25-07-2014
84.	Dr. Amit Bikram Chowdhury	Asstt. Prof.	MHSS	22.08.2016
85.	Mr. Jayasree Tripura	Teaching Asstt.	MHSS	07-07-2017
86.	Dr. Priyanka Dey	Asstt. Prof.	Electronics & Instrumentation Engg.	13-08-2012
87.	Ms. Priyanka Roy Goswami	Asstt. Prof.	Electronics & Instrumentation Engg.	06-02-2012
88.	Sri Rupam Gupta Roy	Asstt. Prof.	Electronics & Instrumentation Engg.	11-07-2014
89.	Dr. Aparupa Kar	Asstt. Prof.	Electronics & Instrumentation Engg.	11-07-2014
90.	Dr. Dijendra Nath Roy	Asstt. Prof.	Bio-Engg.	28-01-2013
91.	Dr. Biswanath Bhunia	Asstt. Prof.	Bio-Engg.	04-03-2013
92.	Dr. Tridib Kr. Bhowmik	Asstt. Prof.	Bio-Engg.	13-06-2013
93.	Dr. Deeplina Das	Asstt. Prof.	Bio-Engg.	21-07-2014
94.	Dr. Abhijit Chatterjee	Asstt. Prof.	Bio-Engg.	14-07-2015
95.	Ms. Hrijuta Datta	Asstt. Prof.	Bio-Engg.	10-07-2015

96.	Dr. Muthusivarampandian M	Asstt. Prof.	Bio-Engg.	10-07-2015
97.	Dr. Rajib Mallik	Asstt. Prof.	MHSS	22-05-2013
98.	Dr. Sonit Dutta	Asstt. Prof.	MHSS	23-05-2013
99.	Dr. Amlanbrata Chakraborty	Asstt. Prof.	MHSS	21-07-2014

3.3.3 List of employees - other than faculty members

3.3.3.1 Regular non-teaching staff of the institute

Sl. No.	Name	Designation	Department	Date of Joining
1.	Dr. Govind Bhargava	Registrar	Administration	05-05-2017
2.	Mr. Tanmoy Ghosal	Asstt. Registrar	Estt. & Stipend	07-09-2012
3.	Mr. N. Venkatasivakumar Hari	Asstt. Registrar	Estt. & Purchase	22-11-2019
4.	Mr. Krishanu Gupta	Asstt. Registrar	Academic	15-11-2019
5.	Mr. Kamlesh Tilwani	Asstt. Registrar	Accounts & Finance	29-11-2019
6.	Sri Suman Karmakar	Technical Assistant	Electrical Engg. Deptt	01-04-2006
7.	Sri Subhankar Chakma	Technical Assistant	Civil Engg. Dept.	01-04-2006
8.	Sri Jyoti Lal Debbarma	Stenographer (SG-II)	O/o the Director	01-04-2006
9.	Sri Sanjoy Deb Rupini	Sr. Assistant	Establishment Section	01-04-2006
10.	Sri Tarun Debbarma	Sr. Assistant	Stipend & Scholarship	01-04-2006
11.	Smt. Bakul Debbarma	Sr. Assistant	Estt. Section	01-04-2006
12.	Sri Pradip Kr. Majumder	Jr. Assistant	Academic Section	01-04-2006
13.	Sri Sukhen Saha	Jr. Assistant	Accounts Section	01-04-2006
14.	Sri Dharendra Debnath	Jr. Assistant	Library	01-04-2006
15.	Sri Dhrubamani Dey	Jr. Assistant	Stipend Section	24-09-2018
16.	Sri Biroj Bhowmik	Technician	HSSM	05-09-2018
17.	Sri Sukhendu Debbarma	Sr. Technician	Elect. Engg.	01-04-2006
18.	Sri Manik Chakraborty	Group – C	Civil Engg.	01-04-2006
19.	Sri Ratan Modi	Group – C	CSE Dept.	01-04-2006
20.	Sri Niranjana Ghosh	Group – C	Mech. Engg.	01-04-2006
21.	Sri Jahar Debnath	Group – C	Dean (P&D)	01-04-2006
22.	Smt. Brihalata Debbarma	Group – C	Civil Engg.	01-04-2006
23.	Smt. Uma Saha	Group – C	Exam. Sec.	01-04-2006
24.	Sri Dilip Debbarma	Group – C	Estt. Sec.	01-04-2006
25.	Smt. Sonalaxmi Debbarma	Group – C	Estt. Sec.	01-04-2006
26.	Sri Nepal Debnath	Group – C	Acad. Sec.	01-04-2006
27.	Sri Bishu Debbarma	Group – C	Prod. Engg.	01-04-2006
28.	Smt. Urmila Debbarma	Group – C	Estt. Sec.	01-04-2006

3.3.3.2 List of contractual non-teaching staff of the institute

Sl. No.	Name	Designation	Department	Date of Joining
1.	Sri Gopal Sil Sharma	PS	O/o the Director	14-01-2019
2.	Sri Bidyut Kr. Ghosh	Jr. Assistant	O/o the Director	12-12-2008
3.	Smt. Shampa Pal (Bhowmik)	Jr. Assistant	O/o the Director	02-02-2010
4.	Sri Tanumoy Paul	Jr. Assistant	O/o the Registrar	19-06-2006
5.	Sri Sanjib Debbarma	Helper	O/o the Registrar	15-07-2009
6.	Mrs. Kaninika Banik	Receptionist	O/o the Registrar	11-11-2011
7.	Sri Parimal Mahajan	Legal Advisor	Legal Cell	11-02-2019
8.	Sri Jagat Jyoti Roy	AR.(Finance)	Accounts Section	07-01-2014
9.	Sri Rajesh Kn. Majumder	Accountant	Accounts Section	21-11-2007
10.	Ms Aparna Nath	Accountant	Accounts Section	18-08-2010
11.	Sri Akhil Debbarma	Accountant	Accounts Section	03-10-2016
12.	Sri Karna Kr. Sarkar	Office Asstt.	Accounts Section	18-08-2016
13.	Sri Manish Dey	Accountant	Accounts Section	03-02-2014
14.	Smt. Sumitra Roy	Jr. Assistant	Accounts Section	12-12-2008
15.	Sri Parimal Paul	Accountant	Accounts Section	20-06-2018
16.	Sri Ashim Banik	Accountant	Accounts Section	20-06-2018
17.	Sri Haradhan Roy	Sr. Assistant	Accounts Section	20-06-2018
18.	Sri Shyamal Purakayastha	Audit Officer	Audit Section	07-01-2014
19.	Sri Subrata Chakraborty	Audit officer	Accounts Section	05-12-2011
20.	Sri Kritisundar Saha	Office Assistant	Estt. Section	01-08-2013
21.	Sri Benimadav Bhowmik	Sr. Asstt.	Estt. Section	03-10-2006
22.	Sri Tapan Debnath	Technician	Estt. Section	10-06-2015
23.	Sri Kajal Bhattacharjee	Section Officer	Estt. Section	18-08-2016
24.	Sri Pradip Datta	Office Asstt.	Estt. Section	18-08-2016
25.	Mr. Kusum Debnath	Sr. Asstt.	Estt. Sec.	20-06-2018
26.	Sri Kabir Deb	Jr. Assistant	Academic Sec.	04-06-2007
27.	Ms. Krishna Rani Deb	Jr. Assistant	Academic Sec.	21-06-2011
28.	Ms. Trishita Choudhury	P.R. Asstt.	Academic Sec.	26-10-2016
29.	Sri Sukdeb Chakraborty	Superintendent	Exam. Sec.	01-06-2007
30.	Ms. Payel Sarkar	Sr. Assistant	Exam. Sec.	05-07-2011
31.	Sri Sourav Mahajan	Jr. Assistant	Exam. Sec.	12-12-2008
32.	Sri Himangshu Paul	Section Officer(Pur)	Purchase Sec.	26-09-2011
33.	Sri Nabin Chandra Kundu	Lib. Asstt.	Purchase Sec.	01-04-2010
34.	Sri Partha Biswas	Estate Manager	Estate Section	12-12-2008
35.	Sri Jitendra Debnath	Sr. Assistant	Store Section	03-03-2015
36.	Sri Ajit Saha	Attendant	Estate Section	04-12-2015
37.	Sri Rajesh Kr. Modak	Jr. Engineer	Estate Section	16-09-2011
38.	Sri Nakul Ch. Debnath	Plumber	Estate Section	01-05-2008
39.	Sri Sankar Debbarma	Work Asstt.	Estate Section	11-07-2009
40.	Sri Sanjib Chakraborty	Opt (Auditorium)	Estate Section	27-06-2011

41.	Sri Rakesh Tripura	Mason	Estate Section	10-12-2012
42.	Sri Pradip Sutradhar	Carpenter	Estate Section	10-12-2012
43.	Sri Biswajit Das	Helper	Estate Section	10-12-2012
44.	Sri Sanjib Sarkar	Helper	Estate Section	10-12-2012
45.	Sri Milan Karmakar	Helper	Estate Section	10-12-2012
46.	Sri Manik Bhowmik	J.E.	Estate Section	23-06-2014
47.	Sri Bapan Debroy	A.E.E.	Estate Section	20-06-2014
48.	Sri Debu Debnath	Work Assistant	Estate Section	13-06-2014
49.	Sri Rajesh Sarkar	J.E.	Estate Section	16-12-2014
50.	Sri Bimal Krishna Debnath	A.E.E.	Estate Section	02-09-2010
51.	Sri Sumit Debnath	J.E.	Estate Section	05-09-2014
52.	Sri Ranjit Sharma	Helper	Estate Section	09-11-2010
53.	Sri Rajib Chakraborty	Helper	Estate Section	09-11-2010
54.	Sri Chanki Paul	Helper	Estate Section	09-11-2010
55.	Sri Pradip Das	Electrician	Estate Section	01-12-2011
56.	Sri Arabinda Das	Electrician	Estate Section	01-12-2011
57.	Sri Sujit Debnath	Lineman	Estate Section	01-12-2011
58.	Sri Subir Namasudra	Helper	Estate Section	01-12-2011
59.	Sri Pabitra Shil	Electrician	Estate Section	08-08-2012
60.	Sri Krishan Debnath	Lineman	Estate Section	02-08-2012
61.	Sri Krishna Ch. Saha	Lineman	Estate Section	03-08-2012
62.	Sri Uttam Kr. Debnath	Lineman	Estate Section	07-08-2012
63.	Sri Parimal Debnath	Helper	Estate Section	03-08-2012
64.	Sri Biswajit Debbarma	Helper	Estate Section	03-08-2012
65.	Sri Rajib Deb	Helper	Estate Section	16-06-2014
66.	Sri Matilal Tanti	Operator	Estate Section	16-06-2014
67.	Sri Manitosh Sarkar	Operator	Estate Section	16-06-2014
68.	Sri Sadhan Debnath	Operator	Estate Section	31-08-2016
69.	Sri Amit Debbarma	Electrician	Estate Section	01-09-2016
70.	Sri Litan Sarkar	Jr. Assistant	TPO	16-07-2010
71.	Ms. Jhuma Das	P.R. Asstt.	TPO	15-09-2016
72.	Sri Dyanojyoti Kar	Accountant	TPO	15-09-2015
73.	Sri Sukanta Goswami	Jr. Assistant	Dean (FW)	19-12-2008
74.	Sri Anirban Sharma Roy	Lib. Asstt.	Library	30-01-2012
75.	Sri Dipankar Das	Jr. Assistant	Library	18-12-2008
76.	Ms. Atrayee Podder	Library Asstt.	Library	30-01-2012
77.	Sri Bidyut Choudhuri	Library Asstt.	Library	14-09-2015
78.	Ms. Purnima Singha	Library Asstt.	Library	14-09-2015
79.	Sri Kshitish Chakraborty	Office Asstt.	Library	16-08-2016
80.	Ms. Rupa Debnath	Library Asstt.	Library	24-09-2015
81.	Mrs. Tulshi Singha	P.R. Asstt.	Library	21-02-2017
82.	Sri Anupam Pal	Sports Officer	Dean (SW)	16-08-2007
83.	Sri Sukanta Ghoswami	Phy. Edu. Off.	Dean (SW)	16-08-2007
84.	Ms. Rumita Saha	Hostel Supervisor	Dean (SW)	01-08-2012
85.	Ms. Mahuya Biswas	Hostel Supervisor	Dean (SW)	10-02-2010
86.	Sri Ajoy Bhowmik	Hostel Supervisor	Dean (SW)	16-02-2010
87.	Sri Rabindra Das	Hostel Supervisor	Dean (SW)	10-02-2010
88.	Sri Sukrit Prasad Dutta	Hostel Supervisor	Dean (SW)	30-07-2012
89.	Sri Satyajit Das	Hostel Supervisor	Dean (SW)	30-07-2012

90.	Sri Prasanta Rn. Deb	Hostel Supervisor	Dean (SW)	08-07-2015
91.	Sri Debashish Biswas	Foreman	Workshop	04-08-2008
92.	Sri Manojit Das	Foreman/ Instructor	Workshop	18-09-2008
93.	Sri Koushik Debroy	Foreman	Workshop	01-01-2009
94.	Sri Arup taru Roy	Instructor	Workshop	19-08-2009
95.	Sri Ranju Kr. Singh	Instructor	Workshop	19-08-2009
96.	Sri Biswajit Debnath	Instructor	Workshop	19-08-2009
97.	Sri Basudeb Banik	Tech.	Workshop	22-12-2008
98.	Sri Sujit Kumar Bhowmik	Skilled Asstt.	Workshop	18-09-2008
99.	Sri Shubendu Debbarma	Jr. Tech.	Workshop	19-08-2009
100.	Sri Kishore Das	Lab. Asstt.	Mech. Engg.	25-08-2010
101.	Sri Pinku Saha	Lab. Asstt.	Mech. Engg.	26-08-2010
102.	Sri Bishnupada Das	Driver	Workshop	19-11-2008
103.	Sri Babul Ch. Deb	Driver	Workshop	16-07-2009
104.	Sri Gopal Ch. Das	Driver	Workshop	16-07-2009
105.	Sri Sajal Saha	Driver	Workshop	01-02-2011
106.	Sri Gautam Acharjee	Technician	Mech. Engg.	28-07-2015
107.	Sri Subrajit Sen	Technical Asstt.	Mech. Engg.	27-07-2015
108.	Sri Prasenjit Majumder	Technical Asstt.	Mech. Engg.	28-07-2015
109.	Sri Mrinmoy Chakraborty	Jr. Assistant	Dean (SW)	07-03-2019
110.	Sri Pabitra Acharjee	Technician	Mech. Engg.	08-09-2016
111.	Sri Sudip Debnath	Technical Asstt.	Mech. Engg.	26-08-2016
112.	Sri Hillol Mutsuddy	Technical Asstt.	Mech. Engg.	26-08-2016
113.	Sri Pulak Kr. De	Office Asstt.	Mech. Engg.	18-08-2016
114.	Sri Abhijit Giri	Technical Asstt	Civil Engg.	13-08-2010
115.	Sri Suman Nandi	Lab. Asstt.	Civil Engg.	10-08-2010
116.	Ms Manisha Deb	Lab. Asstt.	Civil Engg.	13-08-2010
117.	Sri Prasenjit Dutta	Technical Asstt	Civil Engg.	06-12-2012
118.	Sri Sankar Paul	Technical Asstt	Civil Engg.	13-12-2012
119.	Sri Uddhab Ch.Nath	Technical Asstt	Civil Engg.	28-07-2015
120.	Sri Riman Bhowmik	Technician	Civil Engg.	28-07-2015
121.	Sri Sukumar Sarkar	Office Asstt.	Civil Engg.	18-08-2016
122.	Sri Pramod Pal	Instructor	Production Engg.	04-09-2009
123.	Sri Biswanath Karmakar	Jr. Tech	Production Engg.	04-09-2009
124.	Sri Sukanta Das	Technical Asstt.	Production Engg.	08-09-2014
125.	Sri Prasenjit Debnath	Technician	Production Engg.	08-09-2014
126.	Sri Subhan Ch. Deb	Attendant	Production Engg.	15-02-2016
127.	Ms. Puspoham Hrangkhawl	P.R. Asstt.	Production Engg.	21-02-2017
128.	Smt. Sima Das	Sr. Ins.	Elect. Engg.	19-08-2009
129.	Smt. Tapa Saha	Tech.Supp. Staff	Elect. Engg.	25-07-2008
130.	Sri Kabir Bhowmik	Sr. Ins.	Elect. Engg.	19-08-2009
131.	Sri Ajit Deb	Lab. Tech	Elect. Engg.	19-08-2009
132.	Sri Debabrata Bhattacharya	Technical Asstt	Elect. Engg.	09-08-2010
133.	Sri Jayanta Chowdhury	Technical Asstt	Elect. Engg.	10-07-2012

134.	Sri Pranab Majumder	Technical Asstt	Elect. Engg.	16-07-2012
135.	Ms. Sudipa Aine	Technical Asstt.	Elect. Engg.	30-07-2015
136.	Sri Subal Das	Technical Asstt.	Elect. Engg.	31-07-2015
137.	Sri Balaram Das	Technical Asstt.	Elect. Engg.	30-07-2015
138.	Sri Rajkishore Ghosh	Attendant	Elect. Engg.	01-08-2016
139.	Ms. Ankita Pal	P.R. Asstt	Elect. Engg.	23-12-2016
140.	Sri Kamal Kn. Pal	System Admin.	CSE Deptt.	15-12-2008
141.	Sri Partha Sarathi Bhattacharjee	Network Admin.	CSE Deptt.	15-09-2011
142.	Mr. Rajib Debnath	Technician (N/W)	Networking	28-09-2016
143.	Mr. Pramatha Acharjee	Technician (N/W)	Networking	28-09-2016
144.	Sri Suman Saha	Lab / Tech Assistant	CSE Deptt..	09-08-2010
145.	Sri Viki Datta	Lab / Tech Assistant	CSE Deptt.	14-09-2011
146.	Sri Malay Paul	Lab / Tech Assistant	CSE Deptt.	13-03-2012
147.	Sri Saikat Bhattacharjee	Lab / Tech Asstt	CSE Deptt.	29-07-2015
148.	Sri Dhurjati Chakraborty	Lab / Tech Assistant	CSE Deptt.	29-07-2015
149.	Sri Joydip Deb	Lab / Tech Assistant	CSE Deptt.	29-07-2015
150.	Sri Dilip Goswami	Office Asstt.	CSE Deptt.	18-08-2016
151.	Sri Ardhendu Gupta	Technical Asstt	CSE Deptt.	23-08-2016
152.	Sri Susanta Pal	Technical Asstt	CSE Deptt.	23-08-2016
153.	Ms. Mandira Bhowmik	Technical Asstt	CSE Deptt..	22-09-2016
154.	Sri Dhruba Narayan Das	Technical Asstt	Chemical Engg.	09-08-2010
155.	Sri Dipankar Goswami	Technical Asstt	Chemical Engg.	06-09-2011
156.	Sri Kaushik Das	Technical Asstt.	Chemical Engg.	28-07-2015
157.	Sri Mrinmoy Sarma	Technical Asstt.	Chemical Engg.	28-07-2015
158.	Mr. Samir Debbarma	Technician	Chemical Engg.	28-07-2015
159.	Mr. Biswajit Debbarma	Lab. Technician	Chemical Engg.	11-10-2017
160.	Khorshed Alam	Lab. Technician	Chemical Engg.	17-10-2017
161.	Ms. Sangita Patari	Lab. Asstt	Physics	22-09-2011
162.	Mrs. Madhuri Debnath	Lab. Asstt.	Physics	17-07-2013
163.	Mr. Krishna Deb	Lab. Asstt.	Physics	17-07-2013
164.	Sri Sarit Chakraborty	Lab. Asstt	Physics	29-07-2015
165.	Sri Satyajit Ghosh	Lab,Asstt.	Chemistry	07-09-2012
166.	Sri Sudip Paul	Lab,Asstt.	Chemistry	31-07-2015
167.	Sri Himadri Paul	Lab,Asstt.	Chemistry	29-07-2015
168.	Sri Nitish Ranjan Nath	Lab. Asstt.	Chemistry	22-08-2016
169.	Mrs. Sarbani Das (Bhattacharjee)	Lab. Asstt.	Math.	20-07-2017
170.	Ms. Poulami Ghosh	Tech. Asstt.	ECE	09-12-2011
171.	Sri Dipesh Debnath	Technician	ECE	02-01-2012
172.	Sri Abhijit Chakraborty	Tech. Asstt.	ECE	10-08-2010
173.	Mrs. Poulomi Dey	Technical Asstt,	ECE	27-07-2015
174.	Sri Raju Majumder	Technical Asstt,	ECE	27-07-2015
175.	Sri Sanjib Das	Technician,	ECE	27-07-2015

176.	Sri Nirmal Sarkar	Technician	ECE	27-07-2015
177.	Sri Alvin Debbarma	Technical Asstt.	ECE	27-07-2015
178.	Sri Hriday Ranjan Lodh	Technical Asstt.	ECE	22-08-2016
179.	Sri Susovan Ghosh	Technical Asstt	ECE	23-08-2016
180.	Sri Prasenjit Paul	Technician	ECE	22-08-2016
181.	Sri Anjan Das	Technical Asstt.	EIE	06-02-2012
182.	Sri Samir Rajuyar	Technician	EIE	28-07-2015
183.	Sri Dilip Biswasarma	Technical Asstt.	EIE	22-08-2016
184.	Sri Suraj Das	Technical Asstt.	EIE	03-07-2017
185.	Sri Kailash Pratim Phukan	Technical Asstt.	EIE	04-07-2017
186.	Dr. Parimal Chakraborty	Medical Off.	Medical Unit	01-02-2012
187.	Dr. Soumen Purkayastha	Medical Officer	Medical Unit	
188.	Dr. Supriti Tripura	Medical Off.	Medical Unit	23-01-2018
189.	Sri Rajesh Karmakar	Pharmacist	Medical Unit	17-04-2008
190.	Ms. Supriya Das	Pharmacist	Medical Unit	27-09-2012
191.	Sri Dipen Majumder	Technician	Medical Unit	22-12-2008
192.	Mr. Rajat Saha	GDA cum Dresser	Medical Unit	04-03-2015
193.	Ms. Chayanika Das	Lab. Technician	Medical Unit	06-01-2014
194.	Sri Subrata Das	Staff Nurse (M)	Medical Unit	07-12-2016
195.	Smt. Mousami Das	Staff Nurse	Medical Unit	08-03-2019
196.	Sri Sanjit Debbarma	Helper	Guest House	15-07-2009
197.	Sri Sanjoy Ghosh	Supervisor	Guest House	05-09-2014
198.	Smt. Sulekha Sarkar	Cook	Transit House	06-05-2011
199.	Mrs. Sanju Debnath	Draftsman	Dean (P&D)	12-12-2008
200.	Sri Suman Rudra Pal	Off. Asstt.	Dean (P&D)	19-08-2008
201.	Sri Bappi Das	Helper/Cook	Transit camp	01-02-2011
202.	Ms. Subhra Chowdhury	Technical Asstt.	Bio-Engg.	24-12-2012
203.	Ms. Malabita Sarkar	Technical Asstt.	Bio Engg.	17-10-2017
204.	Sri Anojit Debbarma	Technician	Bio-Engg.	23-08-016
205.	Sri V.C. Mathai	Technical Asst.	MHRD	12-11-2009
206.	Sri Sourabh Roy	Tech. Asstt.	Virtual Class Room	14-03-2014
207.	Sri Pramathesh Banik	Asst. Programmer (Technician)	MIS Section	03-11-2014
208.	Sri Sandanlal Saha	Cook-cum-Caretaker	Director's resi.	15-03-2016
209.	Sri Nirmal Debbarma	Security Guard	Director's office	02-02-2017
210.	Sri Litan Bhowmik	Counsellor	Dean (SW) Office	02-03-2020

3.3.3.3 List of Faculty/ Officers/ Staff on Long Leave

Sl. No.	Name	Designation	Department	Duration	Nature of Leave/resigned
1	Dr. Keisham Surjit Singh	Associate Prof.	Chemistry	6 months from 02.07.2020	On lien
2	Mr. Sanjoy Deb Rupini	Sr. Asstt.	Estt. Section	From 12 th Dec, 2018 to till date	Leave on medical ground

3.3.3.4 List of Retired Faculty/ Staff Members

Sl. No.	Name of Retired employees	Designation	Place of posting	Date of retirement/expired
1	Dr. S.C. Saha	Professor	ME Deptt	31-01-2020
2	Sri Bijan Debnath	Attendant	-	30-11-2019
3	Sri Ratan Debnath	Attendant	-	31-01-2020

3.4 RTI and Vigilance Cell:

The Institute has an RTI Cell under the Appellate Authority of the Director, NIT Agartala. Dr. Rajib Saha, Associate Professor is the Central Public Information Officer. Dr. Paritosh Bhattacharya is CVO (Chief Vigilance Officer) of the Institute.

4.0 ACADEMIC PROGRAMMES AND AWARD OF DEGREES

4.1 Introduction:

Tripura Engineering College (a State Govt. Institution) was established in 1965 with three branches (Civil, Electrical and Mechanical Engineering) at UG level. It was initially affiliated to University of Calcutta and had the same curriculum structure and examination system of Bengal Engineering College (presently Indian Institute of Engineering, Science and Technology, Shibpur, West Bengal). In the year 2006, Tripura Engineering College was converted into National Institute of Technology (NIT) Agartala. In spite of locational disadvantage in the North-Eastern Region where the connectivity is very poor, NIT, Agartala has excellent campus having 394 acres of land with the facilities of Academic Buildings, Library Building (known as Knowledge Centre), Auditorium, Multistoried Administrative Building, Building for Student's Activities, Staff Quarters, Banks, Post Office, Market Complex, Sports Complex and Kendriya Vidyalaya in the campus.

Intake of NITA per year has increased by three-fold to 1329 in comparison to annual intake till 2006. Presently, NITA has 9 B.Tech. Programmes, 21 M.Tech Programmes, MBA programme, MCA programme, 3 BS-MS & BT-MT programmes, 3 M.Sc. Programmes and Ph.D in relevant departments.

4.2 Admission Procedure:

- a. NIT Agartala follows the schedule of JoSAA -2019 for admission to undergraduate courses.
- b. Students are admitted in Undergraduate programmes under Home State and All India quota. In M. Tech. courses, candidates are admitted as per allotment of seats under common counseling, through CCMT, on the basis of result in GATE Examination. Candidates are also admitted in M. Tech. programmes of the Institute against the vacant seats left after admission through CCMT, based on a test conducted by the Institute. Also, the Institute allows admission to candidates, having experience, under Sponsored Category to those employed in various organizations.
- c. In MCA programme, candidates are admitted as per allotment of seats by NIMCET, based on the performance of the candidates in the NIMCET Examination conducted for the purpose.
- d. For programmes in M. Sc. in the Departments of Physics, Chemistry and Mathematics, eligible candidates are admitted as per allotment of seats by CCMN, based on the performance of candidates in the JAM examination conducted for the purpose of selection. Candidates are also admitted to the M. Sc. programmes of the Institute against the vacant seats left after admission through CCMN, based on a test conducted by the Institute.
- e. Admission to the MBA programme is based on selection made by the Institute depending upon the performance of candidates in the qualifying examination like CAT, CMAT, etc and also based on an Institute level test.
- f. For admission to the Ph. D. programme, candidates are admitted based on their performance in the test (written and oral) conducted by the Institute.

4.3 Admission 2019-2020:**Table 1 – Fresh Admission (2019-20)**

Sl. No.	Department	B. Tech.	BSMS	BTMT	M. Tech.	MCA	MBA	M. Sc.	Ph. D.	Total
1.	Civil Engineering(CE)	102	-	-	62	-	-	-	08	172
2.	Mechanical Engineering(ME)	112	-	-	23	-	-	-	07	142
3.	Electrical Engineering(EI)	109	-	-	24	-	-	-	03	136
	Computer Sc. & Engineering(CSE)	135	-	-	12	12	-	-	06	165
4.	Electronics & Communication Engineering(ECE)	113	-	-	17	-	-	-	05	135
5.	Production Engineering(PE)	94	-	-	03	-	-		04	101
6.	Electronics & Instrumentation Engineering(EIE)	66	-	-	00	-	-	-	01	67
7.	Chemical Engineering(CHE)	66	-	-	05	-	-	-	05	76
9.	Bio Engineering (Biotechnology and Biochemical Engineering (BT & BC))	39	-	-	04	-	-	-	02	45
10	BS-MS(Physics, Chemistry, Mathematics & Computing)	-	61	-	-	-	-	-		61
11	BT-MT(Engg. Physic)	-	-	21	-	-	-	-		21
12	Management, Humanities & Social Science	-	-	-	-	-	31	-	01	32
14	Physics	-	-	-	-	-	-	05	02	7
15	Chemistry	-	-	-	-	-	-	10	02	12
16	Mathematics	-	-	-	-	-	-	09	03	12
Total		836	61	21	150	12	31	24	49	1184

Total number of students admitted during the year includes the following (2019-20):

Scheduled Castes	157(UG), 30(PG), 10(Ph.D)	Q.I.P.	M. Tech.	00
Scheduled Tribes	173(UG), 11(PG), 01(Ph.D)		Ph. D.	01
Physically Handicapped	10(UG), 01(PG),	Sponsored	M. Tech.	01
		Project	Ph. D.	02
		External Registration	Ph. D.	00

4.4 Course-wise enrollment with Sex and Caste break-up:

Table 2 – Admitted students in B. Tech, 1st Semester (2019-20)

		CE	ME	EE	CSE	ECE	PE	EIE	CHE	BT & BC	Total
From the State of Tripura:											
OP	Boys	14	21	17	19	22	19	12	14	6	144
	Girls	9	6	10	6	6	7	5	3	5	57
	Total	23	27	27	25	28	26	17	17	11	201
OPPH	Boys	0	0	0	0	0	0	0	0	0	0
	Girls	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0
EWS	Boys	0	1	0	6	0	1	0	0	0	8
	Girls	0	0	0	2	1	0	0	0	0	3
	Total	0	1	0	8	1	1	0	0	0	11
EWS-PH	Boys	0	0	0	0	0	0	0	0	0	0
	Girls	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0
OBC	Boys	0	0	0	0	0	0	0	0	0	0
	Girls	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0
OBCPH	Boys	0	0	0	0	0	0	0	0	0	0
	Girls	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0
SC	Boys	7	7	7	10	6	5	3	4	3	52
	Girls	5	3	5	3	4	3	2	2	2	29
	Total	12	10	12	13	10	8	5	6	5	81
SCPH	Boys	0	0	0	0	0	0	0	0	0	0
	Girls	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0
ST	Boys	8	7	13	14	8	0	3	1	0	54
	Girls	10	1	2	7	3	0	1	0	0	24
	Total	18	8	15	21	11	0	4	1	0	78
STPH	Boys	0	0	0	0	0	0	0	0	0	0
	Girls	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0
From various part of the country except the State of Tripura											
OP	Boys	11	9	8	13	11	7	6	6	4	75
	Girls	1	5	4	6	5	2	2	1	1	27
	Total	12	14	12	19	16	9	8	7	5	102
OPPH	Boys	1	1	0	1	0	0	0	2	0	5
	Girls	0	0	0	0	0	0	0	0	0	0
	Total	1	1	0	1	0	0	0	2	0	5
EWS	Boys	6	12	8	11	12	9	6	5	3	72
	Girls	1	0	1	0	1	0	1	0	0	4
	Total	7	12	9	11	13	9	7	5	3	76
EWS-PH	Boys	0	0	0	0	1	0	0	0	0	1
	Girls	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	1	0	0	0	0	1
OBC	Boys	15	12	18	16	10	14	9	9	5	108
	Girls	4	3	4	4	3	3	2	4	2	29
	Total	19	15	22	20	13	17	11	13	7	137
OBCPH	Boys	0	0	0	2	1	0	0	0	0	3
	Girls	0	0	0	0	0	0	0	0	0	0

	Total	0	0	0	2	1	0	0	0	0	3
SC	Boys	7	9	8	9	9	6	5	5	3	61
	Girls	0	0	0	1	0	0	0	0	0	1
	Total	7	9	8	10	9	6	5	5	3	62
SCPH	Boys	0	0	0	0	0	0	0	0	0	0
	Girls	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0
ST	Boys	3	12	4	5	9	15	8	8	4	68
	Girls	0	3	0	0	1	3	1	2	1	11
	Total	3	15	4	5	10	18	9	10	5	79
STPH	Boys	0	0	0	0	0	0	0	0	0	0
	Girls	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0
Total intake capacity		106	113	112	135	115	102	67	67	45	862
Total admitted		102	112	109	135	113	94	66	66	39	836
Total vacant		4	1	3	0	2	8	1	1	6	26

Table 3 – Admitted students in M. Tech 1st Semester (2019-20)

		CE	ME	EE	CSE	EC	EIE	PE	CHE	BE
From the state of Tripura										
OP	Boys	06	01	01	01	00	00	00	01	00
	Girls	04	00	03	00	02	00	00	00	01
	Total	10	01	4	01	02	00	00	01	01
OPPH	Boys	00	00	00	00	00	00	00	00	00
	Girls	00	00	00	00	00	00	00	00	00
	Total	00	00	00	00	00	00	00	00	00
EWS	Boys	02	00	00	00	00	00	00	00	00
	Girls	00	00	00	00	00	00	00	00	00
	Total	02	00	00	00	00	00	00	00	00
EWS PH	Boys	00	00	00	00	00	00	00	00	00
	Girls	00	00	00	00	00	00	00	00	00
	Total	00	00	00	00	00	00	00	00	00
OBC	Boys	05	02	02	00	02	00	01	01	00
	Girls	02	00	00	00	01	00	00	01	00
	Total	07	02	02	00	03	00	01	02	00
OBC PH	Boys	00	00	00	00	00	00	00	00	00
	Girls	00	00	00	00	00	00	00	00	00
	Total	00	00	00	00	00	00	00	00	00
SC	Boys	01	00	00	00	00	00	00	00	00
	Girls	00	00	00	00	00	00	00	00	00
	Total	01	00	00	00	00	00	00	00	00
SCPH	Boys	00	00	00	00	00	00	00	00	00
	Girls	00	00	00	00	00	00	00	00	00
	Total	00	00	00	00	00	00	00	00	00
ST	Boys	02	00	00	00	00	00	00	00	00
	Girls	00	00	00	00	01	00	00	00	00
	Total	02	00	00	00	01	00	00	00	00
STPH	Boys	00	00	00	00	00	00	00	00	00
	Girls	00	00	00	00	00	00	00	00	00
	Total	00	00	00	00	00	00	00	00	00

		CE	ME	EE	CSE	EC	EIE	PE	CHE	BE
From the various part of the country except the state of Tripura										
OP	Boys	14	10	08	07	04	00	01	00	01
	Girls	03	00	02	00	01	00	00	00	00
	Total	17	10	10	07	05	00	01	00	01
OPPH	Boys	00	00	00	00	00	00	00	00	00
	Girls	00	00	00	00	00	00	00	00	00
	Total	00	00	00	00	00	00	00	00	00
EWS	Boys	00	00	01	00	01	00	00	01	00
	Girls	00	00	00	00	00	00	00	00	00
	Total	00	00	01	00	01	00	00	01	00
EWS PH	Boys	00	00	00	00	00	00	00	00	00
	Girls	00	00	00	00	00	00	00	00	00
	Total	00	00	00	00	00	00	00	00	00
OBC	Boys	12	07	03	01	04	00	00	01	01
	Girls	02	00	00	00	00	00	01	00	00
	Total	14	07	03	01	04	00	01	01	01
OBCPH	Boys	00	00	00	00	00	00	00	00	00
	Girls	00	00	00	00	00	00	00	00	00
	Total	00	00	00	00	00	00	00	00	00
SC	Boys	03	03	03	03	01	00	00	00	00
	Girls	03	00	00	00	00	00	00	00	01
	Total	06	03	03	03	01	00	00	00	01
SCPH	Boys	00	00	00	00	00	00	00	00	00
	Girls	00	00	00	00	00	00	00	00	00
	Total	00	00	00	00	00	00	00	00	00
ST	Boys	03	00	01	00	00	00	00	00	00
	Girls	00	00	00	00	00	00	00	00	00
	Total	03	00	01	00	00	00	00	00	00
STPH	Boys	00	00	00	00	00	00	00	00	00
	Girls	00	00	00	00	00	00	00	00	00
	Total	00	00	00	00	00	00	00	00	00
Total intake capacity		109	56	66	19	38	00	19	09	06
Sponsored intake		10								
Total admitted		62	23	24	12	16+1 Sponso red	00	03	05	04
Total vacant		47	33	42	07	22	00	16	04	02
Sponsored vacant		09								

Table 4 – Admitted students in BSMS, BTMT 1st Semester (2019-20)

		BSMS	BTMT
From the State of Tripura:			
OP	Boys	13	5
	Girls	3	1
	Total	16	6

OPPH	Boys	1	0
	Girls	0	0
	Total	1	0
EWS	Boys	1	0
	Girls	0	0
	Total	1	0
EWS-PH	Boys	0	0
	Girls	0	0
	Total	0	0
OBC	Boys	0	0
	Girls	0	0
	Total	0	0
OBCPH	Boys	0	0
	Girls	0	0
	Total	0	0
SC	Boys	3	2
	Girls	4	0
	Total	7	2
SCPH	Boys	0	0
	Girls	0	0
	Total	0	0
ST	Boys	1	0
	Girls	8	0
	Total	9	0
STPH	Boys	0	0
	Girls	0	0
	Total	0	0
From various part of the country except the State of Tripura			
OP	Boys	9	3
	Girls	0	0
	Total	9	3
OPPH	Boys	0	0
	Girls	0	0
	Total	0	0
EWS	Boys	2	1
	Girls	0	0
	Total	2	1
EWS-PH	Boys	0	0
	Girls	0	0
	Total	0	0
OBC	Boys	9	4
	Girls	0	0
	Total	9	4
OBCPH	Boys	0	0
	Girls	0	0
	Total	0	0
SC	Boys	4	1
	Girls	0	0
	Total	4	1
SCPH	Boys	0	0
	Girls	0	0
	Total	0	0
ST	Boys	3	4
	Girls	0	0
	Total	3	4

STPH	Boys	0	0
	Girls	0	0
	Total	0	0
Total intake capacity		69	23
Total admitted		61	21
Total vacant		8	2

Table 4A – Admitted students in M. Sc, MCA and MBA 1st Semester (2019-20)

		M. Sc. (Phy.)	M. Sc. (Chem.)	M. Sc. (Math.)	MCA	MBA
From the state of Tripura						
OP	Boys	00	00	00	00	11
	Girls	00	01	01	00	03
	Total	00	01	01	00	14
OPPH	Boys	00	00	00	00	01
	Girls	00	00	00	00	00
	Total	00	00	00	00	01
EWS	Boys	00	00	00	00	01
	Girls	00	00	00	00	00
	Total	00	00	00	00	01
EWS PH	Boys	00	00	00	00	00
	Girls	00	00	00	00	00
	Total	00	00	00	00	00
OBC	Boys	00	02	01	00	01
	Girls	00	01	00	00	02
	Total	00	03	01	00	03
OBCPH	Boys	00	00	00	00	00
	Girls	00	00	00	00	00
	Total	00	00	00	00	00
SC	Boys	00	00	00	00	02
	Girls	00	01	00	00	03
	Total	00	01	00	00	05
SCPH	Boys	00	00	00	00	00
	Girls	00	00	00	00	00
	Total	00	00	00	00	00
ST	Boys	00	00	00	00	01
	Girls	00	00	00	00	01
	Total	00	00	00	00	02
STPH	Boys	00	00	00	00	00
	Girls	00	00	00	00	00
	Total	00	00	00	00	00
From the various part of the country except the state of Tripura						
OP	Boys	04	02	00	02	01
	Girls	00	01	02	03	01
	Total	04	03	02	05	02
OPPH	Boys	00	00	00	00	00
	Girls	00	00	00	00	00
	Total	00	00	00	00	00
EWS	Boys	00	00	00	02	01

EWS PH	Girls	00	00	00	00	00
	Total	00	00	00	02	01
	Boys	00	00	00	00	00
OBC	Girls	00	00	00	00	00
	Total	00	00	00	00	00
	Boys	01	01	02	01	01
OBCPH	Girls	00	00	01	00	00
	Total	01	01	03	01	01
	Boys	00	00	00	00	00
SC	Girls	00	00	00	00	00
	Total	00	00	00	00	00
	Boys	00	00	01	03	00
SCPH	Girls	00	01	01	00	00
	Total	00	01	02	03	00
	Boys	00	00	00	00	00
ST	Girls	00	00	00	00	00
	Total	00	00	00	00	00
	Boys	00	00	00	01	01
STPH	Girls	00	00	00	00	00
	Total	00	00	00	01	01
	Boys	00	00	00	00	00
Total intake capacity		13	13	13	30	38
Total admitted		05	10	09	12	31
Total vacant		08	03	04	18	07

Table 5 – Admission statistics: UG Programme: Course-wise (2019-20)

Sl. No.	Name of the state	CE	ME	EE	CSE	ECE	EIE	CH E	PE	BT & BC	BS-MS (CHEM)	BS-MS (PHY)	BS-MS (MATH & COMPT.)	BT-MT (PHY)	TOTAL
1	AP	8	17	6	15	22	4	5	5	3	2	3	1	3	94
2	AS	0	1	0	0	0	0	1	1	0	0	0	1	1	5
3	BH	19	13	14	11	10	10	12	21	2	1	1	2	2	118
4	CG	0	1	1	0	0	1	0	3	0	0	0	0	0	6
5	DL	0	0	0	1	0	0	0	0	1	0	1	0	0	3
6	GJ	1	1	0	1	1	0	0	1	0	0	0	0	0	5
7	HR	0	0	2	4	0	0	1	0	0	0	0	0	0	7
8	HP	0	0	0	0	0	0	0	0	1	0	0	0	0	1
9	JR	2	1	1	0	1	0	1	0	0	0	0	0	1	7
10	J&K	0	0	0	0	0	1	0	0	0	0	0	0	0	1

11	KT	0	0	1	2	3	1	0	0	0	0	0	0	0	7
12	KL	0	0	0	0	3	0	0	1	0	0	0	0	0	4
13	MH	0	5	2	1	1	0	1	2	0	1	0	0	1	14
14	MP	1	0	2	2	1	2	1	1	3	0	0	0	0	13
15	OD	0	0	0	0	0	1	0	0	0	0	0	0	0	1
16	RJ	7	7	6	7	4	4	10	2	0	0	1	5	1	54
17	TN	0	0	0	1	0	0	0	0	0	0	0	0	0	1
18	TE	4	9	4	8	10	8	4	9	7	2	1	0	1	67
19	TR	53	46	54	67	50	26	24	35	16	12	11	11	8	413
20	UP	6	10	13	13	5	8	6	12	6	1	3	1	3	87
21	UR	1	1	1	2	2	0	0	1	0	0	0	0	0	8
22	WB	0	0	2	0	0	0	0	0	0	0	0	0	0	2
Grand Total		179	87	87	89	90	51	52	67	22	14	14	14	17	918

AP=ANDHRAPRADESH, AS=ASSAM, BH=BIHAR, CNG=CHANDIGARH, CG=CHHATTISGARH, DL-DELHI, GJ=GUJARAT, HR=HARYANA, HP=HIMACHAL PRADESH, JR=JHARKHAND, J&K=JAMMU & KASHMIR, KT=KARNATAK, KL=KERLA, PB=PUNJAB, MH=MAHARASHTRA, MP=MADHYA PRADESH, OD=ODISHA, RJ=RAJASTHAN, SK=SIKKIM, TN-TAMIL NADU, TE-TELANGANA, TR=TRIPURA, UP=UTTAR PRADESH, UR=UTTARAKHAND, WB=WEST BENGAL

4.5 Students/ Scholars Enrolment:

The total numbers of students on roll in various programmes of the Institute in the academic year 2019-20 are given below:

TABLE 6 – Students on roll

Sl. No.	Department	B. Tech	BS-MS	BT-MT	MCA	M. Tech.	M. Sc.	MBA	Ph. D
1.	Civil Engineering	566	-	-	-	142	-	-	62
2.	Mechanical Engineering	377	-	-	-	55	-	-	54
3.	Electrical Engineering	333	-	-	-	62	-	-	29
4.	Electronics & Communication Engineering	366	-	-	-	26	-	-	33
5.	Computer Sc. & Engineering	399	-	-	48	23	-	-	34
6.	Production Engineering	262	-	-	-	11	-	-	20
7.	Chemical Engineering	200	-	-	-	09	-	-	13
8	Electronics & Instrumentation Engineering	195	-	-	-	00	-	-	04

9	Bio Engineering (Biotechnology & Biochemical Engineering)	84	-	-	-	04	-	-	04
10	BS-MS	-	188	-	-	-	-	-	
11	BT-MT	-	-	66	-	-	-	-	
12	Management, Humanities & Social Science	-	-	-	-	-	-	44	13
13	Physics	-	-	-	-	-	14	-	18
14	Chemistry	-	-	-	-	-	19	-	13
15	Mathematics	-	-	-	-	-	14	-	19
Total-		2782	188	66	48	332	47	44	316

The above total includes the following

DASA (Indian origin)	6(UG)	QIP	M. Tech.	00
Scheduled Castes	544(UG), 58(PG), 43(Ph.D)		Ph. D.	01
Scheduled Tribes	529(UG), 19(PG), 20(Ph.D)	Sponsored	M. Tech.	01
Physically Handicapped	27(UG), 03(PG), 02(Ph.D)	Project	Ph. D.	02
Women Students	607(UG), 116(PG), 95(Ph.D)	External Registration	Ph. D.	01
		Registration Kept Alive		316
		Part Time Programme (M. Tech.)		

SC/ ST/ OBC/ OPPH Students on roll as on 31-03-2020:

Sl. No.	Programme	SC	ST	OBC	OPPH
1.	B. Tech.	494	494	732	25
2.	BS-MS	41	30	46	02
3.	BT-MT	09	05	25	00
4.	MCA	06	01	18	00
5.	M. Tech.	40	13	110	02
6.	M. Sc.	06	02	17	00
7.	MBA	06	03	07	01
8.	Ph. D.	43	20	79	02
Total-		645	568	1034	32

The branch/ discipline-wise and year-wise details of students in B. Tech. and M. Tech. programmes are given below:

TABLE 7 – Students on roll at Bachelors Degree level

Sl. No.	Branch	2019	2018	2017	2016	Other s
1	Civil Engineering	566	644	635	649	00
2	Mechanical Engineering	377	363	349	353	00

3	Electrical Engineering	333	307	327	325	00
4	Computer Sc. & Engg.	399	367	347	336	00
5	Electronics & Comm. Engineering	366	325	339	329	00
7	Production Engineering	262	225	224	219	00
8	Electronics & Inst. Engg.	195	177	164	169	00
9	Chemical Engineering	200	184	174	166	00
10	Bio Engineering	84	68	63	63	00
12	Physics(BS-MS)	64	47	42	30	00
13	Chemistry(BS-MS)	58	40	52	34	00
14	Math(BS-MS)	46	47	65	43	00
15	Mathematics And Computing	20	00	00	00	00
16	Engineering Physics(BT-MT)	66	50	59	44	00
Total		3036	2844	2840	2760	00

TABLE 8 – Students on roll at Masters Degree level

Sl. No.	Department	Specialization	2019	2018	2017	Total
01.	Civil Engineering Department	Geotechnical Engineering	28	27	26	53
		Structural Engineering	27	26	29	55
		Environmental Engineering	24	30	27	57
		Transportation Engineering	30	25	27	52
		Water Resources Engineering	09	10	10	20
		Seismic Science & Engineering	09	15	11	26
		Hydro Informatics Engineering	15	20	18	38
02.	Mechanical Engineering Department	Thermal Science & Engineering	18	25	29	54
		Manufacturing Technology	18	26	27	53
		Machine Design	07	10	14	24
		Automotive Engineering	12	11	12	23
03.	Electrical Engineering	Power Electronics & Drives	21	21	25	46
		Power System Engineering	19	18	22	40
		Instrumentation Engineering	16	18	18	36
		Integrated Energy System	06	08	08	16
04.	Electronics & Communication Engineering	VLSI Design	17	18	24	42
		Communication Engineering	09	11	21	32
05.	Computer Sc. & Engineering	Computer Sc. & Engineering	23	23	19	42
06.	Production Engineering	Computer Integrated Manufacturing	11	16	15	31

07	Chemical Engineering	Chemical Engineering	09	06	02	08
08	Bio Engineering	Biotechnology & Biochemical	04	00	00	00
08.	M. Sc.	Physics	14	16	14	30
		Chemistry	19	17	18	35
		Mathematics	14	12	12	24
09.	School of Management	MBA	44	30	44	74
10.	Master of Computer Application	MCA	48	49	53	102

4.6 Examination & Evaluation:

- Evaluation of the performance of the students is regarded as the most important academic activity in any educational institution. Evaluation of the students is made by both written examination and viva-voce test.
- Apart from this the performance of the students is also evaluated through internal assessment. In every semester one Mid-Term and End-Term examination are conducted. This apart, class tests and viva-voce test for all subjects are also taken.
- Marks are awarded to the students in each subject and on the basis of that Semester Grade Point Average (SGPA) is calculated. Taking the result of both Odd and Even Semesters, Cumulative Grade Point Average (CGPA) is calculated.
- In brief the performance of a student is evaluated through written examination, class test, viva-voce test, practical examination, attendance and above all the behavior of the students.

4.7 Course Offered:

TABLE 9 – No. of Courses offered (UG)

Sl. No.	Programme	Department
1.	B.Tech	Civil Engineering (CE)
		Mechanical Engineering (ME)
		Electrical Engineering (EE)
		Electronics & Communication Engineering (ECE)
		Electronics & Instrumentation Engineering (EIE)
		Computer Sc. & Engineering (CSE)
		Production Engineering (PE)
		Chemical Engineering (CHE)
		Biotechnology & Biochemical Engineering (BT & BC)
2.	BS-MS	Physics
		Chemistry
		Mathematics And Computing
3.	BT-MT	Engineering Physics

Courses offered (PG)

Sl. No.	Programme	Department	No. of Courses	
			PG	Ph.D
1	M.Tech	Civil Engineering	07	01
		Mechanical Engineering	04	01
		Electrical Engineering	04	01
		Electronics & Communication Engineering	02	01
		Computer Sc. & Engineering	01	01
		Production Engineering	01	01
		Chemical Engineering	01	01
		Electronics & Instrumentation Engineering	00	01
		Bio Engineering	01	01
2	MBA	Management, Humanities & Social Sciences	01	01
3	M.Sc	Basic Science	03	03
4	MCA	Computer Sc. & Engineering	01	

4.8 Convocation :

The National Institute of Technology Agartala organized its 12th Convocation on 9th November 2019. Shri Ramesh Bais, Hon'ble Governor of Tripura, adorned the 12th Convocation Ceremony as the Chief Guest.

In the 12th Convocation, Institute awarded B. Tech. Degree to a total number of 638 students.

Branch wise results are given as under:-

Civil Engineering: 12 students passed with Distinction, 118 passed with First class and 27 with Second class.

Mechanical Engineering: 41 students passed with Distinction; 53 students passed with First class.

Electrical Engineering: 20 students passed with Distinction, 48 students passed with First class and 12 students with Second class.

Computer Science & Engineering: 14 students passed with Distinction, 68 students passed with First class and 06 students with second class.

Electronics and Communication Engineering: 11 students passed with Distinction, 52 students passed with First class and 13 students with Second class.

Electronics and Instrumentation Engineering: 04 students passed with Distinction, 31 students passed with First class and 04 students with Second class.

Production Engineering: 03 students passed with Distinction, 35 students passed with First class and 05 students passed with Second class.

Chemical Engineering: 12 students passed with Distinction; 27 students passed with First class 03 students passed with Second class.

Bio Engineering: 03 students passed with Distinction, 10 students passed with First class and 06 students with second class.

BS & BT Degree was awarded to a total number of 37 students in the 12th convocation.

Branch wise results are given as under: -

BS Physics: 02 Students passed with First Class and Distinction, 06 students passed with First class and 03 students passed with Second class.

BS Chemistry: 01 Students passed with First Class and Distinction, 08 students passed with First class.

BS Mathematics: 01 student passed with First class and Distinction, 02 students passed with First class and 04 students passed with Second class.

BT Physics: 02 students passed with First class and Distinction 05 students passed with First class and 03 students passed with Second class.

BS-MS & BT-MT Degree was awarded to a total number of 37 students in the 12th convocation.

BS-MS Physics	:	04 student passed
BS-MS Chemistry	:	12 students passed
BS-MS Mathematics	:	14 students passed
BT-MT Physics	:	07 students passed

M. Tech Degree was awarded to a total number of 168 students in the 12th convocation.

Branch wise results are given as under: -

Civil Engineering	:	70 students passed.
Mechanical Engineering	:	35 students passed.
Electrical Engineering	:	23 students passed.
Computer Sc. & Engineering	:	12 students passed.
Electronics & Communication Engineering	:	18 students passed.
Production Engineering	:	08 students passed.
Chemical Engineering	:	02 students passed.

M. Sc Degree was awarded to a total number of 21 students in the 12th convocation.

Subject wise results are given as under: -

Physics	:	07 students passed.
Chemistry	:	08 students passed.
Mathematics	:	06 students passed.

MCA Degree was awarded to a total number of 13 students.

MBA Degree was awarded to a total number of 14 students.

Institute awarded 17 scholars for Ph.D Degree - 11 in Engineering, 6 in Science in the 12th Convocation

4.8.1 Introduction :

TABLE 10 – Degree awarded

Sl.No.	Department	B.Tech	BSMS	MCA	BTMT	M.Tech	M.Sc.	MBA	Ph.D
1	CIVIL	157	--	--	--	70	--	--	02
2	MECHANICAL	94	--	--	--	35	--	--	--
3	ELECTRICAL	80	--	--	--	23	--	--	07
4	COMPUTER SC.	88	--	--	--	12	--	--	--
5	ELECTRONICS & COMM.	76	--	--	--	18	--	--	--
6	ELECTRONICS & INST.	39	--	--	--	--	--	--	--
7	PRODUCTION	43	--	--	--	08	--	--	--
8	CHEMICAL	42	--	--	--	02	--	--	02
9	BIO	19	--	--	--	--	--	--	--
10	CHEMISTRY	--	12	--	--	--	08	--	01
11	MATHEMATICS	--	14	--	--	--	06	--	03
12	PHYSICS	--	05	--	07	--	07	--	02
13	MCA	--	--	13	--	--	--	--	--
14	MBA	--	--	--	--	--	--	14	--
15	PHD	--	--	--	--	--	--	--	--

With this convocation, the total number of degrees awarded so far by the Institute is **909**, the details of which are given below:

Sl.No.	Programme	No. of Students
01	Ph.D	17
02	M.Tech	168
03	B.Tech	638
04	BS-MS	31
05	BT-MT	07
06	MCA	13
07	M.SC	21
08	MBA	14

4.8.2 Convocation Prizes:

The following are the details of Prizes awarded to the students at the 12th Convocation:

Name of the Prize	Name of Student	Branch Name
Gold Medal for Institute Topper (UNDER GRADUATE)	NIRUPAM PAL	ME
Gold Plated Silver Medal to Branch Toppers (UNDER GRADUATE)	JAHNABI BASU	CE
	ARJITA PAL	EE
	SHIV PRATAP SINGH	CSE
	RITESH KISHORE MISHRA	ECE

	AVISHEK DATTA	EIE
	SHUBHAM DAS	PE
	ABHISHEK MANGIPUDI	CHE
	DEBI PAUL	BE

Program mememe me	Name of the Prize	Name of Students	Branch Name
M.Tech	Gold Medal for Institute Topper(Post-Graduate)	TRIPENDU DEBNATH	ME
	Gold Plated Silver Medal to Branch Toppers (Post-Graduate)	BANHISIKHA DEBNATH	CE
		ARINDAM DAS	EE
		JYOTI RAJ	CSE
		MONIKA POKHARIA	ECE
		ARUNTAPAN DASH	PE
		ANISHA GANGULY	CHE
MCA	Gold Plated Silver Medal to Branch Topper	NIDHI KUMARI	MCA
MBA	Gold Plated Silver Medal to Branch Topper	BANASREE NAYEK	MBA
M.Sc	Gold Plated Silver Medal to Branch Topper	ALLARAKHA SHIKDER	PHY
		SUMATI MALIK	CHY
		MOUSAMI DAS	MATHS

Name of the Prize	Name of Student	Branch Name
Gold Medal for Institute Topper (UNDER GRADUATE)	NILABHRA PAUL	BS MS - Mathematics
Gold Plated Silver Medal to Branch Toppers (UNDER GRADUATE)	POUSHALI BHATTACHARJEE	BS MS - Physics
	ANIRBAN GANGULY	BS MS - Chemistry
	DIPANJANA DE	BT MT - Physics

4.8.4 Other Prizes:

Sl. No.	Donor	Department	Name of the Student
B. Tech.			
1.	Mautushi Kar Memorial Scholarship , Donor -	CIVIL ENGINEERING	PRITAM CHAKRABORTY (17UCE077)

5.0 BIO ENGINEERING DEPARTMENT

5.1 Introduction:

The department of Bio Engineering was started in the academic year of 2012-13 with sanctioned intake capacity of 30 (thirty) students in the undergraduate level i.e. 4 years Bachelor of Technology (B. Tech Programme) in Bio Engineering to contribute the fascinating and emerging area of biological sciences. In the academic year 2019-20, total number of sanctioned seats in the department would be increased to 50. The department has excellent facilities in terms of class rooms and UG laboratories. Within a few years, the department has set up some important laboratory courses viz., Biochemistry lab, Micro Biology lab, Immunology Lab, Genetics Lab and Bioinformatics Lab. The PhD programme of the Bioengineering department has started in academic year 2018-2019. The M. Tech programme in the name of "Biotechnology and Biochemical Engineering" has also been approved and has been started from July 2019. The course name has been changed from B.Tech in Bioengineering to B.Tech in Biotechnology and Biochemical engineering from July 2019. The department is committed to excellence in teaching, research and service to the Nation. Presently, Dr. Tarun Kanti Bandopadhyay (Head, Bio Engineering) is supervising all the activities to ensure the progress of this department. The academic staff of this department has different backgrounds in engineering. This is a reflection of the multidisciplinary and integrative approach in Bio Engineering research and education. The Department has framed the course curriculum based on the need of today's industries. The course includes Molecular Biology, Biochemical Engineering, Biosensors, Bio-Fluid Mechanics, Bioinformatics and Computational Biology, Tissue Engineering and Regenerative Medicine, Therapeutic Delivery Systems, Biomedical Imaging and Instrumentation, Drug Design and Development, Nano-Biotechnology, Bioprocess Engineering, Metabolic Engineering, and Biomechanics, etc. The undergraduate programme provides strong fundamental knowledge and practical based learning methodology in engineering and life sciences. It imparts training for students to make them competent, motivated engineers and scientists. This course offers huge scope to the next generation students for their better career in India and abroad as well.

5.2 Academic Programme:

The department offers courses in Under Graduate programme leading to B. Tech degree under Bio Engineering (4 years) from July 2012. The B.Tech course in Bioengineering has been modified to B.Tech in Biotechnology and Biochemical engineering (4- years) which started from July 2019.

The department offers courses in Post Graduate programme leading to M. Tech degree under Biotechnology and Biochemical Engineering (2 years) from July 2019.

The department offers PhD programme under Bio Engineering from July 2018.

5.3 Faculty and their Activities:

Short-Term Courses/ Workshops/ Seminar/ Symposia/ Conferences organized by the faculty members:

Sl. No.	Co-ordinators	Title	Period
Short Term Courses/ SEMINAR			
1.	Dr. Tridib Kumar	Two days National Seminar:	18-19 th

	Bhowmick; Dr. Muthusivaramapandian, Dr. Deeplina Das	Modern Trends in Biotechnology for Innovations in Food Biotechnology and Medical Biotechnology under TEQIP-III	October 2019
2.	Dr. Muthusivaramapandian Dr. Tridib Kumar Bhowmick Dr. Deeplina Das	Summer Training (2019) Microbiology, Genetics, and Fermenter operation	From May 2019 to June 2019

Honours and Awards obtained:

Sl. No.	Name of Faculty/Department	Name of Award	Awarded by	Award for	Date
1	Dr. Biswanath Bhunia	Editorial Board member	Bentham Science	Membership of Current Biochemical Engineering	17.10.2019

Fellowships of Academics and Professional Societies:

Sl. No.	Name of Faculty	Level	Year
ISTE/ CSI and others			
1.	Dr. Dijendra Nath Roy	Corporate Life Member of Institute of Engineers (India)	From 2015
2.	Dr. Dijendra Nath Roy	Life Member of Indian Science Congress Association	Form 2012
3.	Dr. Deeplina Das	Life Member LIFE MEMBER-(LM 1309), Biotech Research Society, India-(BRSI).	From 2013
4.	Dr. Deeplina Das	LIFE MEMBER-(LM 3228), Society of Biological Chemists India-(SBC).	From 2013
5.	Dr. Deeplina Das	Corporate Life Member of Institute of Engineers (India)-(IEI)	From 2014
6.	Dr. Tridib Kumar Bhowmick	Member of Institute of Engineers (India)-(IEI)	From 2015
7.	Dr. Biswanath Bhunia	Associate Member, Indian Institute of Chemical Engineers (IICChE)	Life member
8.	Dr. Biswanath Bhunia	Member, The Institution of Engineers (India)	Life member
9.	Dr. Biswanath Bhunia	Chartered Engineer (India), The Institution of Engineers (India)	Life member
10	Dr. Tarun Kanti Bandyopadhyay	Member, Indian Institute of Chemical Engineers (IICChE) Corporate Life Member of Institute of Engineers (India)-(IEI)	Life member

5.4 Design and Development Activities :**Brief and specific details of Process/ Instruments/ Equipment/ Software Designed and developed:**

Lyophilizer has been installed during this period. FPLC, incubator shaker, biosafety cabinet, UV spectrophotometer, shaking water bath, sonication water bath, and many other instruments are installed. A new elective course on food process

engineering has been implemented in M.Tech. A website (<http://nitaonline.nita.ac.in/edc/>) is developed to extract related information to EDC. A contemporary elective course (Molecular Therapeutics) in Bioengineering field has been implemented for the students of M.Tech.

5.5 Research and Consultancy :

Sponsored Research Projects:

Sl. No.	Title	Period	Funding Agency	Amount (in lakhs)	Co-ordinators
1.	Development of Biofilm inhibitor	June 2016 to May 2019	DST, Govt of India	18.15 Lakhs	Dr. Dijendra Nath Roy (PI)
2	On field application of Foldscope for rapid collection of microalgae samples	March 2018 to April 2019	Department of Biotechnology, Govt. of India	Rs. 8	Dr. Tridib Kumar Bhowmick
3.	Enhancing the productivity of phycobiliproteins (C-PCs) and cyanocobalamin (Vitamin B12) in selected cyanobacteria for valorization and development of functional foods	28th September, 2018 to 27th September, 2021	DBT –NER Project	Rs. 85.41,988 Lakh	PI: Dr. Tarun Kanti Bandyopadhyay Co-PI: Dr. Biswanath Bhunia & Dr. Abhijit Mondal
4	Development of Bessel Beam based Fiber Optic Biosensor for Early Detection of Breast Cancer	19th March, 2018 to 18th March, 2021	DST –EMR Project	Rs. 63.90535 lakh	Dr. Biswanath Bhunia (Co-PI)
5.	Sustainable production of algal biomass for production of biofuels: A holistic approach with bioremediation & economical harvesting technique	29 th April 2019 to Sep 2021	DBT-NECBH Twinning Project	Rs. 11.44 lakhs	Dr. Muthusivarama pandian (Co-PI) and Dr. Biswanath Bhunia (Co-PI)

Research Publications:

Total No. of papers published in Refereed International Journals : 15
Total No. of papers presented in National Conference : 04

In Refereed International Journals:

1. O.N Tiwari, B Bhunia, M Muthuraj, T.K Bandyopadhyay, D Ghosh, K Gopikrishna; "Optimization of process parameters on lipid biosynthesis for sustainable biodiesel production and evaluation of its fuel characteristics", 2 March 2020, 269/ 117471.
2. P.N Nath, O.N Tiwari, T Indrama, T.K Bandyopadhyay, B Bhunia; "Biochemical and Morphological fingerprints of isolated *Anabaena* sp.: A precious feedstock for food additives", 13 March 2020, 1-11.
3. P Choudhury, R.N Ray, T.K Bandyopadhyay, B. Bhunia; "Rapid protocol for screening of biocatalyst for application in microbial fuel cell: A study with *Shewanella* algae"; 3 March 2020, 45/4451-4461.
4. Payel Choudhury, Rup Narayan Ray, Tarun Kanti Bandyopadhyay, Biswanath Bhunia; "Fed batch approach for stable generation of power from dairy wastewater using microbial fuel cell and its kinetic study", 17 January 2020, 266/ 117073.
5. Sudhansu Sandhibigraha, Sagnik Chakraborty, Tarun Kanti Bandyopadhyay and Biswanath Bhunia; "Computational fluid dynamics analysis of flow through immobilized catalyzed packed bed reactor for removal of 4-chlorophenol from wastewater", 29th Nov, 2019, 25/ 878-889.
6. R Sharma, B Bhunia, A Mondal, TK Bandyopadhyay, I Devi, G Oinam, R PRASANNA, G Abraham, ON Tiwari; "Statistical optimization of process parameters for improvement of phycobiliproteins (PBP) yield using ultrasound-assisted extraction and its kinetic study", 29 August 2019, 60/104762.
7. O.N Tiwari, A Mondal, B Bhunia, T.K Bandyopadhyay, P Jaladi, G Oinam, T Indrama; "Purification, characterization and biotechnological potential of new exopolysaccharide polymers produced by cyanobacterium *Anabaena* sp. CCC 745", 5 August 2019, 178:121695.
8. O.N Tiwari, B Bhunia, T.K Bandyopadhyay, G Oinam; "Strategies for improved induction of lipid in *Leptolyngbya* sp. BTA 287 for biodiesel production", 31 July 2019, 256/ 115896.
9. Bhardwaj, P; Biswas, GP and Bhunia. B.; "Docking-based inverse virtual screening strategy for identification of novel protein targets for Triclosan", 4 July 2019, 235/ 976-984.
10. Basak, B., Jeon, B.-H., Kurade, M. B., Saratale, G. D., Bhunia, B., Chatterjee, P. K., Dey, A.; "Biodegradation of high concentration phenol using sugarcane bagasse immobilized *Candida tropicalis* PHB5 in a packed-bed column reactor", 14 May 2019, 180/317-325.
11. S Sandhibigraha, S Mandal, M Awasthi, T.K Bandyopadhyay, B Bhunia; "Optimization of various process parameters for biodegradation of 4-chlorophenol using Taguchi Methodology", 7 March 2020, 24/101568.
12. B Debnath, M Majumdar, M Bhowmik, KL Bhowmik, A Debnath, DN Roy; "The effective adsorption of tetracycline onto zirconia nanoparticles synthesized by novel microbial green technology", 2 March 2020, 261/ 110235.
13. M Majumdar, SA Khan, SC Biswas, DN Roy, AS Panja, TK Misra; "In vitro and in silico investigation of anti-biofilm activity of Citrus macroptera fruit extract mediated silver nanoparticles", 28 January 2020, 302/112586.
14. M Majumdar, TK Misra, DN Roy; "In vitro anti-biofilm activity of 14-deoxy-11, 12-didehydroandrographolide from *Andrographis paniculata* against *Pseudomonas aeruginosa*", 11.06.2020, 51 (1), 15-27.
15. Moumita Majumdar, Suresh Chandra Biswas, Rupasree Choudhury, Priyanka Upadhyay, Arghya Adhikary, Dijendra Nath Roy, Tarun Kumar Misra; "Synthesis of Gold Nanoparticles Using Citrus macroptera Fruit Extract: Anti- Biofilm and Anticancer Activity", 21 May 2019, 4 (19), 5714-5723.

In Proceedings of National Conference:

1. A.Chatterjee, S Bhaumik; "Commercial Crop Processing And Value Addition", PragnaBhawan, Agartala, Tripura, 10-12th August, 2019.
2. U.Mahapatra, A. Manna, A.Chatterjee; "Issues and challenges in water treatment and allied research for sustainable environment", IIT Guwahati, 23-25 Jan, 2020.
3. T. Bhowmick, K. Gayen, S. Bhattacharya; "7th Bio Processing of India Conference", Central Food Technological Research Institute (CFTRI), Mysore, 16th -18th December, 2019.
4. T. Bhowmick, K. Gayen, S. Bhattacharya; "International Symposium on Sustainable Polymers", IIT Guwahati, Assam, 23rd to 25th August, 2019.

Distinguished Visitors to the Departments:

Sl. No.	Name of the Visitors and Designation	Date of Visit	Purpose of Visit
1.	Prof. Rekha Singhal, ICT Mumbai	18 th -20 th October 2019	Invited Speaker in 2 Days National Seminar organized by the department
2.	Prof. Charu Lata Mahanta, Tezpur University	18 th -20 th October 2019	Invited Speaker in 2 Days National Seminar organized by the department
3.	Dr. Anil Limaye, Associate Professor, Department of BSBE, IIT Guwahati	18 th -20 th October 2019	Invited Speaker in 2 Days National Seminar organized by the department

5.6 Other Activities :

- ❖ Three students from the department cleared **GATE 2020**. About 42% of students from the batch were placed in various companies/organizations via on-campus placement process in the batch 2016-2020.
- ❖ **Awarded** [2nd prize in category-A]: A.Chatterjee, S Bhaumik, " Pineapple waste valorization", National Conference on "Commercial Crop Processing And Value Addition" Organized by The Institution of Engineers(India), on 10-12th August, 2019 at PragnaBhawan, Agartala, Tripura, India

Co-opted member of technical committee, MRU, AGMC and GBP hospital (Ms. Hrijuta Datta)

Date	Details	Institution
16.09.19	Co-opted member of expert committee of MRU for the purchase issue of LCMS equipment.	Agartala Govt. Medical College

Photographs: Different activities (2019-2020)



Department of Bio-Engineering, NIT Agartala organized National Seminar on "Modern Trends in Biotechnology for Innovations in Food Biotechnology and Medical Biotechnology" under TEQIP-III from 18-19th October 2019.

6.0 CIVIL ENGINEERING DEPARTMENT

6.1 Introduction:

The Department of Civil Engineering was started since the inception of the institute in 1965. Initially the institute was affiliated to University of Calcutta and there after re-affiliated to Tripura University in 1987. The Institute is approved by AICTE, New Delhi. Presently this department is offering M.Tech. Courses in Structural Engineering, Geotechnical Engineering, Transportation Engineering, Water Resources Engineering, Environmental Engineering, Seismic Science & Engineering and Hydro Informatics Engineering. The Civil Engineering Department of the Institute has produced many technocrats who are serving the country successfully. The Department has 21 (twenty one) regular faculty members and 11(Eleven) visiting faculty members. Almost all the faculty members are involved with different consultancy, research and developmental works along with administrative activities of the Institute.

The department has been involved with many research works and produced some excellent outcome. The department also offers Ph.D programme and the main areas of research include Geotechnical Engineering, Structural Engineering, Water Resources Engineering, Environmental Engineering, Transportation Engineering, Hydro Informatics and Seismic Science & Engineering. The department is also involved in consultancy works and projects with the State & Central Government organizations.



6.2 Academic Programme:

B. Tech (Civil Engineering), M. Tech. (Structural Engineering, Geotechnical Engineering, Transportation Engineering, Environmental Engineering, Water Resources Engineering, Seismic Science & Engineering and Hydro Informatics Engineering) and Ph. D.

6.3 Faculty and other Activities:

Short-Term Courses/ Workshops/ Seminar/ Symposia/ Conferences organized by the faculty

Sl. No.	Name of the Faculty	Title	Period
Workshop Organized:			
1	Dr. Umesh Mishra	Capacity Building in Geospatial Technology	29 th Nov-19 th Dec 2019
2	Dr. Sima Ghosh	Advanced Seismology, Seismic Hazards & Earthquake Engineering	12 th – 17 th Dec 2019
3	Dr. S. K. Pal	Landslide Hazards & Mitigation in Atharamura region of Tripura State	30 th October 2019
4	Dr. Animesh Debnath, & S.K. Biswal	TEQIP-III Five Day Workshop on "Recent Trends in Water and Wastewater treatment"	12 th -16 th August, 2019
5.	Dr. Ratul Das & Dr. Rama Debbarma	TEQIP Five Day Workshop on "Disaster Management and Risk Reduction"	13 th -17 th May, 2019
Short Term Course:			
1	Dr. Rajiv Saha	Dynamics of Foundation	3 rd - 7 th June, 2019

Short-Term Courses / Workshops / Seminar / Symposia / Conferences / Training attended by the Faculty in Academic Institutions and Public Sector Undertakings:

Sl. No.	Name of the Faculty	Title	Period
Conference :			
1.	Dr. Sujit Kumar Pal	Indian Geotechnical Conference, IGC- 2019	19 th – 21 st December 2019
2.	Dr. S. K. Biswal	International HYDRO 2019 Conference	18 th -20 th December 2019

Honours and Awards obtained:

Sl. No.	Name of Faculty	Name of Award	Awarded by	Award For	Date
1.	Dr. Sujit Kumar Pal	Best Presentation Award	IGC 2019 GeoINDUS	Oral Presentation (TS 2- 4) DAY 3	21 st December 2019

Fellowships of Academics and Professional Societies:

Sl. No.	Name of Faculty	Level	Year
ISTE/ CSI and others			

1	Dr.Umesh Mishra	<ul style="list-style-type: none"> • A life member of Indian society for Technical Education with No LM 18347 • A senior member of IACSIT –No 80336897 • Fellow of Institution of Members – No F-113657-3 • Question setter/Examiner/moderator to BPUT Rourkel, OUAT Bhubaneswar, KIIT Deemed university, Bhubaneswar VSSUT Burla and TPSC, Agartala • Member nominated by S & T Dept. To central Govt for of State Level Environment Impact Assessment Authority 2009 • Consulting member to urban Development DeptGovt of ORISSA for the verification of Bids for JNNURM- 2005 & many other Water supply projects • Member in the Tripura Science Congress Agartala 	
2	Dr. Richi Prasad Sharma	<ul style="list-style-type: none"> • The Institution of Engineers (India),(Fellow) • The Indian Society for Technical Education(Life Member) • ASCE(Member) • Indian Building Congress(Life Member) 	
3	Dr. Sujit Kumar Pal	<ul style="list-style-type: none"> • FIE (India), Institution of Engineers (India) (F-017838-8) • MIE (India), Institution of Engineers (India) (M-061672-3) • Membership of International Society for Soil Mechanics and Geotechnical Engineering • Life membership of Indian Building Congress (ML-5008) • Life membership of Indian Geotechnical Society (LM-2809) • Life membership of Indian Society for Technical Education (LM-19358) • Chartered Engineer (Civil Engineering), Institution of Engineers (India) • Student Chapter membership of Institution of Engineers (India) during UG Course in KREC, Surathkal (Presently, NITK, 	<p>Since 31-03-2011</p> <p>29-11-2000 to 30-03-2011</p> <p>2010- 2013</p> <p>Since 2010</p> <p>Since 2009</p> <p>Since 1994</p> <p>Since 28-01-1997</p> <p>1983-1986</p>

		Surathkal) <ul style="list-style-type: none"> Executive Committee member, Agartala Local Centre (Presently, Tripura State Centre) 	1999-2001
4	Dr. Manish Pal	<ul style="list-style-type: none"> Life membership of IRC since 2008 Life membership of IBC since 2010 	
5	Dr. Ratul Das	<ul style="list-style-type: none"> Member of American Society of Civil Engineers (ASCE), USA Life Member of Indian Water Resources Society (IWRS), INDIA Life Member of Indian Society for Earthquake Technology (ISET), INDIA Life member of Indian Buildings Congress (IBC), INDIA FIE, INDIA 	
6	Dr. Rama Debbarma	<ul style="list-style-type: none"> Member of American Society of Civil Engineers (ASCE), USA FIE, India 	
7	Dr. Sima Ghosh	<ul style="list-style-type: none"> The Institution of Engineers (India) (Associate member) Indian Geotechnical Society (Member) American Society of Civil Engineers (Affiliated member) 	
8	Dr. Rajib Saha	<ul style="list-style-type: none"> Associate Member, Institution of Engineers India Life Member, Indian Geotechnical Society Member, ISSMGE Society Coordinator, State Resource Institute Earthquake Training for Engineers Faculty Advisor (Students Chapter), Institution of Engineers India 	
9	Dr. Sanjay Paul	<ul style="list-style-type: none"> Member, Indian Geotechnical Society Member, Institute of Engineers (India) 	
10	Mrs. Lipika Halder	<ul style="list-style-type: none"> Associate Member of IEI, Membership No. AM/093049/3 IEI 	
11	Dr. Gopi nandan Dey	<ul style="list-style-type: none"> Life membership of IBC since 2010 Life membership of ICI since 2009 	
12	Dr. Joyanta Pal	<ul style="list-style-type: none"> Life membership of IBC since 2010 Life membership of ICI since 2009 	

13	Dr. Debdulal Tripura	<ul style="list-style-type: none"> Indian Society for Technical Education (ISTE), India, Life Member American Society of Civil Engineer (ASCE), USA American Society for Testing & Materials (ASTM), USA Structural Engineering Institute (SEI), USA American Concrete Institute (ACI), USA Earthquake Engineering Research Institute (EERI), USA Architectural Engineering Institute (AEI), USA National Information Centre of Earthquake Engineering (NICEE), India 	
14	Dr. Partha Pratim Sarkar	<ul style="list-style-type: none"> Life membership of IRC since 2009 The Institution of Engineers (India) 	
15	Dr. Dipankar Sarkar	<ul style="list-style-type: none"> Life membership of Indian Road Congress Life member of ISTE 	From 2008 From 2010
16	Dr. Tara Sen	<ul style="list-style-type: none"> The Institution of Engineers (India) 	
17	Dr. Susant Kumar Biswal	<ul style="list-style-type: none"> ISH NFMFP 	
18	Mr. Nilotpall Debbarma	<ul style="list-style-type: none"> ISH IWRS 	

6.4 Design and development Activities:

- In the structural Analysis laboratory, a setup for the casting of pre-stressed concrete beams has been developed.
- Existing ITS setup of Transportation Engineering Lab is modified to test the resilient modulus of bituminous concrete.
- A setup is prepared in Transportation Engineering Lab. To check the rate of infiltration through bituminous concrete.
- A temperature control chamber is prepared in Transportation Engineering Lab.

6.5 Research and Consultancy:

The department is engaged in performing various testing related to the Railway Department, PWD, NCCL, PMGSY projects, NBCC, CPWD, Airport Authority of India, Agricultural Department, BRO and many more. Faculties are engaged in research works and publishing research papers in different national and international reputed journals.

Sponsored Research Projects:

Sl. No.	Title	Period	Funding agency	Amount (in lakhs)	Co-ordinators
1.	Geoscientific Studies – Geodetic, Geological, Geomorphological and Geotechnical of Active Landslide	01/06/2018 to 30/11/2020	DST	18.54	Dr. Sujit Kumar Pal (as PI) Dr. Sanjay Paul (as Co-PI)
2	Time of Motion study of MGNREGA	03.04.2019 TO 03.04.2021	Chief Engineering Rural Development Tripura	25,00,000.00	Dr. R.P Sarma
3	Development of organometallic nano-composites and scientific investigation on their functionalization towards improved adsorptive removal of toxic dyes for application in industrial wastewater treatment	April 2018- March 2021	CSIR, Government of India	16.5 Lakh	Dr.AnimeshDebnath
4	Hydraulic model study of flow dynamics and bed morphology evolution of the Gumti river of Tripura at the Pitra-Gang confluence	October 17- October 2020	SERB (DST) Government of India	31.42lakh	S K Biswal

Industrial Consultancy:**Consultancy:**

Sl. No.	Name of the faculty	Title	Industry	Amount (Rs.)
1	Dr. S.K. Pal Dr. Manish Pal	Proof Checking	Ircon International	

	Dr. Rajib Saha Dr. Partha Pratim Sarkar Dr. Joyanta Pal Dr. Dipankar Sarkar Dr. Sanjay Paul Dr. Gopinandan Dey	(Vetting) of Ground Improvement in Nischintpur Yard Position	I Limited	2,36,000/-
2	Dr. Ratul Das, Dr. Mrinmoy Majumder, Dr. Nilotpal Debbarma & S. K Biswal	Preparation of State Specific Action Plan (SSAP) for water sector of Tripura State	Ministry of Water Resources, Government of Tripura	30 Lakh

Research Publications:

Total No. of papers published in Refereed International Journals	: 36
Total No. of papers presented in National Conference	: 08
Total No. of papers presented in International Conferences	: 06

In Refereed International Journals:

1. Debnath, B. and Sarkar, P.P., Characterization of pervious concrete using over burnt brick as coarse aggregate. Construction and Building Materials, 242, p.118154 SCI. 2020.
2. Debnath, B. and Sarkar, P.P., Permeability prediction and pore structure feature of pervious concrete using brick as aggregate. Construction and Building Materials, 213, pp.643-651, 2019.
3. Zachariah, J.P., Sarkar, P.P. and Pal, M., 2019, November. Effect of mixing polypropylene fibre in reinforcing non-conventional bituminous concrete. In Proceedings of the Institution of Civil Engineers-Transport (pp. 1-12). Thomas Telford Ltd.
4. Chakraborty, Tilottama, and Mrinmoy Majumder, "Impact of extreme events on conversion efficiency of wave energy converter." Energy Science & Engineering (2019). (SCIE).
5. Lipika Halder, Sekhar Chandra Dutta, Richi Prasad Sharma (2020), "Damage study and seismic vulnerability assessment of existing masonry buildings in Northeast India", Journal of Building Engineering, Vol. 29, 101190, ISSN 2352 7102, <https://doi.org/10.1016/j.job.2020.101190>.
6. Hazari, S., Ghosh, S and Sharma, R. P. (2020) "Seismic Analysis of Slope Considering Log-spiral Failure Surface with Numerical validation", International Journal of Geo-Engineering, Springer. (Accepted- in press for publication)
7. Hazari, S., Sharma, R. P. and Ghosh, S. (2020) "Swedish Circle Method for Pseudo-dynamic Analysis of Slope Considering Circular Failure Mechanism" Geotechnical and Geological Engineering, vol. 38 (3), pp. 2573-2589, Springer. <https://doi.org/10.1007/s10706-019-01170-y>
8. Hazari, S., Ghosh, S and Sharma, R. P. (2019) "New Pseudo-Dynamic Analysis of Two-Layered Cohesive-Friction Soil Slope and Its Numerical Validation" Frontiers of Structural and Civil Engineering, Springer (Accepted)
9. Raktim Barman, Lipika Halder, Sekhar Chandra Dutta, Richi Prasad Sharma and Sumit Kumar (2020), "Effect of Soil Flexibility on Seismic Fragility of Code-Designed Reinforced Concrete Framed Buildings", Structural

- Engineering International, vol. 30(2), pp. 270-279, DOI: 10.1080/10168664.2019.1661806.
10. "Nonlinear analysis of lateral load sharing response of piled raft subjected to combined V-L loading", Marine Georesources & Geotechnology, Published on 19th May 2020, (Plaban Deb and Dr. Sujit Kumar Pal). (SCI INDEX)
 11. "A Comparative Analysis On Pull-Out Resistance and Non-Linear Slip Surfaces of Single Belled Anchors in Different Layered Sand Deposits", Ocean Engineering, Published on 4 th March 2020, (Tanaya Deb and Dr. Sujit Kumar Pal). (SCI INDEX).
 12. "Numerical analysis of piled raft foundation under combined vertical and lateral loading", Ocean Engineering, Published on 18th September 2019, (Plaban Deb and Dr. Sujit Kumar Pal). (SCI INDEX).
 13. "Load-Settlement and Load Sharing Behaviour of Piled Raft Foundation Resting on Layered Soils", Acta Geotechnica Slovenica, Accepted on 5th May 2019, (Plaban Deb and Dr. Sujit Kumar Pal). (SCI INDEX).
 14. "Analysis of Load Sharing Response and Prediction of Interaction Behaviour in Piled Raft Foundation", Arabian Journal for Science and Engineering, Published on 25th May 2019, (Plaban Deb and Dr. Sujit Kumar Pal). (SCI INDEX) 2.
 15. "Comparison of Uplift Capacity and Nonlinear Failure Surfaces of Single-Belled Anchor in Homogeneous and Layered Sand Deposits", Published on 16th May 2019, Advances in Civil Engineering, Volume 2019, DOI: <https://doi.org/10.1155/2019/4672615> (Tanaya Deb and Dr. Sujit Kumar Pal). (SCI INDEX).
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 21. Hazari, S., Ghosh, S and Sharma, R. P. (2019) "New Pseudo-Dynamic Analysis of Two-Layered Cohesive-Friction Soil Slope and Its Numerical Validation" Frontiers of Structural and Civil Engineering, Springer **(Accepted, in press for publication)**
 22. Anbazhagan P, Kunjari Mog, Nanjunda Rao K S, Siddharth Prabhu N, Ayush Agarwal, G. R. Reddy, Sima Ghosh, Malay Kr. Deb, Saurabh Baruah, Sarat Kr. Das (2019). "Reconnaissance report on geotechnical effects and

- structural damage caused by the 3rd January 2017, Tripura earthquake, India" *Natural Hazards*, Vol. 98:425-450 doi: <https://doi.org/10.1007/s11069-019-03699-w>.
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35. A. Banik, S. K. Biswal and T.K. Bandyopadhyay "Predicting the optimum operating parameters and hydrodynamic behavior of rectangular sheet membrane using response surface methodology coupled with computational fluid dynamics", ***Chemical Papers***.(2020) doi. 10.1007/s11696-020-01136-y
36. N. Shyamanda Singh, Suresh Thokchom and R.Debbarma "Characteristics of rice husk-sodium Aluminate geopolymer at elevated temperature" *Emerging materials research* vol.9 (1),1-9,2020

In Refereed National Conference:

1. T Chakraborty and Soumya Ghosh, "An AHP MCDM Approach for selection of Wind Power Plant Location: A case study from India." West Bengal 13-15, September, 2019.
2. Debnath, L., Deb, R., Das, P. and Ghosh, S. (2019), "Seismic bearing capacity of strip footing embedded in slope situated below water table", IGC 2019, 19-21 Dec 2019, SVNIT Surat, Gujarat, India.
3. A. Laskar and S. K. Pal, 'Assessment of 3D Consolidation Settlement of Soil by Considering the Effect of Surcharge Pressure', Indian Geotechnical Conference, IGC- 2019, SVNIT Surat, Gujarat, India, 19th - 2st December 2019.
4. P. Deb and S. K. Pal, 'Influence of Combined Vertical and Lateral Loading on Lateral response of Piled Raft Foundation', Indian Geotechnical Conference, IGC- 2019, SVNIT Surat, Gujarat, India, 19th - 2st December 2019.
5. N. S. Ghanta and S. K. Pal, 'Interpretation of Load-Settlement Curves from Graphical Method', Indian Geotechnical Conference, IGC- 2019, SVNIT Surat, Gujarat, India, 19th - 2st December 2019.
6. M. S. Gayathri and S. K. Pal, 'Comparison of Compaction and Strength Characteristics of Non-Conventional and Conventional Stabilizers', Indian Geotechnical Conference, IGC- 2019, SVNIT Surat, Gujarat, India, 19th - 2st December 2019.
7. R. B. Reang, S. K. Pal and S. Paul, 'Agartala-Bangladesh Railway Embankment Construction over Soft Soils Incorporated with Prefabricated Vertical Drains: A Case Study', Indian Geotechnical Conference, IGC- 2019, SVNIT Surat, Gujarat, India, 19th - 2st December 2019.
8. T. Deb and S. K. Pal, 'Study on Pull-Out Capacity of Single Belled Anchor in Sand: Model Test and Numerical Modelling', Indian Geotechnical Conference, IGC- 2019, SVNIT Surat, Gujarat, India, 19th - 2st December 2019.

In Refereed International Conference:

1. D. Das, Tilottama Chakraborty, Mrinmoy Majumder and Tarun Kanti Bandyopadhyay, "Impacts of Climate change on water resources availability of North East India- A case study of the Gomati River Basin," 52nd Annual Convention of IWWA, Patna 10-12th January, 2020.
2. P. Deb, Tilottama Chakraborty and Tarun Kanti Bandyopadhyay, "Assessment of Surface Water Quality of Rudra Sagar Lake, Tripura using Water Quality Index", 52nd Annual Convention of IWWA, Patna 10-12th January, 2020.

3. Lohar, G., Sharma, S., Saha, A. P. and Ghosh, S. (2020), "Optimization of geotechnical parameters used in slope stability analysis by metaheuristic algorithms", ICCCIOT-2020, Tripura University, February 03-04, 2020.
4. Hazari, S., Roy, S. and Ghosh, S. (2019), "Analysis of slope considering non-linear failure surface', ICERME-2019, NIT Agartala, May 17-18, 2019.
5. J.Pal, P.K.Roy, M.Pal and R.N.Bhowmik (2020) "Storage Level Prediction of Rudrasagar Lake— Using ANN" International Conference on Sustainable Water Resources Management Under Changed Climate, Jadavpur University , 13th to 15th March, 2020.
6. S.K. Biswal and Nabina Khanam "Hydro-morphodynamic evolution of a river channel confluence with discordant bed (Id -75)". Hydro 2019 International Conference, Osmania University, Hyderabad, India, December 18-20, 2019,

Book Chapter:

1. Hazari, S., Ghosh, S. and Sharma, R. P. (2020), "A Comparative Study of Soil Slope stability under Seismic Loading Condition", In: **Latha Gali, Madhavi, P.,** Raghuveer Rao (Eds.) Geohazards. Lecture Notes in Civil Engineering, Springer, Singapore.
2. Acharjee, A. and Sarkar, P.P., 2019. Travel Behavior of Agartala City, India Using Panel Data. In Advances in Transportation Engineering (pp. 47-57). Springer, Singapore.
3. houbey, N., Acharjee, A. and Sarkar, P.P., 2020. The Effects of Mixed Land Use on the Household Travel Behavior: A Case Study of Agartala, Tripura. In Transportation Research (pp. 287-298). Springer, Singapore.

Invite takes :

1. "Geoscientific Studies – Geodetic, Geological, Geo-Morphological and Geotechnical of Active Landslides" One Day Workshop on Landslide Hazards & Mitigation in Atharamura region of Tripura State, 30 th October 2019, NIT Agartala. (Special speaker)

6.6 Institute –Industry Collaboration:

The department is engaged in R&D activities in collaboration with different eminent industrial houses. Both the undergraduate and postgraduate students are actively participating in these collaborative activities.

6.7 Industrial Consultancy and Sponsored Research:

Sponsored research and industrial consultancy works are being taken up by the department to find out innovative strategies to mitigate natural disasters and also for the upliftment of the society at large.

6.8 Other Activities:

- I. This department is acting as State Referral Institute (SRI) of the Disaster Management Programme.
- II. STA, Tripura in PMGSY works.
- III. Department is acting as Expert department of Water Action Plan for the state.

Civil Engineering Department received National Board of Accreditation (NBA) for three years (2020-2023)

7.0 CHEMICAL ENGINEERING DEPARTMENT

7.1 Introduction:

Being a part of the National Institute of Technology Agartala, this department started its journey in the academic year of 2009-10. Subsequently, the department started offering Ph.D. in Engineering in Engineering from July, 2012 and M. Tech in Chemical Engineering from July 2013.

Presently, the department has a student strength of 218, of which 198 are undergraduate, 08 are masters and 12 are Ph.D. research scholars.

The department presently has a dynamic team of 09 faculty members. Other than teaching, the faculty members are engaged in research in various dimensions of chemical engineering which include Biofuels, Renewable energy, Nanotechnology, Environmental Engineering, Waste treatment, Catalysis and reaction engineering, Fluid dynamics and numerical simulations and many other emerging and pressing areas of chemical engineering.

In last year alone the department has published in 19 international journals, 01 edited book, 17 conference papers (13 in International Conference and 04 in National Conference) and filed 01 Indian Patent.

The faculties of the department received sponsored research grant worth 12.20 lakhs in last one year.

The students of the department have received fellowships for research internship in India and abroad. All the students registering for placement are successful in securing in reputed companies. The graduated students of the department have joined higher studies in reputed institutions in India and abroad.

Research laboratories are being developed according to the research interest of faculty members aiming cutting edge research activities. In addition, the department has elaborate laboratory facilities for undergraduate laboratory courses.

7.2 Faculty and their activities

Short-term Courses/Workshops/Seminar/Symposia/Conferences/ Training attended by the faculty in Academic Institutions and Public sector Undertakings:

SI .No	Name of Faculty	Title	Period
Workshop:			
1.	Dr. Tarun Kanti Bandyopadhyay	52th Annual Convention 2020 of Indian Water Works Association (IWWA)	10 th to 12 th January 2020.
2.	Dr. Srimanta Ray	17th National Workshop on Catalysis for "Clean Energy and Sustainable Future"	Delhi, 31 May – 1 june, 2019
Conference:			
1.	Dr. Soma Nag	Water 2020: National	IIT Guwahati,

		Conference on issues and challenges in water treatment and allied research for sustainable environmental.	January 22–25, 2020.
2.	Dr. Srimanta Ray	11th International Exergy, Energy and Environment Symposium 2019.	Chennai, 14-18 July, 2019

7.3 Research and Consultancy:

Sponsored Research Projects:

Sl. No.	Title	Period	Funding Agency	Amount (in lakhs)	Co-ordinators
1	Developing an efficient low cost catalytic system for conversion of waste vegetable oil to biodiesel.	2019-2021	TEQIP III and NIT, Agartala	3.00 Lakhs	Dr. Srimanta Ray
2	Synthesis and characterization of novel hybrid bio-sorbents from biomass abundant in North Eastern region	2019 - 2021	TEQIP III and NIT, Agartala	2.95 Lakhs	Dr. Soma Nag
3	Removal of Phenol from aqueous medium by adsorption onto Char prepared from sludge of Indian Standard Natural Rubber Industry in Tripura State.	2019 - 2021	TEQIP III and NIT, Agartala	3.25 Lakhs	Dr. Ajay Kumar Manna
4	Process development for enhanced extraction of Phycoerythrin (PE) from cyanobacteria for commercial application in field of food Industries	2019 - 2021	TEQIP III and NIT, Agartala	3.00 Lakhs	Dr. Tarun Kanti Bandopadhyay

Research Publications

- i. Total No. of papers published in refereed International journals :19
- ii. Total No. of papers presented in National Conference :04
- iii. Total No. of papers presented in International Conference :13
- iv. Total No of Books Published :01

In refereed International Journals:

- 1) Ashmita Ghosh, Sambit Sarkar, Kalyan Gayen, Tridib K Bhowmick, "Effects of carbon, nitrogen, and phosphorus supplements on growth and biochemical composition of *Podohedriella* sp. (MCC44) isolated from northeast India", *Environmental Progress & Sustainable Energy*, volume 39 Pages e13378.

- 2) Mriganka Sekhar Manna, Kalyan Gayen , "2 Synthetic Strategies and Significant Issues for Pristine Conducting Polymers", *Conducting Polymers-Based Energy Storage Materials*, Pages 51-64, (2020).
- 3) Ashmita Ghosh, Saumyakanti Khanra, Gopinath Halder, Tridib K Bhowmick, Kalyan Gayen, "Diverse cyanobacteria resource from north east region of India for valuable biomolecules: Phycobiliprotein, carotenoid, carbohydrate and lipid", *Current Biochemical Engineering*, Volume 5, Pages 21-33, (2019)
- 4) Sudip Kumar Das Soma Nag, Nirjhar Bar, "Cr(VI) removal from aqueous solution using green adsorbents in continuous bed column - Statistical and GA-ANN hybrid modelling" *chemical Engineering Science*, Volume 226, 115904 (2020).
- 5) Sudip Kumar Das Soma Nag, Nirjhar Bar, "Sustainable bioremediation of Cd(II) in fixed bed column using green adsorbents: Application of Kinetic models and GA-ANN technique", *Environmental Technology & Innovation*, Volume 13, Pages 130-145.
- 6) Anirban Banik, Sushant Kumar Biswal, Tarun Kanti Bandyopadhyay, "Predicting the optimum operating parameters and hydrodynamic behavior of rectangular sheet membrane using response surface methodology coupled with computational fluid dynamics", *Chemical Papers*, 74, Pages 1-14, (2020)
- 7) Pinku Chandra Nath, Onkar Nath Tiwari, Indrama Devi, Tarun Kanti Bandyopadhyay, Biswanath Bhunia, "Biochemical and morphological fingerprints of isolated *Anabaena* sp.: a precious feedstock for food additives", *Biomass Conversion and Bio refinery*, Pages 1-11, (2020).
- 8) Sudhansu Sandhibigraha, Subhasis Mandal, Mayank Awasthi, Tarunkanti Bandyopadhyay, Biswanath Bhunia, "Optimization of various process parameters for biodegradation of 4-chlorophenol using Taguchi methodology", *Biocatalysis and Agricultural Biotechnology*, Volume 24, Pages 101568, (2020).
- 9) Payel Choudhury, Rup Narayan Ray, Tarun Kanti Bandyopadhyay, Biswanath Bhunia, "Rapid Protocol for Screening of Biocatalyst for Application in Microbial Fuel Cell: A Study with *Shewanella* algae", *Arabian Journal for Science and Engineering*, 45, Pages 1-11. (2020)
- 10) T Paul, T.K Bandyopadhyay, A Mondal, B. Bhunia, "Strategies for improved production of prodigiosin by *Serratia mercences*", *J. Indian Chem. Soc*, Volume 97, Pages 1-6(2020)
- 11) Suman Debnath, Anirban Banik, Tarunkanti Bandyopadhyay, Mrinmoy Majumder, Apu Kumar Saha, "Estimation of pressure drop for Non-Newtonian liquid flow through bends using Adaptive non-parametric model", *International Journal of Fluid Mechanics Research*, Volume 47(2020)
- 12) Ramesh Sharma, Biswanath Bhunia, Abhijit Mondal, Tarun Kanti Bandyopadhyay, Indrama Devi, Gunapati Oinam, Radha Prasanna, G Abraham, Onkar Nath Tiwari, "Statistical optimization of process parameters for improvement of phycobiliproteins (PBPs) yield using ultrasound-assisted extraction and its kinetic study", *Ultrasonics sonochemistry*, Volume 60, Pages 104762(2020).
- 13) Sudhansu Sandhibigraha, Soumya Sasmal, Tarun Kanti Bandyopadhyay, Biswanath Bhunia, "Computational fluid dynamics analysis of flow through immobilized catalyzed packed bed reactor for removal of 4-chlorophenol from wastewater", *Environmental Engineering Research*, Volume 25, Pages 878-889 (2019).

- 14) Onkar Nath Tiwari, Biswanath Bhunia, Tarun Kanti Bandyopadhyay, Gunapati Oinam. "Strategies for improved induction of lipid in *Leptolyngbya* sp. BTA 287 for biodiesel production", *Fuel*, Volume 256, Pages 115896 (2019).
- 15) Onkar Nath Tiwari, Abhijit Mondal, Biswanath Bhunia, Tarun kanti Bandyopadhyay, Prasad Jaladi, Gunapati Oinam, Th Indrama, "Purification, characterization and biotechnological potential of new exopolysaccharide polymers produced by cyanobacterium *Anabaena* sp. CCC 745" *Polymer*, Volume 178, Pages 121695 (2019).
- 16) Anirban Banik, Suman Dutta, Tarun Kanti Bandyopadhyay, Sushant Kumar Biswal, "Prediction of maximum permeate flux (%) of disc membrane using Response Surface Methodology (RSM)", *Canadian Journal of Civil Engineering*, Volume 46, Pages 299-307, (2019)
- 17) Jenasree Hazarika, Mriganka Sekhar Manna, "Electrochemical reduction of CO₂ to methanol with synthesized Cu₂O nanocatalyst: Study of the selectivity", *Electrochimica Acta*, Volume 328, Pages 135053, (2019)
- 18) P Dey, S Ray, "Valorization of waste vegetable oil (WVO) for utilization as diesel blends in CI engine–performance and emission studies", *Energy Sources, Part A: Recovery, Utilization, and Environmental Effects*, (2019)
- 19) R Roy, S Ray, "Effect of various pretreatments on energy recovery from waste biomass", *Energy Sources, Part A: Recovery, Utilization, and Environmental Effects*, (2019)

In Proceedings of International Conference:

- 1) Sugam Bhowmik and Soma Nag, "Citrus sinensis peels: a potential fruit waste for remediation of lead from synthetic waste water, International Conference on "Water, Energy and Biodiversity (WEB) for Sustainable Development of BIMSTEC Countries", (IC_WEB_BIMSTEC_2019), December 12-14, 2019, Agartala
- 2) Anisha Ganguly and Soma Nag, "Investigation on efficacy of regeneration and recycling of Cr(VI) loaded biosorbent in Batch Mode", , CHEM-CONFLUX20, International Conference on Energy and Environmental Technologies for Sustainable Development, MNIT Allahabad, 14th to 16th February 2020
- 3) Soma Nag, Shilpi Biswas, Abhijit Mondal and Sudip Kumar Das, "Potential study of *Colocasia esculenta* root powder (CERP) for eradication of Cr(VI)", 19th Asian Chemical Congress, Taiwan, December 8-12, 2019
- 4) Dibyajyoti Halder and Kalyan Gayen, "Enzymatic hydrolysis of banana stems (*Musa acuminata*) for the production of bio-butanol: Process intensification", Bioprocessing India 2019 (BPI-2019), 14-16 December 2019, Central Food Technological Research Institute (CFTRI -CSIR), Mysore, India
- 5) Satyajit Bhattacharjee, Tridib Kumar Bhowmick, Mriganka Shekhar Manna and Kalyan Gayen "Fruit and vegetable coating from waste bio-mass: A sustainable approach", International Symposium on Sustainable Polymer & National Symposium on Chemistry Education for Sustainable Engineering, 23-25 August 2019, IIT Guwahati, India
- 6) Anirban Banik, Tarun Kanti Bandyopadhyay, Sushant Kumar Biswal, Mrinmoy Majumder, "Prediction of Maximum Efficiency of Vertical Helical Coil Membrane Using Group Method of Data Handling (GMDH) Algorithm", International Conference on Intelligent Computing & Optimization, Pages 489-500
- 7) Srimanta Ray, "Value addition to Waste: A paradigm shift in catalysis", 17th National Workshop on Catalysis for "Clean Energy and Sustainable Future" Delhi, 31 may – 1 June, 2019

- 8) Pritam Dey, Srimanta Ray, Gopal P Mugeraya, "Performance and emission studies of waste vegetable oil-kerosene blends in CI engine –A sustainable alternative to diesel", 11th International Exergy, Energy and Environment Symposium(IEEEES,11-2019), Chennai, 14-18 July, 2019
- 9) Pritam Dey, Radhagovinda Koijam, Srimanta Ray, "Ironadsorption on a thermally modified peel waste and its application in photo-catalytic removal of organic dye", 11th International Exergy, Energy and Environment Symposium(IEEEES,11-2019), Chennai, 14-18 July, 2019
- 10) Rupak Roy, Srimanta Ray, "Comprehensive assessment of lignocellulosic biomasses through physical and chemical compositional analysis for energy recovery", 11th International Exergy, Energy and Environment Symposium(IEEEES,11-2019), Chennai, 14-18 July, 2019
- 11) Rupak Roy, Srimanta Ray, "Prediction of calorific value of biomass from proximate analysis", 11th International Exergy, Energy and Environment Symposium(IEEEES,11-2019), Chennai, 14-18 July, 2019
- 12) Debika Debnath, Srimanta Ray, "Sizing and optimization of micro-integrated hybrid power system (MIHPS)", 11th International Exergy, Energy and Environment Symposium(IEEEES,11-2019), Chennai, 14-18 July, 2019
- 13) Sweta Singh, Srimanta Ray, "Electricity production in bio-electrochemical devices: impact of separator materials", 11th International Exergy, Energy and Environment Symposium(IEEEES,11-2019), Chennai, 14-18 July, 2019

In proceeding of National Conference:

- 1) Sugam Bhowmik and Soma Nag, "Studies on screening of metal-specific biosorbent from the abundant bio-resources of North-East India", Water 2020: National Conference on issues and challenges in water treatment and allied research for sustainable environmental", IIT Guwahati, January 22–25, 2020.
- 2) Sambit Sarkar, Mriganka Shekhar Manna and Kalyan Gayen "Cultivation of isolated strain, Chlorella thermophila in a flat panel photo-bioreactor for the production of industrially important pigments", Chemcon 2019, 16-19 December 2019, IIT Delhi, India
- 3) Suparna Sen, Kalyan Gayen and Mriganka Shekhar Manna, "Extraction of Extracellular Polysaccharides from Microalgae and Cyanobacteria", Chemcon 2019, 16-19 December 2019, IIT Delhi, India
- 4) Satyajit Bhattacharjee and Kalyan Gayen "Characterization of extracted cellulose from waste biomass available in North-eastern India", Chemcon 2019, 16-19 December 2019, IIT Delhi, India

Books Published:

<i>Name of the authors published</i>	<i>Title of the Books</i>	<i>Date of Publication of the book</i>	<i>Issue/Volume No/ Page No</i>
Kalyan Gayen, Tridib Kumar Bhowmick, Sunil Kumar Maity,	Sustainable downstream processing of microalgae for industrial application	September 24, 2019	Issue: NA, Vol: NA, 376 Pages

Patent Published:

Inventor name	Year	Title	Published Source	Patent Version no.	Patent application no.
Srimanta Ray	2019	Stabilized lignocellulosic woody materials resistant to bio-degradation and process thereof.	Indian Patent		201931026044

Distinguished Visitors to the Department:

Sl No	Name of the Visitors and Designation	Date of Visit	Purpose of Visit
01	Prof. S. S. Bhagwat Professor, Dept. Of Chemical Engg, ICT Mumbai	12- 13 May 2019	Expert Lecture & M.Tech final year Examination
02	Dr. Arunava Chowdhury Deputy General Manager (Production) ONGC Tripura Asset.	08 May 2019	For taking grand viva of B. Tech final year students
03	Dr. Ashok Gokhale (B.Chem, M.S, PhD) Environmental Engineer State of Illinois.	13-14 Dec 2019	Special Guest lecture. and Interaction

7.4 Institute – Industry Collaboration:

Internship organized for students in various industries including ONGC, IOCL, etc.

7.5 Other Activities:

- i) Department organized a Farewell ceremony for the outgoing final year UG and PG students.
- ii) Curriculum of the UG programme thoroughly revised including structure and contents of several theory and laboratory courses.
- iii) Started a course named Extra-academic activity to promote development of employability skills and students.
- iv) Conducting a course on Entrepreneurship Management at UG and PG level to promote Entrepreneurship among students.

8.0 CHEMISTRY DEPARTMENT

8.1 Introduction:

Department consists of students, research scholars, teachers and staff. Students and research scholars are the backbone of the department. Success of our students and research scholars in national and international level is thus the motivation of teachers to guide them better and better. All faculties in the department are highly qualified having Ph.D degree and good number of publications. We are strongly motivated to impart and enhance the advanced knowledge and skills of students and professionals to meet the global challenges, to address rural needs through research and to offer effective solutions to the industries through research and consultancies.

Aim

The Department of Chemistry aims to be the best provider of chemical education within the Northeast region and to be a leader in research, publications and scholastic excellence. We are committed to providing a stimulating learning environment for our students, courses that are relevant and an experience that is world-class whether judged by local or international standards. Our goal is to present the content of chemistry set in a current and relevant context for engineers. As this is a support course taken usually in the first year, we also have goals related to the improvement of skill levels pertaining to the use of technology and communication. We add to this a conscious effort to foster attitudes of lifelong learning and appreciation for chemistry as a core of knowledge. The Chemistry department believes in and supports the study, teaching and understanding of chemical principles across a wide spectrum of areas: inorganic, organic, physical. Dedicated to excellence in graduate and undergraduate education, the chemistry faculty teaches all lab sections and evaluates and grades all assignments. Our department believes the chemistry occupies a central position in the physical sciences. The faculty and staff of the Chemistry department complements their love of teaching and learning with a strong sense of community. Our department functions as an active community of educators and interacts closely with our students. Working collaboratively, we strive to develop better capabilities in science and a better understanding of the learning process. Most importantly, we sincerely hope our students acquire the skills and confidence to become lifelong learners





8.2 Academic Programme

Department of Chemistry has conducted B.Tech courses, 5-year integrated BS-MS, 2 years M.Sc. programme in chemistry. Department has offered Engineering Chemistry for first and second semester students of various engineering branch run in our institute. Department also offered Advanced Engineering Chemistry for 4-semester Chemical Engineering department. Department has started 5 year integrated BS-MS dual programme from 2013 academic session. The course curriculum and syllabus was formulated with the help of Professors from reputed institutions of our country like IISc. Bangalore, IIT Kharagpur etc. Department has intake capacity of 13 students per session for MSc. programme and 25 students per session for dual BS-MS programme. Department has also enrolled for Ph.D. programme in chemistry every year depending on the availability of seats. Department has developed infrastructure for carrying out the research work in various fields such as natural product chemistry, organic synthesis, organometallic chemistry, coordination chemistry, Green chemistry, bioinorganic and nanotechnology.

8.3 Faculty and their Activities

Fellowships of Academics and Professional Societies:

Sl. No.	Name of Faculty	ISTE/ CSI and others	Level	Year
1.	Dr. Saroj Kr.Das	Indian Chemical Society	Life Member	1995
2.	Dr. Tarun K.	Indian Science Congress	Life	2013

	Misra	Association; Indian Chemical Society	Member	2014
3.	Dr. Mitali Saha	Indian Carbon Society; Indian Chemical Society	Life member	2011 2016

8.4 Research and Consultancy:

Sponsored Research Projects:

Sl. No.	Title	Period	Funding Agency	Amount (in lakhs)	Co-ordinators
1.	Spatial distribution of uranium in water in all districts of Tripura	April 2019 to April 2021	BARC-BRNA	Rs. 26 lakh	Dr. T.K.Misra

Research Publications:

Total No. of papers published in Referred International Journals: 18

In Refereed International Journals

1. S.A. Khan, R. Choudhury, M. Majumdar, T.K. Misra, 'Development of dual-tool nanosensor for cysteine based on N-(1-naphthyl)ethylenediaminecation functionalized silver nanoparticles', Spectrochim. Acta Part A Mol. Biomol. Spectrosc. 234, 118240, (2020).
2. M. Majumdar, S.A. Khan, S.C. Biswas, D.N. Roy, A.S. Panja, T.K. Misra, 'In vitro and in silico investigation of anti-biofilm activity of Citrus macroptera fruit extract mediated silver nanoparticles', J. Mol. Liq. 302, 112586, (2020).
3. A. Purkayastha, S. Dhar, S.P. Mondal, A. Franconetti, A. Frontera, R. Ganguly, A.M. Kirillov, T.K. Misra, 'Metal-organic architectures driven by a multifunctional 6-aminouracil spacer: structures, noncovalent interactions, and conductivity', CrystEngComm. 22 (2020) 829–840.
4. M. Majumdar, T.K. Misra, D.N. Roy, 'In vitro anti-biofilm activity of 14-deoxy-11,12-didehydroandrographolide from Andrographispaniculata against Pseudomonas aeruginosa', Brazilian J. Microbiol. 51, 15–27, (2020).
5. R. Choudhury, M. Majumdar, P. Biswas, S. Khan, T.K. Misra, 'Kinetic study of functionalization of citrate stabilized silver nanoparticles with catechol and its anti-biofilm activity', Nano-Structures & Nano-Objects, 19, 100326, (2019).
6. R. Choudhury, M. Majumdar, T.K. Misra, 'Spectroscopic investigation of aggregation kinetics and catalytic activity of gluconate and N-(1-naphthyl)ethylenediammonium stabilized silver nanoparticles', Nano-Structures & Nano-Objects, 19, 100346 (2019).
7. M. Majumdar, S.C. Biswas, R. Choudhury, P. Upadhyay, A. Adhikary, D.N. Roy, T.K. Misra, 'Synthesis of Gold Nanoparticles Using Citrus macroptera Fruit Extract: Anti-Biofilm and Anticancer Activity', Chemistry Select. 4, 5714–5723, (2019).
8. Debbarma, Jhuma, Peetam Mandal and Mitali Saha*. "N-graphene oxide and N-reduced graphene oxide from jujube seeds: Chemistry and mechanism." Fullerenes, Nanotubes and Carbon Nanostructures 28, (2020) doi: 10.1080/1536383X.2020.1746907.

9. Mandal, Peetam and Mitali Saha*. "Scalable preparation of carbon nanoparticles and graphene nanoflakes using sand paper abrasion." *Materialwissenschaft und Werkstofftechnik* 51, (2020): 1-7.
10. Mandal, Peetam, Jhuma Debbarma and Mitali Saha*. "One Step Synthesis of N-Containing Graphene Oxide from 3- Aminophenol." *Crystal Research and Technology* 58, no. 3 (2020): 1900158.
11. Naik, Mude Jaya Prakash, Jhuma Debbarma, Mitali Saha* and Abha Bhargava. "Graphene oxide nanoflakes from various agrowastes." *Materialwissenschaft und Werkstofftechnik* 51, no. 3 (2020): 261.
12. Debbarma, Jhuma, M. Naik, Mitali Saha*, and Abha Bhargava. "N-Graphene Derivatives from Papaya Seeds: Synthesis and Chemistry." *Journal of Scientific & Industrial Research* 79, no. 3(2020): 246-249.
13. G. S. Das, K. Malika Tripathi, G. Kumar, S. Paul, S. Mehara, S. Bhowmik, B. Pakhira, S. Sarkar, M. Roy and T.Y. Kim, 'Nitrogen-doped fluorescent graphenenanosheets as visible-light-driven photocatalysts for dyedegradation and selective sensing of ascorbic acid', *New Journal of Chem.* 43,14575-83, (2019).
14. S. Sunar, K. S. Singh and S. Kundu, 'Synthesis and Spectral Studies of Some Zn(II) Complexes with Substituted', *Asian Journal of Chemistry*, 32(1), 122-126, (2020).
15. S. Ghanta, 'Pyrene radical cation and the diffuse interstellar band at 4430 Å: A theoretical survey', *Journal of Molecular Structure*, 1191, 32-42, (2019).
16. J. H. Chaudhuri, R. Deb and J. De, 'Innovative way to decrease the water consumption of direct evaporative air-cooler,' *International Journal of Recent Technology and Engineering*, (accepted on 2020).
17. M. A. P. Yoosaf, A. Jayaprakash, S. Ghosh, V.S. Jaswal, K. Singh, S. Mandal, M. Shahid, M. Yadav, S. Das and P. Kumar, 'Zein film functionalized with gold nanoparticles and the factors affecting its mechanical properties' *RSC Advances*, 9, 25184-25188, (2019).
18. M. Roy, 'Synthesis, Spectroscopic Characterization and in vitro Antibacterial Study of Diorganotin (IV) Complexes of 5-(4-Carboxy-Phenylazo)-2-Hydroxy-Benzoic acid', *Iranian Journal of Chemistry and Chemical Engineering*, (accepted on 02/02/2020).

Distinguished Visitors to the Departments:

Sl. No.	Name of the Visitors and Designation	Date of Visit	Purpose of Visit
1.	Prof. Anil Kumar Saikia, IIT Guwahati	08-09/07/2019	Syllabus moderation for M.Sc., BS-MS-dual and B.Tech course
2.	Prof. Chittaranjan Sinha, Jadavpur University, Kolkata	08-09/07/2019	Syllabus moderation for M.Sc., BS-MS-dual and B.Tech course
3.	Prof. Samita Basu, Saha Institute of Nuclear Physics, Kolkata	08-09/07/2019	Syllabus moderation for M.Sc., BS-MS-dual and B.Tech course

9.0 COMPUTER SCIENCE AND ENGINEERING DEPARTMENT

9.1 Introduction:

The Department of Computer Science and Engineering of National Institute of Technology Agartala offers undergraduate and postgraduate programme & PhD Programme in Computer Science and Engineering where students are encouraged to acquire knowledge with an integrated thinking on education, research & development, application and training. The students are provided knowledge to understand the fundamental of basic sciences and humanities, knowledge in interdisciplinary areas, innovation, problem solving abilities, intellectual, honest and professional ethics and capacity for team work in national and international environment. The first undergraduate batch rolled out in the year 2003. Since its inception in 1999, the department has always been recognized for excellence.



9.2 Academic Programme:

This Institute offers courses of study and facilities for research leading to B.Tech, M.Tech, MCA and Ph.D under Computer Science & Engineering.

The department currently offers the following programmes:-

Under Graduate Programmes:

- B.Tech in Computer Science & Engineering (Total 8 Semesters / 4 years).

Post Graduate Programmes:

- M.Tech in Computer Science & Engineering (Total 4 Semesters / 2 years)
- MCA (Total 6 Semesters / 3 years)
- Ph.D.

9.3 Faculty and their Activities:

Short-Term Courses/ Workshops/ Seminar/ Symposia/ Conferences organized by the faculty members:

Sl. No.	Co-ordinators	Title	Period (Dd th -Dd th Month, Year)
Conference			
1	Dr. Ashim Saha, Nirmalya Kar, Suman Deb	International Conference on Computational Intelligence, Security & IoT (ICCISIoT)	13 th - 14 th December 2019
2	Dr. Ashim Saha, Suman Deb	One Week AICTE- ATAL workshop "Internet of Things"	26 th - 30 th August 2019.
3	Suman Deb	One Week AICTE- ATAL workshop "ROBOTICS"	17 th - 21 st June 2019.
		Technical Programme Committee of SocProS 2019 (9 th International Conference on Soft Computing for Problem Solving 2019). LIVERPOOL HOPE UNIVERSITY, LIVERPOOL UK.	SEPTEMBER 02-04, 2019

Short-Term Courses/ Workshops/ Seminars/ Symposia/ Conferences/ Training attended by the Faculty in Academic Institutions and Public Sector Undertakings

Sector Undertakings

Sl. No.	Name of Faculty	Title	Period
Conference :			
1	Dr. Munesh Chandra	Improving Security of Audio Data Uisng Metamorphic Cryptography	16 th -17 th August 2019
		Security in Wireless Sensor Network (WSN): A Detailed Survey	27 th -28 th February, 2020
2	Dr. Mrinal Kanti Deb Barma	Session Chair in "Second International Conference on Computational Intelligence Security & IoT (ICCISIoT 2019)", National Institute of Technology Agartala, Tripura, India	13th - 14th December 2019.
		Session Chair in " <u>International Conference on Computer Communication and Internet of Things (ICCCIOT 2020)</u> "	3 rd - 4 th February, 2020
Short term Course:			
1	Dr. Munesh Chandra	Case Teaching and Case Writing	3-7 th Jan, 2020
Workshop:			
1	Dr. Mrinal Kanti Deb Barma	Social Media Practices and Management, New Delhi	27th December, 2019
		SMILE ERP Academic Module Demo and Deployment Planning, IIT Kharagpur Extension Centre, Kolkata.	29th February, 2020

Honours and Awards obtained:

Sl. No.	Name of Faculty	Name of Award	Awarded by	Award for	Date
1.	Dr. Munesh Chandra	Best Senior Faculty Award	Novel Research academy, Puducherry	Teaching	Dec 2019
2		Outstanding Scientist Award	VD GOOD Technology Factory, Coimbatore	Research	18-19 th Jan, 2020

Fellowships of Academics and Professional Societies:

Sl. No.	Name of Faculty	Level
1.	Dr. Mrinal Kanti Deb Barma	Member, IEEE
		Corporate Member, IEI(I)
		Member, IAENG
		Member, IACSIT
		Member, SCIEI
2	Dr Ashim Saha	Member, IEEE
		Member, IEI (I)
		Member, IAENG
		Member, CSTA
3	Suman Deb	IEEE-92231222
		ACM-1814890
		CSI Life Member- I1503211
		IEI(Institute of Engineers India)- Member M-1561345
		ISTE(Indian Society for Technical Education) -Life Member LM 1135521
4	Dr Munesh Chandra	Senior Member, IEEE
		Executive Committee Member of IEEE, Region-10
		Life Member, CSI
		Senior Member, IACSIT
		Senior Member, ACM
5	Nirmalya Kar	Member IEEE,
		Life Membar, CRSI
6	Mrs.Tannistha Pal	Member, IEEE
		Member, IEI(I)
		Member, IAENG

9.4 Research and Consultancy :
Sponsored Research Projects:

Sl. No.	Title	Period	Funding Agency	Amount (in lakhs)	Co-ordinators
1	Smart vision-based approach for monitoring motion	2020	TEQIP - III		

	behavior of senior citizens at indoor environments				Dr Ashim Saha
2	IoT based traffic monitoring system for North East India	2019	DST (ICPS Division)		
3	Design considerations for BYOD supported pedagogy and Models for Technology aided Classroom Teaching Learning	2019	TEQIP-III	3,00,000/-	Mr Suman Deb
4	Establishing low cost computing lab	2019	TEQIP-III	3,70,000/-	
5	AICTE sponsored National workshop grant	2019	AICTE Robotics	1,62,000/-	
6	AICTE sponsored National workshop grant	2019	AICTE AI	1,84,000/-	

Research Publications:

Total No. of papers published in Refereed International Journals	: 15
Total No. of papers presented in International Conferences	: 12
Total No. of Books published	: 08
Total No. of patents	: 04

In Refereed International Journals:

- 1) S. Das, M.K. Debbarma, "C CHPT: An Improved Coverage-Hole Patching Technique based on Tree-Center in Wireless Sensor Networks", Journal of Ambient Intelligence and Humanized Computing, (SCIE IMPACT FACTOR 1.9) <https://doi.org/10.1007/s12652-020-02038-3>, AIHC-D-19-01904R3, published online on 25/05/2020
- 2) S. Das and M. K. Debbarma, "A Review on Coverage-Hole Boundary Detection Algorithms in Wireless Sensor Networks", In: Computación y Sistemas, Vol. 24, No. 1, 2020, pp. 121–140 doi: 10.13053/CyS-24-1-3133, Publication Date: 25/03/2020
- 3) S. Das, M.K. Debbarma, "Node position estimation for efficient coverage-hole detection in wireless sensor network", Computación y Sistemas, Vol 23, No 01 (2019), Page No. 185-195(SCOPUS)
- 4) Arindam Debnath, M.K Debbarma "Center of Mass and Junction based Data Routing Method to Increase the QoS In VANET" AEU- International Journal of Electronics and Communications, (SCIE), ISSN: 1434-8411, Vol, 108, August 2019, Pages- 36-44
- 5) Arindom Debnath, M. K Deb Barma, " Energy efficient Dynamic and Self-optimized Routing In Wireless Sensor Network Based on Ant colony

- Optimization." International Journal of Networking and Virtual Organisations (IJNVO), (Scopus), DOI: 10.1504/IJNVO.2019.10011635
- 6) T. Pal*, "Improved Background Subtraction Technique for detecting Moving Object", Recent Advances in Computer Science and Communications (2020) 13: 1.
 - 7) Munesh Chandra Trivedi, Sachin Malhotra, "Identification and prevention of joint gray hole and black hole attacks", International Journal of Ambient Computing and Intelligence (IJACI), Volume 10 Issue 2, April-June 2019, Pg.80-90 (Scopus Indexed).
 - 8) Ashish Shukla, Vishal Goyal, Manish Kumar, Munesh Chandra Trivedi, Vinay Kumar Devlia, "MSME based Beamformer in Massive MIMO-IDMA Downlink Systems", Journal of Electrical Engineering, 2020 (SCIE Indexed).
 - 9) Jayati Bharadwaj, Munesh Chandra Trivedi, Virendra Kumar Yadav, "ARP Cache Poisoning: Detection Mitigation & Prevention Scheme", International Journal of Computational Vision & Robotics, 2020 (Scopus Indexed).
 - 10) Vikas Somani, Munesh Chandra Trivedi, " Utilizing Cloud Computing for stronger healthcare data security", Journal of Advanced Research in Dynamical and Control Systems, Vol. 11, Issue-07, 2019, Pg. 579-589 (Scopus Indexed).
 - 11) Vikas Somani, Munesh Chandra Trivedi, "A Review on Block chain in Cloud Computing-healthcare data security", Journal of Advanced Research in Dynamical and Control Systems, Vol. 11, Issue-07, 2019, Pg.590-595 (Scopus Indexed).
 - 12) Pooja Mishra, Virendra Kumar Yadav, Munesh Chandra Trivedi, "Video Steganography using Concept of DNA Sequence and Index Compression Technique", International Journal of Engineering and Advanced Technology (IJEAT) ISSN: 2249-8958, Volume-8 Issue-5, June 2019, Pg. 408-417 (Scopus Indexed).
 - 13) Nandita Goyal, Kanika Gupta, Munesh Chandra Trivedi, "Malicious Host Identification using Machine Learning Classification in Cloud", Journal of Advanced Research in Dynamical and Control Systems, Vol. 11, Issue-07, 2019, Pg. 707-717 (Scopus Indexed).
 - 14) Dimple Chawla, Munesh Chandra Trivedi, "Proposed A New Multidimensional Face Recognition for Surgically Altered Faces in Security Surveillance", International Journal of Engineering and Advanced Technology (IJEAT) ISSN: 2249 – 8958, Volume-8 Issue-6S, August 2019, Pg. 1021-1026 (Scopus Indexed).
 - 15) Mandal, G., De, P. & Bhattacharya, D. A real-time fast defogging system to clear the vision of driver in foggy highway using minimum filter and gamma correction. *Sādhana* 45, 40 (2020). <https://doi.org/10.1007/s12046-020-1282-y>

In Proceedings of International Conference:

- 1) Smita Das and M. K. Debbarma, "A comparative study on Coverage-hole detection with Inner Empty Circle over Delaunay Triangulation Method in Wireless Sensor Networks". In: INDIA 2019 International Conference, Publication in Springer LNNS series is yet to be done.
- 2) Habila Basumatary, M.K. Deb Barma, "A Review on Recent Techniques developed for energy conservation in Wireless Sensor Networks" International Conference on Applied Mathematics and Computational Intelligence (ICAMCI-2020) (Accepted)

- 3) Alak Roy, Ayan Bhattacharjee, Mampi Devi and M.K Deb Barma, "Smart Home Automation System using Internet of Things", International Conference on Computer Communication and Internet of Things (ICCCIoT 2020), Tripura University (A Central University), Agartala, Tripura, India, 3-4 February, 2020.
- 4) Rajib Chowdhury, M.K. Deb Barma "A Review on Coverage and Connectivity through Random Deployment of Nodes in Wireless Sensor Network" International Conference on Computational Intelligence, Security & IoT (ICCISIoT 2019), National Institute of Technology Agartala, India, December 13-14, 2019 (In press)
- 5) T.Pal, S.S. Pandey and A. Deb, "Handcrafted: An online shopping website of Handicrafts", 2nd International Conference on Computer Communication and Internet of Things (ICCCIoT 2020), Tripura University (A Central University), Feb 3-4th 2020.
- 6) A.Das, R. Deb and S. Deb, "Designing an Adaptive Body Art Maker with Computer Numerical Control-a paradigm of human robot interaction," 2020 International Conference on Inventive Computation Technologies (ICICT), Coimbatore, India, 2020, pp. 1-5, doi: 10.1109/ICICT48043.2020.9112577.
- 7) Debnath B., Deb S., Kumari P. (2020) Mobile Supported Interaction Modeling to Find Engagement of Acolyte in Live Classroom. In: Saha A., Kar N., Deb S. (eds) Advances in Computational Intelligence, Security and Internet of Things. ICCISIoT 2019. Communications in Computer and Information Science, vol 1192. Springer, Singapore. DOI [https://doi.org/ 10.1007/978-981-15-3666-3_7](https://doi.org/10.1007/978-981-15-3666-3_7).
- 8) Kumari P., Deb S., Debnath B. (2020) Integration of BYOD Technology in Traditional Classroom: A Statistical Approach. In: Saha A., Kar N., Deb S. (eds) Advances in Computational Intelligence, Security and Internet of Things. ICCISIoT 2019. Communications in Computer and Information Science, vol 1192. Springer, Singapore. DOI https://doi.org/10.1007/978-981-15-3666-3_9.
- 9) S. Deb, B. Debnath and P. Kumari, "Imminent Prospects of Mobile Mediated Learning Interaction in Traditional Classroom: A Survey 2013-19," 2019 IEEE Tenth International Conference on Technology for Education (T4E), Goa, India, 2019, pp. 154-157. DOI: 10.1109/T4E.2019.00-32.
- 10) P. Kumari, S. Deb and B. Debnath, "Systematic Study to Identify the Usage and Role of Mobile Devices for Classroom-Interaction," 2019 IEEE Tenth International Conference on Technology for Education (T4E), Goa, India, 2019, pp. 270-271. DOI: 10.1109/T4E.2019.00069.
- 11) T. Nama and S. Deb, "2D Object Transformation by Mapping of Hand Gesture Using Leap Motion Controller," 2019 Second International Conference on Advanced Computational and Communication Paradigms (ICACCP), Gangtok, India, 2019, pp. 1-4. doi:10.1109/ICACCP.2019.8882974 URL: <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=8882974&isnumber=8882874>
- 12) Deb S., Saha N., Bhattacharya P. (2020) Designing a BYOD Supported Formative Learning Interface and Analysis of Classroom Interaction. In: Pati B., Panigrahi C., Buyya R., Li KC. (eds) Advanced Computing and Intelligent Engineering. Advances in Intelligent Systems and Computing, vol 1089. Springer, Singapore DOI https://doi.org/10.1007/978-981-15-1483-8_42

Book chapter Published:

Name of the Authors published	Title of the Books chapter	Date of publication of the Book chapter	Issue/ Volume No./ Page No.
Anurag De, Ashim Saha, Praveen Kumar	Role of Open Hardware and IoT in Home Automation: A case study	2020	CCIS 1192. Springer, Singapore. (2020), Print ISBN: 978-981-15-3665-6
Tapajyoti Deb, Niti Vishwas, Ashim Saha	Statistical Analysis of Road Accident Data of UK using Operational Intelligence Tool - Splunk	2020	CCIS 1192. Springer, Singapore. (2020), Print ISBN: 978-981-15-3665-6
Sanjib Debnath and Ashim Saha	Analytical Modelling of Internet of Vehicles (IoV) by IoT Cloud for Dipping Trac Congestion and Safety Alert: A Review	2020	CCIS 1192. Springer, Singapore. (2020), Print ISBN: 978-981-15-3665-6
Monika Dey, Ashim Saha, Anurag De	Object Detection using Point Feature matching based on SURF algorithm	2020	CCIS 1192. Springer, Singapore. (2020), Print ISBN: 978-981-15-3665-6
Tapajyoti Deb, Niti Vishwas, Dr. Ashim Saha	A Comparative Study on Different Approaches of Road Traffic Optimization Based on Big Data Analytics	2019	Springer, Singapore. (2019), Print ISBN 978-981-13-8252-9
Niti Vishwas, Tapajyoti Deb, Dr. Ashim Saha	"Implementation of Collaborative Filtering for Product Recommendation in E-commerce	2019	Springer, Singapore. (2019), Print ISBN 978-981-13-8252-9
Ashim Saha, Nirmalya Kar, Suman Deb	Advances in Computational Intelligence, Security & Internet of Things	2020	CCIS 1192. Springer, Singapore. (2020), Print ISBN: 978-981-15-3665-6
Das A.K., Das A., Kar N.	An Approach Towards Encrypting Paired Digits Using Dynamic Programming and Diffie-Hellman Key Exchange	2020	Advances in Computational Intelligence, Security and Internet of Things. ICCISIoT 2019. vol 1192. Springer, Singapore. https://doi.org/10.1007/978-981-15-3666-3_15
Das A., Das A.K., Kar N.	An Improved Chaos Based Medical Image Encryption Using DNA Encoding Techniques	2020	Advances in Computational Intelligence, Security and Internet of Things.

			ICCISIoT 2019. Communications in Computer and Information Science, vol 1192. Springer, Singapore. https://doi.org/10.1007/978-981-15-3666-3_18
Satija T., Kar N.	Detecting Malicious Twitter Bots Using Machine Learning	2020	Advances in Computational Intelligence, Security and Internet of Things. ICCISIoT 2019. Communications in Computer and Information Science, vol 1192. Springer, Singapore. https://doi.org/10.1007/978-981-15-3666-3_16
Munesh Chandra et.al	Current trends in Cryptography, Steganography and Metamorphic Cryptography: A Survey	2019	Advances in Intelligent System & Computing(AISC), 2194-5357, Springer's Singapore
	Machine learning approaches for accurate image recognition and detection for plant disease: state of art	2019	Advances in Intelligent System & Computing(AISC), 2194-5357, Springer's Singapore
	Networking analysis and performance comparison of Kubernetes CNI Plugins	2019	Advances in Intelligent System & Computing(AISC), 2194-5357, Springer's Singapore

Book published

Name of the Authors published	Title of the Books	Date of publication of the Book	Issue/ Volume No./ Page No.
Shailesh Tiwari, Munesh C. Trivedi, Krishn Kumar Mishra, A.K. Misra, Khedo Kavi Kumar	Smart Innovations in Communication and Computational Sciences	2020	Proceedings of ICSICCS 2020, Springer Nature

Patent Published:

<i>Inventor Name</i>	<i>Year</i>	<i>Title</i>	<i>Publish ed</i>	<i>Pate nt</i>	<i>Patent application</i>
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			source	versi on no.	no.
Dr. Munesh Chandra et. al	2019	A Sixth Sense Device	OFFICIAL JOURNAL OF THE PATENT OFFICE	1	201931048224
		Intelligent Electricity Saving Device		1	201931048105
		Food Spoilage Device		1	201931049330
		A Device for Removing Lacunas of Existing Image Using Inpainting techniques		1	201931051249

Distinguished Visitors to the Departments:

Sl. No.	Name of the Visitors and Designation	Date of Visit	Purpose of Visit
1	Prof. Anu A. Gokhale Professor and Coordinator of the Computer Systems Technology programme at Illinois State University (ISU)	2019	keynote speaker in ICCISIoT 2019

9.5 Institute-Industry Collaboration:

Institute has a MoU with C-DAC. Mr Nirmalya Kar of Deptt of CSE is the Coordinator of C-DAC centre in NIT Agartala. The high-end career oriented IT training programmes designed and developed by the Advanced Computing School of C-DAC will assist the students in moulding their skills based on the requirements of the IT industry thereby providing an advantage in placements and in their career path. The syllabi of the programmes are designed based on industry inputs and the IT training programmes have been developed taking the latest technologies in consideration.

9.6 Industrial Consultancy and Sponsored Research

Computer Science and Engineering Department is rich in both Industrial Consultancy and Sponsored Research project. Presently Department is engaged in 1(one) DST sponsored research project (Coordinator-Dr. Ashim Saha) and 1(one) TEQIP project.

9.7 Other Activities

Conducted as Session Chair in "International Conference on Computer Communication and Internet of Things (ICCCIOT 2020) on 03 to 04 February, 2020, Tripura University, Suryamani Nagar, Tripura, India & Special Session as Session Chair in "Second International Conference on Computational Intelligence Security & IoT (ICCISIoT 2019)", National Institute of Technology Agartala, Tripura, India, 13th – 14th December 2019. Paper Reviewed in International Conference on "Emergent Research in Mathematics and Engineering - (ICERME-2019)", NIT Agartala during May 17th & 18th, 2019. Delivered invited Lecture as an Expert Speaker in the Seminar Programme on Celebration of 49th Engineers day organized by Tripura University and of Institute of Engineers (India) Tripura State Centre on the topic of "Sensor Network: Research and Latest Trends" on 14th

September 2016 at Conference Hall Tripura University, Suryamani Nagar. Delivered Expert Lecture in the seminar cum workshop on Cyber Security & Cyber Forensic on *22nd March, 2018* at Progya Bhawan, Agartala, Tripura. Delivered Expert Lecture as Resource person in the two days National Seminar on Intelligent Systems at NIT Manipur on *28th Feb, and 1st March, 2019*. Delivered Expert Lecture as Resource person in the five days National Seminar on "Value Analysis" at NIT Agartala on *28th May, 2019*. External Member of Research Advisory Committee (RAC), Department of Computer Science & Engineering, Tripura University, since October, 2019. External Member of Research Advisory Committee (RAC), Department of Information Technology, Tripura University, since October 2019. External Expert Member of a Board of Under Graduate Studies (BUGS), Information Technology, MBB University, Tripura since *1st May, 2020*. External Expert Member of a Selection Committee of Junior Research Fellow for the NECBH Twinning Project entitled "Multivariate intrinsic mode functions for electroencephalogram signals using single channel" under Dept. of IT, Tripura University held on *16th March, 2020*.

10.0 ELECTRICAL ENGINEERING DEPARTMENT

10.1 Introduction:

Department of Electrical Engineering is one of the enriched and primogenital branches of engineering of the National Institute of Technology (NIT), Agartala (formerly Tripura Engineering College, Govt. of Tripura). This Department has been fulfilling the need of the state Tripura as well as the nation by developing technical manpower in Electrical Engineering field since its inception in 1965. In this long 55 years of journey, being a pivotal branch of the then Tripura Engineering College, this department has witnessed many ups and downs. Still, it has produced a great number of capable electrical engineers who in turn spread their talent around various parts of the globe thereby enhancing the image of the institute in general and branch in particular.

The Electrical Engineering Department started with an annual intake of 20 seats in 1965 and consecutively increased to 40 in 1981. After conversion of the Tripura Engineering College into National Institute of Technology (NIT) in 2006, the intake has been increased to 90 and this year (2019) annual intake has been increased to 129.

10.2 Academic Programme:

Electrical Engineering Department has progressed noticeably with annual intake of 129 for 4 years (8 semesters) B.Tech programme and annual intake of 64 for 2 years (4 semesters) M. Tech. programme. Apart from B.Tech and M. Tech. programme, Electrical Engineering department started Ph.D programme from 2008 academic session. Considering the aspiration of the students and keeping in view of employment opportunity and prospect for research career, Department has been offering four specializations in M.Tech programme, namely (a) Power Electronics & Drives (b) Instrumentation (c) Power System, and (d) Integrated Energy System. Further, excellent responses are obtained for Ph.D programme. Several candidates from academic arena and industry show their interests for pursuing their Ph.D work in the Department of Electrical Engineering and enroll their names in the programme. At present 25 nos. (Part time & Full time) candidates are carrying out their Ph.D work in the department. 05 (five) students of the department have been awarded Ph.D degree in this academic year.

Academic Programme Goals:

The Electrical Engineering Department pursues the following primary academic goals:

- i. Create a healthy academic environment to promote the intellectual and professional development of both students and faculties.
- ii. Develop and maintain quality academic activities in UG, PG and PhD levels which are commensurate with the mission of the Institute.
- iii. Equip the students with theoretical and practical skills required for employment in Government or private sectors, and admission to higher studies.

iv. Support the research scholars as well as faculties in terms of infrastructure, laboratory facilities and resources in order to enable them to conduct extensive research activities in par with the standards of the Institute.



10.3 Faculty and their activities:

Short-Term Courses/ Workshops/ Seminar/ Symposia/ Conferences organized by the faculty members:

Sl. No.	Coordinators	Title	Period
Short Term Courses			
1.	Dr. Arvind Kumar Jain	"Smart Energy Systems for Rural and Urban Development" sponsored by TEQIP-III, MHRD, GOI, and jointly organized by NIT Agartala (Tripura)	2 nd -6 th December 2019
	Dr P.N. Das		

		and VNIT Nagpur (Mah.)	
2.	Mr. Abanishwar Chakraborti	"Recent Trends in Multilevel Converter" jointly with VNIT Nagpur funded by TEQIP-III.	30th Sept-4th October 2019
	Mr. Bikram Das		
	Mr. Prabir Ranjan Kasari		
	Mrs. Anindita Jamatia		

Short-Term Courses/ Workshops/ Seminars/ Symposia/ Conferences/ Training attended by the Faculty in Academic Institutions and Public Sector Undertakings:

Sl. No.	Name of Faculty	Title	Period
Conferences			
1.	Dr. Ajoy Kumar Chakraborty	8 th International Conference on Power Systems (ICPS)-2019. Malaviya National Institute of Technology (MNIT), Jaipur	20 th – 22 nd December, 2019
2.	Dr. Subhadeep Bhattacharjee	34 th Indian Engineering Congress, Hyderabad	27 th – 29 th December, 2019
3.	Dr. Arvind Kumar Jain	20th international conference on Intelligent System Application to Power Systems (ISAP), IIT Delhi.	10-14, December, 2019
Training			
1.	Dr. Subhadeep Bhattacharjee	Interactive session for newly elected Chairmen and Honorary Secretaries of State and local centers of The Institution of Engineers (India) organized by Engineering Staff College of India (ESCI), Hyderabad.	29 th February, 2020
Short-Term Courses			
1.	Dr. Sharmistha Sharma	Five-day Workshop on "Recent Trends in Multi-Level Converter" sponsored by TEQIP-III	30 th September – 4 th October, 2019

Honours and Awards obtained:

Sl. No.	Name of Faculty	Name of Award/ Honor	Awarded/ Honored by	Award/Honor for	Date
1.	Dr. Subhadeep Bhattacharjee	Pandit Madan Mohan Malaviya Memorial Prize	Institution of Engineers (India)	For the best paper published in the Electrical Engineering Division part of IEI Journal	Conferred in 34th Indian Engineering Congress in Hyderabad during 27 th –

				(Springer) since 1965.	29 th December, 2019
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Fellowships of Academics and Professional Societies:

Sl. No.	Name of Faculty	Level	Year
1.	Dr. Subhadeep Bhattacharjee	Fellow, IEI	2019
		Honorary Secretary, IEI, Tripura State Centre	December, 2019
2.	Dr. Arvind Kumar Jain	Senior Member IEEE	2019

10.4 Research and Consultancy:**Sponsored Research Projects:**

Sl. No	Title	Period	Funding Agency	Amount (in lakhs)	Coordinators
1	Development of Bessel Beam based Fiber Optic Biosensor for Early Detection of Breast Cancer (EMR/2016/006319)	2018-2021	DST	Rs.63.90	Dr. Ardhendu Saha, EE Dept. and Dr. Biswanath Bhunia, Bio Engg. Dept.
2	Methodology Development for Reducing Failure Rate of 200KVA, 11KV/440V, Distribution Transformers	June 2019 to Sept. 2020	TEQIP-CRS, MHRD, GOI	Rs.9.29	Dr. Arvind Kumar Jain. Collaborative Research Project with Jabalpur Engg College (Govt Engg College) Jabalpur (MP)).

Research Publications:

Total No. of papers published in Refereed International Journals : 48

Total No. of papers presented in International Conferences : 33

In Refereed International Journals:

- 1) Smita Banik, Ardhendu Saha and Sumita Deb, "Non-linear reflection engineered enhanced broadband SHG in a hyperbolic profiled GaAs slab using TIR-QPM", *Optik*, Vol No. 179 (2019), Page No. 750-760. (SCI).
- 2) Chittaranjan Nayak, Alireza Aghajamali, Ardhendu Saha and Narottam Das, "Near- and mid-infrared bandgaps in a 1D photonic crystal containing superconductor and semiconductor-metamaterial" *International Journal of Modern Physics B*, Accepted on August, 2019 <https://doi.org/10.1142/S0217979219502199>
- 3) Arijit Datta, Appasani Mahendra Babu, Ardhendu Saha, "Enhanced sensitivity of fiber optic evanescent wave absorption-based concentration sensor by shining a Bessel-Gauss beam and effect of fiber bending on the sensor

- response: a theoretical analysis", *Optical Engineering*, Vol.58, Issue 5, May 2019, pp. 056112 (1-12).
- 4) D. Saha, B.K. Saha Roy and P.N. Das, "An Adaptive protection coordination Technique for unbalanced 3-Phase Radial Distribution system, *Journal of Engineering Research* June, 2019.
 - 5) Anulekha Saha, Aniruddha Bhattacharya, Priyanath Das, and Ajoy Kumar Chakraborty. "HSOS: a novel hybrid algorithm for solving the transient-stability-constrained OPF problem." *Soft Computing*, vol. 24, 7481-7510, (2020).(Published 25th September, 2019)
 - 6) Anulekha Saha, Aniruddha Bhattacharya, Priyanath Das, and Ajoy Kumar Chakraborty. "A novel approach towards uncertainty modeling in multiobjective optimal power flow with renewable integration." *International Transactions on Electrical Energy Systems* 29, e12136, (2019). (Published 12th August, 2019)
 - 7) Prasenjit Dey, Aniruddha Bhattacharya, and Priyanath Das. "Tuned Power System Stabilizer for Enhancing Small Signal Stability of Large Interconnected Power System" *Caribbean Journal of Science* 53, no.1 (2019). 843-857 (SCIE)
 - 8) Prasenjit Dey, Sourav Mitra, Aniruddha Bhattacharya, and Priyanath Das. "Comparative study of the effects of SVC and TCSC on the small signal stability of a power system with renewables." *Journal of Renewable and Sustainable Energy* 11, no. 3 (2019): 033305. (SCIE)
 - 9) Samima aktar, Priyanath Das, Biman kumar Saha Roy, "positive sequence component based directional raleying alogorithm for single pole tripping", springer. DOI: 10.1007/s13369-019-04130-z,2019
 - 10) Durbanjali Das, Saptadip Saha, Priyanath Das, "Design of a solar MPPT with improved Fuzzy logic" *IJRTE*, (SCOPUS), Sept. 2019.
 - 11) Navonita Sharma and Ajoy Kumar Chakraborty, "Robust State Feedback Controller for Photovoltaic Inverter System using Unbundled Smart Meter", *International Journal of Innovative Technology and Exploring Engineering (IJITEE)* 8, (2019). (Published 10th September, 2019).
 - 12) A.K. Jain, "Demand Response of an Industrial Buyer considering Congestion and LMP in Day-Ahead Electricity Market" *International Journal of Emerging Electric Power Systems*, Volume 20, issue 3, June, 2019.(Scopus/WoS)
 - 13) A.K. Jain et al., "Charging and Discharging of Membrane for Lithium Ion Battery Applications," *International Journal of Innovative Technology and Exploring Engineering*, Vol.8, Issue 6, April 2019, pp.1192-1194 (Scopus/WoS).
 - 14) Bhaswati Medhi, Sumita Deb, "Broadband SHG based on TIR-QPM in a multi-tapered slab- a comparative study withtwo isotropic semiconductor material", *Materials today proceeding*, Vol No. 5 (2019), Issue 11, Page No. 24202-24212.(Scopus)
 - 15) Gagari Deb, Kabir Chakraborty and Sumita Deb, "Spider Monkey optimization technique based allocation of distributed generation for demand side management", *International Transactions on Electrical Energy Systems*, Vol.No. 29, Issue-5, (2019), Page No. 1-17. (SCIE).
 - 16) Prasenjit Debnath, "Why there is Symmetry between Shape and Orbit of Astronomical Bodies: a Little Deviation from Spherical Shape Allows Time to Flow in Forward Direction; Why Particles and Anti-particles Originate and Then, Recombine.", *IOP Science: Journal of Physics: Conference Series*, (Indexing SCOPUS), Volume – 1172 (2019), Issue – 1, Number - 012038, Pages – 1 - 4.

- 17) Prasenjit Debnath, "The Uncertainty Principle must be a Variable Concept: the Uncertainty Principle Depends on the Complex Physical Time only." IOP Science: Journal of Physics: Conference Series, (Indexing SCOPUS), Volume - 1172 (2019), Issue - 1, Number - 012039, Pages - 1 - 8.
- 18) Prasenjit Debnath, "The Basics of Special Relativity are the same: It is A Deliberate Attempt for Conceptual Modifications Only. Space - Time is A Curvature (Complete Closed Loop) for Fermions only And Space - Time is A Curvature (Semi - Elliptical) for Bosons.", Journal of Mechanics of continua and Mathematical Sciences, Volume - 14, Issue - 2 (March - April , 2019), Pages - 1 - 6.
- 19) Prasenjit Debnath, "The Shape of the Higgs Field and the Shape of the Gravitational Field impacts in Wave Propagation Methods", AIP Conference Proceedings, (Indexing SCOPUS), Volume - 2105 (2019), Issue - 1, Number - 020032, Pages - 1 - 5.
- 20) Prasenjit Debnath, "Space-Time Gets Reversed only for Fermions Where As Space-Time Is Identical for Bosons." AIP Conference Proceedings, (Indexing SCOPUS), Volume - 2105 (2019), Issue - 1, Number - 020033, Pages - 1 - 5.
- 21) Prasenjit Debnath, "A Deliberate and Comprehensive Derivation from an Equation of the Special Theory of Relativity." Journal of Mechanics of continua and Mathematical Sciences, Volume - 14, Issue - 3 (May - June, 2019), Pages - 331 - 335.
- 22) Prasenjit Debnath, "A Comprehensive Explanatory Derivation from an Equation of the Special Theory of Relativity; Doppler Effect is a Property of Space - Time." Journal of Mechanics of continua and Mathematical Sciences, Volume - 14, Issue - 3 (May - June, 2019), Pages - 59 - 64.
- 23) Prasenjit Debnath, "If Space, Time are Necessary Conditions, then, Mass, Energy are Sufficient Conditions for Universe. Any One Can Be Smoothly Transformed into any Other Condition. ." AIP Conference Proceedings, (Indexing SCOPUS), Volume - 2142 (2019), Issue - 1, Number - 110013, Pages -1 - 7.
- 24) Prasenjit Debnath, "On a Macroscopic Scale, Space - Time Symmetry Makes Particle's Universe Exactly the Same as Anti - Particle's Universe. Whereas on a Microscopic Scale, Charge Symmetry Makes Atom and Anti - atom Exactly the Same." AIP Conference Proceedings, (Indexing SCOPUS), Volume - 2142 (2019), Issue - 1, Number - 110020 Pages - .1 - 7.
- 25) Prasenjit Debnath, "The Complete Life Cycle of the Universe is a Complete One Period Sine Wave: Negative to Positive Half Cycle of Sine Wave Represents Active State Whereas Positive to Negative Half Cycle Represents the Latent State of the Universe." AIP Conference Proceedings, (Indexing SCOPUS), Volume -2142 (2019), Issue -1, Number - 110029 Pages - 1 - 7.
- 26) Prasenjit Debnath, "How The Higgs Field Effects The Wave Propagation Of Waves As Wavy Resembles Sine Wave. Why Astronomical Particles Have Relationship between Shape (Elliptical) and Orbit (Elliptical)." Journal of Mechanics of continua and Mathematical Sciences, Volume - 14, Issue - 4 (July - August, 2019), Pages -117 - 121.
- 27) Prasenjit Debnath, "If Space and Time are the Necessary Conditions for Sustaining the Universe, then, Mass and Energy are the Sufficient Conditions for the Universe. One Condition can be Smoothly Transformed into the Other Conditions and Vice Versa." Journal of Mechanics of continua and Mathematical Sciences, Volume - 14, Number - 4 (July - August, 2019), Pages - 262 - 267.

- 28) Joyashree Das, 'Diverse HTS Hysteresis Motors' *International Journal of Innovative Technology and Exploring Engineering*, Volume-9 Issue-2S, December 2019.
- 29) Nabamita Goswami, Deepak Chaurasia, Ardhendu Saha, "Highly Sensitive Long Range Surface Plasmon Based Liquid Sensor by Shining the Radially Polarized Light in Bimetallic Taper Fiber Structure" *Optik - International Journal for Light and Electron Optics*, (accepted on 23rd June 2019, Ref. No.: IJLEO-D-19-02179)
- 30) Aparupa Kar, Nabamita Goswami, Ardhendu Saha, "Tunable low-threshold bistable Goos-Hänchen shift and Imbert-Fedorov shift using long-range graphene surface plasmons within the terahertz region" *Applied Optics*, Vol. 58, December 2019, pp. 9376-9383.
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- 32) Diptanu Das, Aniruddha Bhattacharya, Rup Narayan Ray "Dragonfly Algorithm for Solving Probabilistic Economic Load Dispatch problems", *Neural Computing & Applications* (Springer) (SCIE indexed) (IF:4.664), , 32, pp 3029-3045 DOI:<https://doi.org/10.1007/s00521-019-04268-9> (Published: 29 May, 2019)
- 33) Diptanu Das, Aniruddha Bhattacharya, Rup Narayan Ray "Optimal Scheduling of Hydrothermal System Considering Variable Nature of Water Transportation Delay", *Scientia Iranica* (SCIE indexed), pp 1-44 (2019) (Accepted manuscript:14Aug,2019).
- 34) Diptanu Dey, Amit Chakraborty, Anurendra Singh, Priyanath Das, "Scrutiny of Gold Surface Plasmonic Nanoparticles Embedded in Various Substrates used for Enhancing Solar Cell's Efficiency", *International Journal of Recent Technology and Engineering* (IJRTE) ISSN: 2277-3878, Volume-8 Issue-5, January 2020. DOI:10.35940/ijrte.E6640.018520 (Scopus).
- 35) P. Choudhury, R.N.Ray, T.K.Bandyopadhyay O.N. Tiwari, B. Bhunia. Kinetics and performance evaluation of microbial fuel cell supplied with dairy wastewater with simultaneous power generation. *International Journal of Hydrogen Energy*. IF-4.9.Accepted
- 36) P. Choudhury, R.N.Ray, T.K.Bandyopadhyay O.N. Tiwari, B. Bhunia. Fed batch approach for stable generation of power from dairy wastewater using microbial fuel cell and its kinetic study. *Fuel*. 2020 Apr 15;266:117073.IF-5.5
- 37) P. Choudhury, R.N.Ray, T.K.Bandyopadhyay O.N. Tiwari, B. Bhunia. Rapid Protocol for Screening of Biocatalyst for Application in Microbial Fuel Cell: A Study with *Shewanella* algae. *Arabian Journal for Science and Engineering*. 2020 Mar 3:1-1.IF-1.7
- 38) A Saha, S Das, SK Chanda, "Calibrated non-contact vibrational harmonics measurement based on self- vibration compensated 2D-PSD with MEMS accelerometer using FFT analysis", *IET Science, Measurement & Technology*, 2020.
- 39) A Datta, A Saha, "Realization of a highly sensitive multimode interference effect-based fiber-optic temperature sensor by radiating with a Vortex beam", *Optik - International Journal for Light and Electron Optics*, 2020, Pages 165006.
- 40) Rituraj Bhattacharjee, Priyanka Dey, Ardhendu Saha, "An Efficient DFG Induced Wavelength Exchanged-OPC Using Only Two Ti: PPLN Waveguides

- with Single Pump Configuration", *Optik - International Journal for Light and Electron Optics*, February 2020, 163704.
- 41) Rita Banik, P. Das, S. Ray, A Biswas Wind power generation probabilistic modeling using ensemble learning techniques, *Materials Today: Proc*, Elsevier. DOI:<https://doi.org/10.1016/j.matpr.2020.02.464>
 - 42) Rita Banik , S. Ray , P. Das , A Biswas Optimization of Hybrid energy systems: An analysis of Soft computing approaches, *IJSTR*, ISSN:2277-8616, Vol: 9, Issue: 3 , March2020
 - 43) Samima Akter, Sandeep Biswal, Natwar Singh Rathore, Priyanath Das, "Amplitude based directional relaying scheme for UPFC compensated line during single pole tripping" *Electric Power Systems Research*, <https://doi.org/10.1016/j.epsr.2020.106290>, 26th February 2020.
 - 44) Yogeswar Reddy O, Soumesh Chatterjee, Ajoy Kumar Chakraborty, Arup Ratan Bhowmik, "Fault detection and location estimation for LVDC microgrid using self-parametric measurements", *International Transactions on Electrical Energy Systems (SCIE)*, vol. 2020, Accepted on March 2020, <https://doi.org/10.1002/2050-7038.12499>.
 - 45) Rahul Bhattacharjee and Subhadeep Bhattacharjee, 'Viability of a concentrated solar power system in a low sun belt prefecture', *Frontiers in Energy (Springer) (SCIE, Scopus) (IF: 2.657)*, 2020. <https://doi.org/10.1007/s11708-020-0664-5>.
 - 46) Ankit Paul and Subhadeep Bhattacharjee, 'Effectuation of biogas based hybrid energy system for cost-effective decentralized application in small rural community', *Energy (Elsevier) (SCI, Scopus) (IF: 6.082) (Accepted)*.
 - 47) R Debnath, S Deb, A Saha, "Efficient Kerr nonlinearity in RTP induced by electro-optically adjustable cascaded second-order process", *Optik - International Journal for Light and Electron Optics*, 2020, Pages 164770.
 - 48) Prasenjit Debnath, "Basics Are Exactly the Same: It is Just Conceptual Modification of Mass – Energy Equivalence Equation: The Special Relativity. " *AIP Conference Proceedings, (Indexing SCOPUS)*, Accepted for Publications.

In Proceedings of International Conference:

- 1) P. Choudhury, R.N.Ray, T.K.Bandyopadhyay, B. Bhunia. Kinetics and performance evaluation of microbial fuel cell supplied with dairy wastewater with simultaneous power generation:The International Conference on Sustainable Energy and Green Technology(SEGT), Bangkok 11-14 Dec 2019.
- 2) Arnab Pal, Aniruddha Bhattacharya, and Ajoy Kumar Chakraborty. "Allocation of EV Fast Charging Station with V2G Facility in Distribution Network." In *2019 8th International Conference on Power Systems (ICPS)*, pp. 1-6. IEEE, 2019. (December, 2019)
- 3) Navonita Sharma and Ajoy Kumar Chakraborty, "Development of Feed-In Tariff Using Unbundled Smart Meters for Small-Scale Roof-Top Solar Plant", In *2019 8th International Conference on Power Systems (ICPS)*, pp. 1-6. IEEE, 2019.(December, 2019)
- 4) Dipradidhiti Roy Barman and Dr. Subhadeep Bhattacharjee, 'Biogas resources as potential captive energy source for an educational institute', *Int. Conf. on Water, Energy and Biodiversity for Sustainable Development of BIMSTEC Countries*, December 12–14, 2019; Agartala, Tripura, India.
- 5) Rayappa David Amar Raj, Subhadeep Bhattacharjee, 'Performance Analysis of 100 kW_p Double-Stage Three-Phase Grid Connected Solar Photovoltaic Power Plant', *Int. Conf. on Water, Energy and Biodiversity for Sustainable*

- Development of BIMSTEC Countries*, December 12 – 14, 2019; Agartala, Tripura, India.
- 6) Rahul Bhattacharjee and Subhadeep Bhattacharjee, Characterization of sun-earth geometrical parameter and extraterrestrial radiation on the varied latitude of Northern hemisphere, *Int. Conf. on Water, Energy and Biodiversity for Sustainable Development of BIMSTEC Countries*, December 12-14, 2019, Electrical Engineering Division of IEI, Agartala.
 - 7) A.K. Jain, "Bi-Level Optimization Problem to Develop Optimal Strategy of a Generator in Competitive Environment" 20th international conference on Intelligent System Application to Power Systems (ISAP), 10-14 Dec. 2019, IIT Delhi. (Published by IEEE).
 - 8) Minakshi Deb Barma, Sumita Deb and Satyajit Paul, "Total Internal Reflection Quasi Phase Matching based Broadband Second Harmonic Generation in Isotropic Semiconductor: A comparative analysis", International Conference on Communications, Signal Processing and VLSI (IC2SV 2019), 23rd to 24th October.
 - 9) Deepak Sharma, Ujwal Kumar, Kajal K Shetty, Prabir Ranjan Kasari, Abanishwar Chakrabarti, Bikram Das "Grid connected asymmetric cascaded H-bridge with LDN topology" 2019Innovations in Power and Advanced Computing Technologies (i-PACT),2019,India.
 - 10) Deepak Sharma, Prabir Ranjan Kasari, Sumit Kumar, Sudhanshu Kumar, Abanishwar Chakraborty, Bikram Das "A Modified Controller for Solar PV Grid Tied Multilevel Inverter"2019 Innovations in Power and Advanced Computing Technologies (i-PACT),2019,India.
 - 11) Arup Ratan Bhowmik, Diptanu Dey, Siddhartha Mukherjee, "Estimation and Analysis of Solar Parameters in North-East India", 2nd International Conference on Non-Conventional Energy: Nanotechnology & Nanomaterials for Energy & Environment (ICNNEE) 2019, JIS, Kalyani, West Bengal, November 25, 2019. Available at: SSRN: <https://ssrn.com/abstract=3492866> or <http://dx.doi.org/10.2139/ssrn.3492866>.
 - 12) Arup Ratan Bhowmik, Ajoy Kumar Chakraborty, and Siddhartha Mukherjee. "Gauss/Mouse Map based Chaotic Lightning Search Algorithm for Sizing and Allocation of DG and DSTATCOM Considering Probabilistic Load Flow." In *2019 8th International Conference on Power Systems (ICPS)*, pp. 1-6. IEEE, 2019.(December, 2019)
 - 13) A.R. Bhowmik and S. Mukherjee, "Harmonic Mitigation Using Shunt Active Power Filter Under Various Loading Condition," 2019 4th International Conference on Electrical, Electronics, Communication, Computer Technologies and Optimization Techniques (ICEECOT), Mysuru, India, 2019, pp. 291-296, doi: 10.1109/ICEECOT46775.2019.9114631.
 - 14) Arup Ratan Bhowmik, Ajoy Kumar Chakraborty, and Siddhartha Mukherjee. "Impact of Sensitivity Index Based Transmission Network Topology Control on Contingency Constraints." In *2019 20th International Conference on Intelligent System Application to Power Systems (ISAP)*, pp. 1-7. IEEE, 2019, doi: 10.1109/ISAP48318.2019.9065962.
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 - 16) A. R. Bhowmik, D. Dey and S. Mukherjee, "Analysis of Surface Plasmonic Nanoparticles Embedded in Silver Substrates for Enhancing Efficiency of Solar

- Cell," 2019 4th International Conference on Electrical, Electronics, Communication, Computer Technologies and Optimization Techniques (ICEECOT), Mysuru, India, 2019, pp. 76-81, doi: 10.1109/ICEECOT46775.2019.9114537.
- 17) Amit Chakraborty ; Diptanu Dey ; Priyanath Das, 'Solar cell efficiency enhancement using embedded surface plasmonic nano particles in various medium " International Conference on Smart Systems and Inventive Technology (ICSSIT) 2019.
 - 18) D. Dey, A. R. Bhowmik and S. Mukherjee, "Fabrication and Performance Analysis of TiO₂ based Photo Electro Chemical Cell," 2019 8th International Conference on Power Systems (ICPS), Jaipur, India, 2019, pp. 1-6, doi: 10.1109/ICPS48983.2019.9067690.
 - 19) Ruma Debnath, Ardhendu Saha, "Generation of A Controllable Nonlinear Phase Shift within LiNbO₃ by Electric Field Tuning in Low Power Laser Generation", 2020 2nd International Conference on Innovative Mechanisms for Industry Applications (ICIMIA), 5-7, March 2020.
 - 20) P. Choudhury, R.N.Ray, T.K.Bandyopadhyay. Modeling of power generation in single chamber microbial fuel cell using simulated wastewater in batch study: International Congress on Renewable Energy(ICORE), Kolkata, India 7-8 Jan 2020.
 - 21) Arijit Datta, Ardhendu Saha, "Enhanced Sensitivity of Multimode Interference Effect-based All-Fiber Salinity Sensor by Irradiating with Non-Gaussian Beam", 2020 2nd International Conference on Innovative Mechanisms for Industry Applications (ICIMIA), 5-7, March 2020.
 - 22) Rita Banik, Priyanath Das, Srimanta Ray and Ankur Biswas. An improved ANN model for prediction of solar radiation using machine learning approach, In ICCCIOT, Tripura University 3-4 Feb, 2020.
 - 23) Amit Chakraborty, Priyanath Das, Diptanu Dey, "Real Time Wind Turbine Performance Monitoring using IoT and Analysis of Aging Effect", 847th International Conference on Science, Technology and Management(ICSTM), Manchester, United Kingdom 18th-19th May, 2020. (Accepted, Conference postponed).
 - 24) Ankit Paul and Subhadeep Bhattacharjee, 'Performance analysis of a standalone PV system under dynamic weather and loading conditions-A case study' 4th International Conference on Inventive Systems and control (ICISC 2020), pp.256-260, IEEE, ISBN: 978-1-7281-2812-2.
 - 25) Rayappa David Amar Raj and Subhadeep Bhattacharjee, 'Short Circuit Fault Analysis of Three-Phase Grid Integrated Photovoltaic Power System', *Proceedings of Int. Conf. Power Electronics & IoT Applications in Renewable Energy and its Control (PARC)*, Mathura, India, 2020, pp. 231-236, doi: 10.1109/PARC49193.2020.236598.
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 - 27) Rayappa David Amar Raj and Subhadeep Bhattacharjee, 'An Inclusive Investigation of Potential Faults in Solar Photovoltaic Array', *IEEE Int. Conf. on Computer, Electrical & Communication Engineering (ICCECE 2020)*, Techno India University, Kolkata, West Bengal India, 2020.
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 - 31) Bikram Das, Aniruddha Bhattacharya, Debashis Chatterjee "Boost Modular Multilevel Converter's Capacitor Voltage Balancing without voltage sensors" 2020 IEEE International Conference on Power Electronics, Smart Grid and Renewable Energy (PESGRE 2020), India.
 - 32) Nikhilesh Panda, Bikram Das, Prabir Ranjan Kasari, Abanishwar Chakraborty "A Developed Eleven-Level Inverter Topology for Medium-Voltage Application" 2020 IEEE International Conference on Power Electronics, Smart Grid and Renewable Energy (PESGRE 2020), India.
 - 33) Diptanu Dey, Amit Chakraborty, Anurendra Singh, Priyanath Das, "Solar Cell Efficiency Enhancement Using Embedded Surface Plasmonic Nanoparticles in Various Medium" Intelligent Computing Applications for Sustainable Real-World Systems, vol. 13, pp. 146, 2020. doi: https://doi.org/10.1007/978-3-030-44758-8_14.

Book / Book Chapter Published:

Name of the Authors published	Title of the Books	Date of publication	Issue/ Volume No./ Page No
Dr. Subhadeep Bhattacharjee	Book Chapter on ' <i>Wind Power Technology</i> ' contributed for Sustainable Fuel Technologies Handbook (Elsevier).	Accepted	
Dr. Arvind Kumar Jain	Steady-State Analysis of Self-excited Induction Generator to Enhance Reliability in Isolated Mode, in a book entitled "Reliability and Risk Assessment in Engineering"	March 2020	ISBN 978-981-15-3746-2, Springer Singapore (2020)

Distinguished Visitors to the Departments:

Sl No	Name of the Visitors & Designation	Date of visit	Purpose of visit
1	Er. Bishwanath Bhattacharyya , Chairman, NCEPL	22 -24 April, 2019	To conduct grand viva Voce Examination of 8 th Semester Students.
2	Dr. P.K. Dutta Professor, Dept. of Electrical Engg. IIT Kharagpur	1 -2 May, 2019	M. Tech Examiner. Specialization: Instrumentation Engg.

3	Dr. Kishore Chatterjee Professor, Dept. of Electrical Engg. IIT Bombay,	2 – 3 May, 2019	M. Tech Examiner. Specialization: Power Electronics and Drive
4	Dr. C. K. Chanda , Professor, Dept. of Electrical Engg. IEST Shib	9 – 11 May, 2019	M. Tech Examiner. Specialization: Power System and Integrated Energy System
5	Dr. Shyamal Kumar Bhadra , Former Chief Scientist of CSIR- CGCRI and Emeritus Scientist (CSIR), Indian Association for the cultivation of Science, Kolkata	13 May, 2019	To conduct PhD Viva Voce Examination
6	Dr. Utpal Das . PhD (University of Michigan) Professor, Departement of Electrical	22 July, 2019	To conduct PhD Viva Voce Examination
7	Dr. Shyamal Kumar Bhadra , Former Chief Scientist of CSIR- CGCRI and Emeritus Scientist (CSIR), Indian Association for the cultivation of Science, Kolkata	31 July, 2019	To conduct PhD Viva Voce Examination
8	Dr. Girish K Singh , Professor Electrical Engineering Department, IIT Roorkee.	21 August, 2019	To conduct PhD Viva Voce Examination
9	Dr. P. Chaturvedi , Assistant Professor, VNIT Nagpur	30 Sept., 2019	To deliver Lecture in Short Term Course.
10	Prof. Sujit Kr Biswas Ex-Prof Jadavpur University, Vice Chair Technical Activities, IEEE India Council, Immediate Past Chairman, IEEE Kolkata Section, India.	1 October, 2019	To deliver Lecture in Short Term Course.
11	Dr. Kamalesh Hatua Designation: Assistant Professor, Indian Institute of Technology, Madras.	1 October, 2019	To deliver Lecture in Short Term Course.
12	Dr. Tanmoy Battacharjee , Assistant Professor, Electrical Engineering Department, IIT Kharagpur.	4 October, 2019	To deliver Lecture in Short Term Course.
13	Dr Tripta Thakur, Professor , EE Department, MANIT Bhopal (MP).	2 -6 December, 2019	To deliver Lecture in Short Term Course.
14	Dr Ranjan Behera, Associate Professor , EE Department, IIT Patna (Bihar).	2 -6 December, 2019	To deliver Lecture in Short Term Course.
15	Dr Abhijit Chakrabarty , Professor , EE Department, IEST Shibpur, (WB).	2 -6 December, 2019	To deliver Lecture in Short Term Course.

16	Dr Praveen Tripathi, Associate Professor, EE Department, IIT Guwahati (Assam).	2 -6 December, 2019	To deliver Lecture in Short Term Course.
17	Dr Arghya Mitra Assistant Professor, EE Department, VNIT Nagpur.	2 -6 December, 2019	To deliver Lecture in Short Term Courses.
18	Dr M.S. Kele, CMD, TSECL, Agartala, Tripura.	2 -6 December, 2019	To deliver Lecture in Short Term Course.
19	Er. Suranjan Sarkar, NEEPCO, Agartala, Tripura.	2 -6 December, 2019	To deliver Lecture in Short Term Course.
20	Dr. Urmila Kar, Prof. NITTTR, Kolkatta	18 January, 2020	NBA discussion
21	Dr. Krishnendu Chakroborty, Principal, Govt. College of Engg & Ceramic Technology	18 January, 2020	NBA discussion
22	Dr. Pradip Kumar Sadhu Professor & Head, Department Of Electrical Engineering, <u>Indian School of</u> <u>Mines</u> (Under MHRD, GOI).	20 February, 2020	To conduct PhD Viva Voce Examination
23	Dr. Debapriya Das, Professor Electrical Engineering, Indian Institute of Technology, Kharagpur,	13 March, 2020	To conduct PhD Viva Voce Examination

11.0 ELECTRONICS AND COMMUNICATION ENGINEERING DEPARTMENT

11.1 Introduction:

The Department of Electronics & Communication Engineering (E.C.E) was established in 2007 and Mr. Manik Bhowmik was the first H.O.D. of the then Electrical and Electronics Engineering (E.E.E). Since its inception the Department is growing in multidimensional direction in context to UG & PG teaching aspects. The department offers a wide range of courses which address almost the entire arena covering VLSI, Nano-electronics, Modern era of Communication, Fabrication and Characterization of Nano Scaled Devices, Image Processing, Advance Microwave Electronics, Bio-Signal Processing, Non-Linear System Science to mention a few. The department aims to create competent Electronic and Communication Engineers to serve the needs of modern advance technology and the nation as a whole. The department always updates the entire course curriculum on a regular basis after discussion with academicians from institute of national repute and technologists from various renowned organizations by which our students can compete with the best with respect to knowledge and ability in the business and face the modern challenges of today's Electronics and allied industries and institutions where change is the norm. Among all branches of Engineering Sciences, Electronics and Communication Engineering changes at extreme fast pace, so fast that which is brand new product for today becomes obsolete in the very next day with respect to science and engineering of this branch. Considering all the said aspects, the department possesses a qualified and experienced team of faculty members to carry out its legacy. The major thrust areas of the department are VLSI and Nano-Technology, Nano-Electronics, Microwave, Image Processing, Optoelectronics, Control Engineering and Communication Systems. The Department is deeply involved in multidimensional aspects of teaching and research under the able leadership of Dr. Sambhu Nath Pradhan, the present H.O.D. The Department offers PhD courses in Nano-electronics, Microwave, VLSI, and Image Processing, to name a few. The students of this branch have been placed in various reputed R&D organizations and eminent companies in India and abroad.



Fig 1: Basic Electronics Laboratory



Fig 2: MSDC Laboratory



Fig 3: Microwave Laboratory



Fig 4: Nanoelectronics Laboratory

11.2 Academic Programme:

The department of Electronics & Communication Engineering currently offers the following programmes:-

Under Graduate programme: B.Tech in Electronics & Communication Engineering (4 Years)

Post Graduate programmes: M.Tech (2 years) in two specializations-
(i) VLSI Design
(ii) Communication Engineering.

The Department also offers Ph.D courses in Nano-electronics, Microwave, VLSI, Image Processing, Bio-Signal Processing, to name a few.

11.3 Faculty and their Activities:

Sl. No.	Name of Faculty	Title	Period
Conference:			
1.	Dr. Abhishek Nag	"A Novel NOR gate based Dynamic Power Gating Technique in SRAM", accepted in 4th International Conference on Microelectronics, Computing and Communication Systems, Ranchi	11-12 May 2019

Fellowships of Academics and Professional Societies:

Sl. No.	Name of Faculty	Level	Year
ISTE/ CSI and others			
ISTE	Dr. Atanu Chowdhury	Member	Life time
ISI	Dr. Atanu Chowdhury	Member	Life time
IEI	Dr. Atanu Chowdhury	Associate Member	Life time
ISTE	Mr. Manik Bhowmik	Member	Life time
IEI	Dr. Tamasi Moyra	Member	Life time
IEEE	Dr. Tamasi Moyra	Member, IEEE	Upto 31 st December 2019
IEEE	Dr. Mitra Barun Sarkar	Member, IEEE	Upto 5 th March 2021
IEI	Dr. Mitra Barun Sarkar	Member (MIE)	Life time

11.4 Design and Development Activities:

SL. NO.	LABORATORY	MAJOR DEVELOPMENT
1	Embedded Systems Laboratory	Microcontroller Kit for Embedded Systems has been installed in the Embedded Systems laboratory in March 2020. Microcontroller Trainer Kit is the electronic trainer kit that help the students to gain hands on knowledge on microcontroller. Along with microcontroller, this kit is composed of different electronic ICs such as ADC, Motor Driver IC, LCD, Keypad, Memory and Relay Driver in order to learn about sensor integration, robotics motor control, AC appliances control as well as different access systems. Due to its simple and complete configuration, this kit is beneficial for both beginners as well as advance level.
2	Digital Signal Processing Laboratory	DSP Kit for Audio/Image/Video processing has been installed in the Digital Signal Processing laboratory in March 2020. DSP Kit takes real-world signals like voice, audio, video, or image that have been digitized and then mathematically manipulate them.
3	Control System Laboratory	Automatic spin coating system, Oil Free Vacuum Pump, PC Software Module has been installed in Control System Laboratory in November 2019. Spin coating System is used for applying thin films uniformly to substrates. The substrate is rotated at high speed to achieve the desired thickness of the coating material. Automatic spin coating system module is for establishment of MEMS Lab, has been installed for the time being in Control System Lab.
4	Examination Control Room, ECE Dept.	Multitasking Black and White Printer has been installed in the Office room in September 2020. Installed printer is used to print question papers, office printing activities and research related documents.

11.5 Research and Consultancy:*Sponsored Research Projects:*

Sl. No.	Title	Period	Funding Agency	Amount (in lakhs)	Co-ordinators
1	Design and Development of High Data rate Demodulator	2019-2021	ISRO	13	Dr. S. N. Pradhan (PI), Dr. T. Moyra (Co-PI), Mr. Anirban Bhattacharjee (Co-PI), Dr. Abhishek Nag (Co-PI)
3.	SMDP-C2SD	2014-2020	MeitY	130.1	Dr. S. N. Pradhan
4.	Knowledge Guided GIS based Hydro-	2019-2021	ISRO	21,04,100	Prof. Umesh Mishra (PI),

	geochemical modelling to understand the sources & control of Arsenic (As) contamination in Groundwater of Tripura.				Dr.Priyanka Choudhury (Co-PI) Dr.Susant Kumar Biswal (Co-PI)
6.	Applicability of Electromagnetic metamaterial in antenna and microwave circuits for use in space applications	2019-2021	ISRO	24,03,520	Dr. Tamasi Moyra (PI), Mr. Anirban Bhattacharjee (Co-PI),
7.	Design of microwave subsystems applicable for life detection system of North Eastern and other earth quake prone zones of India	2019 - 2020	TEQIP-III	3,00,000	Dr. Tamasi Moyra (PI)
8.	Synthesis of Indium (In) doped TiO ₂ nanowires for UV-Vis detector and fabrication of TFSC	2019 - 2020	TEQIP-III	3,00,000	Dr Mitra Barun Sarkar (PI)
9.	Development of an Integrated Miniature and Portable Air Pollution Monitoring System (APMS)	2019-2021	ISRO	24,43,520	Dr Mitra Barun Sarkar (PI)

Research Publications:

Total No. of papers published in Refereed International Journals : 26

Total No. of papers presented in International Conferences : 07

In Refereed International Journals:

1. Sambit Satpathy, Sanchali Das, Bidyut K. Bhattacharyya How and where to use super-capacitors effectively, an integration of review of past and new characterization works on supercapacitors Journal of Energy Storage 2020
2. Satpathy, Sambita, Swapan Debbarma, Aditya S. Sengupta, Bidyut K. Bhattacharyya, An integration of the review of electrode's materials and a new gamma function-based charging methodology of supercapacitor for high current applications. Materials Today: Proceedings. 2020
3. A. Debnath, H. Basumatary, A. Tarafdar, M.K.DebBarma, & Bidyut K. Bhattacharyya Center of mass and junction based data routing method to

- increase the QoS in VANET. AEU-International Journal of Electronics and Communications 108 36-44 2019
4. Das, S., Satpathy, S., Debbarma, S., & Bidyut K. Bhattacharyya Data analysis on music classification system and creating a sentiment word dictionary for Kokborok language. Journal of Ambient Intelligence and Humanized Computing, 1-12 2019
 5. Maiti, M., Majumder, A., Chakrabartty, S., Song, H., & Bidyut K. Bhattacharyya Modeling and analysis of a hybrid CS-CMOS ring VCO with wide tuning range. Microelectronics Journal 104752 2020
 6. Tarafdar, A., Bera, U.K, Bhattacharyya, B.K, Majumder, A Mathematical Understanding of a Data Reconstruction Methodology in Point-to-point Interconnect. IEEE VLSI Circuits and Systems Letter 6 2020
 7. Mondal, A. J., Talukdar, J., & Bhattacharyya, B. K. Estimation of frequency and amplitude of ring oscillator built using current sources. Ain Shams Engineering Journal. 2020
 8. Mondal, A. J., Talukdar, J., & Bhattacharyya, B. K Variation aware design of controlled voltage swing ring oscillator. International Journal of Electronics 10799-124 2020
 9. Das, Sanchali, Bidyut K. Bhattacharyya, and Swapan Debbarma. " Building a computational model for mood classification of music by integrating an asymptotic approach with the machine learning techniques. Journal of Ambient Intelligence and Humanized Computing 2020
 10. Satpathy, S, Dhar, Mili, & Bhattacharyya, B. K, Why Supercapacitor follows Complex time-dependent power law and does not obey normal exponential rule? Journal of energy storage (Accepted) 2020
 11. K. Das and S. N. Pradhan An Efficient Hardware Realization of EMD for Real-Time Signal Processing Applications International Journal of Circuit Theory and Applications 2020
 12. A. Das, Y. C. Hareesh, and S. N. Pradhan NSGA-II based Thermal-aware mixed polarity dual reed-muller network synthesis using parallel tabular technique Journal of Circuits, Systems, and Computers 29 (15) 2020
 13. K. Das, D. Nath and S. N. Pradhan FPGA and ASIC Realization of EMD Algorithm for Real-Time Signal Processing IET Circuits, Devices & Systems, Accepted 2020
 14. S. R. Choudhury and S. N. Pradhan DOTFloor-A Diffusion Oriented Time-Improved Floorplanner for Macrocells IEEE Access 7 172074-172087 2019
 15. A. Das and S. N. Pradhan Design Time Temperature Reduction in Mixed Polarity Dual Reed-Muller Network: a NSGA-II Based Approach Advances in Electrical and Computer Engineering 20 (1)99-104 2020
 16. A. Das and S. N. Pradhan An elitist non-dominated multi-objective genetic algorithm-based temperature aware circuit synthesis International Journal of Interactive Multimedia and Artificial Intelligence 2020
 17. A. Nag, S. Das and S. N. Pradhan Low Power FSM Synthesis Based on Automated Power and Clock Gating Technique Journal of Circuits, Systems, and Computers 28 1920003-1920021 2019
 18. A. Nag, S. Das and S. N. Pradhan Low Power Transistor Level Synthesis of Finite State Machines using Concurrent Power and Clock gating Techniques International Journal of Embedded Systems 13 431 -438 2020
 19. P. Choudhury, K. Manna, V. Rai and S. N. Pradhan Thermal Aware Partitioning and Encoding of Power Gated FSM Journal of Circuits, Systems, and Computers 28 (9)1950144-1-14 2019

20. Bikram Kishore Mahajan, Bijit Choudhuri, Debkalpa Goswami, Ajitabh Kumar Tiwari, Mitra Barun Sarkar, Aniruddha Mondal Enhanced Photodetection with Crystalline Si Nanoclusters. *Journal of Nanoscience and Nanotechnology* 20 (4) 2344-2350 2019
21. Amitabha Nath, Rahul Raman, Vinit Kumar Yadav, Pudi Sannibabu, Mitra Barun Sarkar Bandgap Modulation of Glancing Angle Deposition Aided Ag Nanoparticles Covered TiO₂ Thin Film by High Temperature Annealing. *Journal of Nanoscience and Nanotechnology* 20 (12) 7636-7643 2020
22. Sarbani Sen, Tamasi Moyra A Compact Microstrip Lowpass Filtering Power Divider with Wide Harmonic Suppression *IET Microwaves, Antennas & Propagation* 13 2026-2031 2019
23. Sarbani Sen, Tamasi Moyra, Compact Low Cost Microstrip Lowpass Filter with Sharp Roll-off and Wide Attenuation Band *International Journal of RF and Microwave Computer-Aided Engineering (Wiley)* 29 1-9 2019
24. Deb, P. K., Moyra, T., & Bhattacharyya, B. K. Design of compact wideband 90° Schiffman phase shifter incorporating CSRR. *Electromagnetics*, 40 207-216 2020
25. Sarbani Sen, Tamasi Moyra, Design of a Low cost Compact Elliptic Function LPF using Open Circuited Stubs *Advances in Modelling and Analysis C, IIETA* 74 33-36 2019
26. Rinku Rani Das, Atanu Choudhury, Apurba Chakraborty, Santanu Maity, Impact of stress effect on triple material gate step-FinFET with DC and AC analysis, *Microsystem Technologies*, Springer [https://doi.org/10.1007/s00542-019-04727-2\(0123456789](https://doi.org/10.1007/s00542-019-04727-2(0123456789) DEC 2019

In Proceedings of International Conference:

1. A. Nag, K. R. Reddy, N. Majumder, E. Debbarma and S. N. Pradhan , A Novel NOR gate based Dynamic Power Gating Technique in SRAM 4th International Conference on Microelectronics, Computing and Communication Systems Ranchi, Jharkhand-10-12 May 2019
2. Vinit Yadav, Vinod Yadav, Rahul Raman, Mitra Barun Sarkar, Investigation of Band Gap Tailoring Phenomenon in In NP and TiO₂ NW Heterostructure, International Conference on Emergent Research in Mathematics and Engineering, NIT Agartala -17-18 May 2019
3. Vinit Kumar Yadav, Nath, Amitabha Nath, Rahul Raman, Priyanka Choudhury; Mitra Barun Sarkar GLAD Assisted In₂O₃ NW-TiO₂ NW Heterostructure for Enhanced UV-Vis Absorption. *Microelectronics, Computing & Communication Systems (MCCS-2019)*, Ranchi, Jharkhand-10-12 May 2019
4. Amitabha Nath, Rahul Raman, Mitra Barun Sarkar, Visible Range Photodetection using Annealed Ag Nanoparticles Coated Titania Heterostructure International Conference on "Water, Energy and Biodiversity (WEB) for Sustainable Development of BIMSTEC Countries" Institute of Engineers (INDIA), Tripura State Centre- 12-14 December, 2019
5. Naveen Bhati, Amitabha Nath, Rahul Raman, Jayanta Kumar Rakshit, Mitra Barun Sarkar, A Review Paper on Recent Trends of Solar Cell Technology, Materials and Efficiencies International Conference on "Water, Energy and Biodiversity (WEB) for Sustainable Development of BIMSTEC Countries" Institute of Engineers (INDIA), Tripura State Centre - 12-14 December, 2019
6. Rahul Raman, Amitabha Nath, Mitra Barun Sarkar, Comparison of Photodetection Capability of Spin Coated TiO₂ Thin Film and In₂O₃ Thin Film

Devices. International Conference on Soft Computing Theories and Applications, NIT Patna 1154-555-563, 27-29 December, 2019

7. S. R. Choudhury, P. S. Srinivas and S. N. Pradhan , MMaSA – a Modified Matrix Synthesis Approach for Thermal Aware Gate Array Placement, International Conference on Microelectronics, Computing & Communication Systems (MCCS-2019), Ranchi.-11-12th May-2019

Distinguished Visitors to the Departments:

Sl. No.	Name of the Visitors and Designation	Date of Visit	Purpose of Visit
1	Dr. Prabin K. Bora, Professor, IIT Guwahati	15 May 2019	M.Tech Communication Viva-Voce
2	Dr. Harshal Nemade, Professor, IIT Guwahati	17 May 2019	M.Tech VLSI Design Viva-Voce
3	Dr. Geetha Bali, Professor, Moulana Azad National Institute of Technology, Bhopal		
4	Dr. Rajat Gupta, Director NIT Mizoram, Aizawl	21 October 2019	Academic Audit
5	Dr. V. Jagadeesh Kumar, Dean Academic Courses, IIT Madras, Chennai		
6	Alok Singh Chairman, Novatium Solutions Pvt. Ltd. Chennai.		

12.0 ELECTRONICS AND INSTRUMENTATION ENGINEERING DEPARTMENT

12.1 Introduction:

The department of Electronics and Instrumentation Engineering (EIE) has been in existence since July 2009 with its first batch graduating in May 2013. The undergraduate course provides a dynamic foundation to the students in EIE. The department aims to create competent Electronic and Instrumentation Engineers to serve the needs of modern advance technology and the nation as a whole. The department is supported by various well-equipped laboratories to meet the requirement of the undergraduate students. The department offers a wide range of courses which address almost the entire arena covering Advanced Control System, Nano-electronics, Modern era of Instrumentation, Signal Processing to mention a few. The Department has five (5) qualified and experienced faculty members and five (5) staff members to develop highly competing young engineers, scientist and management professionals of International standard. Best endeavor is always being put forward for the recruitment of qualified and competent faculty members from all over the country to achieve all round growth at par with any other famous Institute. The students of this branch have been placed in various reputed R&D organizations and eminent companies in India and abroad.



Fig.: Department of Electronics and Instrumentation Engineering

12.2 Academic Programme:

The department currently offers the following programmes:

1. Under Graduate Programme (B.Tech) in Electronics and Instrumentation Engineering for 4 Years
2. PhD in Electronics and Instrumentation Engineering



Fig: Some photos of laboratory equipments.

12.3 Research and Consultancy:

Sponsored Research Projects:

Sl. No.	Title	Period	Funding Agency	Amount (in lakhs)	Coordinators
01	Finding Suitable Ionospheric Precursors for Earthquakes for North Eastern Region	24 months w.e.f. 3 rd September 2019	ISRO	10.18400	PI: Dr. Jayanta Kr. Rakshit, Co-PI: Dr. Paritosh Bhattacharya

Research Publications:

Total No. of papers published in Refereed International Journals : 11

Total No. of papers presented in International Conferences : 05

In Refereed International Journals:

1. D. Nath, P. Dey, A.M. Joseph, J.K. Rakshit and J.N. Roy Journal of Alloys and Compounds 30 January 2020 815, 152401.

2. U. Biswas, J.K. Rakshit, and G. K. Bharti, Optical and Quantum Electronics 1 January 2020 52 (1), 19
3. G. K. Bharti, U. Biswas, J.K. Rakshit, Optoelectronics and Advanced Materials- Rapid Communications, 1 July 2019 13(7-8), 407-414.
4. G.K. Bharti, J.K. Rakshit, M.P. Singh, P. Yupapin Journal of Nanophotonics.11 July, 2019. 13 (3), 036002.
5. G. K. Bharti, J. K. Rakshit, M. P. Singh. Silicon.9 September, 2019. 12, 1279–1288
6. Rituraj Bhattacharjee, Priyanka Dey, Ardhendu Saha, Optik February 2020 DOI: <https://doi.org/10.1016/j.ijleo.2019.163704>
7. Rupam Gupta Roy & Dibyendu Ghoshal, Robotica, November 2019 DOI: <https://doi.org/10.1017/S0263574719001620>
8. Rupam Gupta Roy & Dibyendu Ghoshal, Engineering Computations, November 2019 DOI: <https://doi.org/10.1108/EC-03-2019-0088>
9. Rupam Gupta Roy & Dibyendu Ghoshal, Adaptive Behavior, October 2019 DOI: <https://doi.org/10.1177/1059712319882105>
10. Girish V Lakhekar, Laxman M Waghmare, Rupam Gupta Roy, IEEE transactions on intelligent vehicles, August 2019 DOI: <https://doi.org/10.1109/TIV.2019.2938082>
11. Aparupa Kar, Nabamita Goswami, Ardhendu Saha, Applied Optics 2019, 58, 9376

In Proceedings of International Conference:

1. 2019 International Conference on Electrical, Electronics and Computer Engineering (UPCON) Zakir Husain College of Engineering and Technology, Aligarh Muslim University, Aligarh, India Singh, M. P., Bharti, G. K., Rakshit, J. K., & Biswas, U. 8th-10th November, 2019.
2. Seventh International Conference on Optical and Photonic Engineering (icOPEN 2019). Phuket, Thailand Bharti, G. K., & Rakshit, J. K. 16th-20th July, 2019.
3. International Conference on Innovation in Modern Science and Technology (ICIMSAT 2019) Siliguri Institute of Technology, Siliguri, Meghalaya, India. Biswas, U., Bharti, G. K., & Rakshit, J. K. 20th-21st September, 2019.
4. International Conference on Optics & Electro-Optics (ICOL-2019) (Presented) Dehradun, Uttarakhand, D. Nath, P. Dey, J. K. Rakshit and J. N. Roy October 19 – 22, 2019
5. International Conference on Condensed Matter Physics (IEMPHYS19) Institute of Engineering & Management, Kolkata, India Aparupa Kar, Nabamita Goswami, Ardhendu Saha November 14-16, 2019

13.0 DEPARTMENT MANAGEMENT, HUMANITIES & SOCIAL SCIENCES

13.1 Introduction:

The Department of Humanities & Social Sciences had co-existed with NIT Agartala since the birth of NIT Agartala, i.e. when the erstwhile Tripura Engineering College was converted to National Institute of Technology Agartala on 01.04.2006. The Department was established with an objective of making an engineer enlightened with adequate knowledge of his/her surroundings. The approach of the Department had always been interdisciplinary. The Department offered undergraduate courses in Economics, Costings, Management Principles and Communicative Skills Development. Besides that, it encouraged the students to actively take up research in various fields of Humanities and Social Sciences. The Ph.D. programme of the Department was introduced to serve that very purpose. The School of Management started its operation since July 2012. It had been established to meet the growing aspirants of Techno Managers in the country specially to meet the demand of North Eastern Region of the country. The School of Management was offering Masters of Business Administration programme (Full Time) and Ph.D. programme in management.

The Department of HSS (Humanities and Social Sciences) and SoM (School of Management) have been merged into Department of Management, Humanities & Social Sciences with effect from the academic session 2019-2020. The Department of Management, Humanities & Social Sciences was established with an objective of making an engineer enlightened with adequate knowledge of his/her surroundings. The approach of the Department is interdisciplinary.

The Department of Management, Humanities & Social Sciences has a language communication skills and multimedia lab which is developed in collaboration with CACM, IIT Kharagpur. The lab which functions on a carefully designed software ISILS WIRELESS interconnects all the students in the classroom with an integrated and active mode of learning, facilitating spontaneous interaction among the students themselves along with the instructor. The lab offers beyond the traditional lecture-based mode of learning and aims at rendering an interactive classroom atmosphere with technological support to help students come to terms with the anxiety of second language learning and channelize their latent linguistic competence into developing communication skills.



Language LAB

The Department of Management, Humanities and Social Sciences (MHSS) also has a well equipped Computer Laboratory. In this Lab, students perform practical works in various subjects like IT and Business Skills, Finance, marketing and so on. Students also perform research work in this computer lab. The Lab is also equipped with a web camera and internet facility for interview purposes.



Computer LAB

13.2 Academic Programme:

The Department offers undergraduate courses to B.Tech students in Economics, Costing, Management Principles, Management, Business Communication and Communicative Skill Development and full time graduate programme in Management. Besides that, it encourages the students to actively take up research in various fields of Humanities, Social Sciences and Management.

The department is offering two year (four semesters) full time MBA programme. This Programme is providing an in-depth understanding to students in technical, human and conceptual skills, necessary for a successful manager with specialization in different areas like Finance, Marketing, Human Resource and System. The teaching strategy for this programme is oriented towards the application of knowledge with live cases and teaching aids. There is a six-week Summer Internship Programme (SIP) for students, after completion of first year course to develop business acumen. The Department facilitates students to undergo paid internships in various reputed government and private organizations viz. RBI, NEDFi, SBI, NABARD, ONGC, HDFC, ITC, Senrysa Technologies Pvt. Ltd. etc.

The Ph.D programme of the Department in Economics, Literature and Management has been introduced to serve that very purpose. Along with these diverse academic departments, the Department is home to a wide variety of interdisciplinary collaborations, path-breaking research projects, and unique areas of study. The ultimate objective of any education system is to produce human capital who will be responsible citizen, besides excelling in his/her own domain. To produce a complete technocrat, only technical knowledge seldom serves the purpose. He/She has to be socially aware with a compassionate human faculty.

13.3. Faculty and their Activities:

Short-Term Courses/ Workshops/ Seminars/ Symposia/ Conferences/ Training attended by the Faculty in Academic Institutions and Public Sector Undertakings:

Sl. No.	Name of Faculty	Title	Period
Workshop:			
1.	Dr. Anuradha Nongmaithem	Communication Skill and Career Development	30 th May, 2019
2.	Dr. Anuradha Nongmaithem	Importance of Soft Skills for Primary and High School Teachers	23 rd December, 2019
Conference:			
1.	Dr. Gyanabati Khuraijam	Amitav Ghosh's Gun Island: A Historical Panorama of Human Migration and Identity of Refugees in the Contemporary Era. International Conference on Interdisciplinary: Intersections of Literature and History for Social and Cultural Change. Organized by Department of Humanities & Social Sciences, NIT Meghalaya.	19-20 October, 2019
2.	Dr. Gyanabati Khuraijam	Humanizing History: Svetlana Alexievich's Novels in Voices. International Conference on Interdisciplinary: Intersections of Literature and History for Social and Cultural Change. Organized by Department of Humanities & Social Sciences, NIT Meghalaya.	19-20 October, 2019
3.	Dr. Gyanabati Khuraijam	Salman Rushdie's <i>Quihotte</i> and the Age of Anything can Happen International Conference on Interdisciplinary Studies: Redefining Boundaries of Humanities. Organized by -Science and Social Sciences, English Literary Circle and Manipur University Students' Union.	22-23 November, 2019
4.	Dr. Gyanabati Khuraijam	Negotiating Cultural Spaces Through Spaces. International Conference on Language and Translating: Within and Beyond. Organized by Department of Humanities and Social Sciences, Indian Institute of Technology, Patna.	21-23 February, 2020
5.	Dr. Gyanabati Khuraijam	Role of Non-Verbal Cues in Creating an Effective Means of Communication. International Conference on Role of Language, Literature and Culture in Nation Building. Organized by Department of Humanities & Social Sciences, NIT	22-23 February, 2020

		Raipur.	
6.	Ms. Jayashree Tripura	Amitav Ghosh's <i>Gun Island: A Historical Panorama of Human Migration and Identity of Refugees in the Contemporary Era.</i> International Conference on Intersections of Literature and History for Social and Cultural Change COIN 2019. Organized by Humanities and Social Sciences, Dept. NIT Meghalaya, India.	19-20 October, 2019
7.	Ms. Jayashree Tripura	Negotiating Cultural Spaces through Language: A Comparative Study of Amitav Ghosh's <i>Sea of Poppies</i> and Salman Rushdie's <i>The Enchantress of Florence</i> International Conference on Languaging and Translating: Within and Beyond. Organized by HSS Dept. IIT Patna, India.	21-23 February, 2020
8	Ms. Jayashree Tripura	Role of Non-verbal Cues in Creating an Effective Means of Communication. National Conference on Role of Language, Literature and Culture in Nation Building. Organized by HSS Dept., NIT Raipur , India.	22-23 February, 2020
Seminar:			
1.	Dr. Anuradha Nongmaithem	Nupi Lan Past and Present	12 th December, 2019
2.	Dr. Anuradha Nongmaithem	The Challenges of Tribal Students in Higher Studies: A Perspective	10-11 January, 2020
Short term Course: 01			
1.	Dr. Anuradha Nongmaithem	Annual Refresher Programme In English Language Teaching.	Oct. 2019 to Feb. 2020

13.4 Research and Consultancy:

Sponsored Research Projects:

Sl. No.	Title	Period	Funding Agency	Amount (in lakhs)	Co-ordinators
1	Skill Development in Tripura: Analysis on Problems, Challenges and Opportunities"	1 Year	ICSSR	4.50	Dr. Anirban Dutta

Industrial Consultancy:

Sl. No.	Name of the Faculty	Title	Industry	Amount
1.	Dr. Debasis Neogi (PI)	Challenges for Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY): A Study on Skill Gap Analysis in respect of the state of Tripura	Department of Rural Development, Govt. of Tripura	INR 5.00 lakhs

Research Publications:

Total No. of papers published in Refereed National Journals :01
 Total No. of papers published in Refereed International Journals :09
 Total No. of papers presented in National Conference : Presented-02
 Total No. of papers presented in International Conferences : Presented-08
 Total No. of Books published :Book Chapters=03

In Refereed National Journals:

1. Anuradha Nongmaithem, 'Voices of Women Writers in Manipuri Literature: A Perspective', Our Heritage, 10814-10818 (2020)

In Refereed International Journals:

1. D. Neogi and A. B. Chowdhury, 'Does International Trade Always Impact Significantly the Real GDP Per Capita? A study on BIMSTEC Countries Using Dynamic Panel Data', Journal of Academic Research in Economics, 11, 355-363, (2019).
2. J. Chakraborti, A. Dutta and S. Sharma, 'Digital Marketing Adoption among Start-UPS in Chandigarh Tricity – A Research Analysis Based on Technology Adoption Model (TAM)', TEST Engineering & Management, 83, 16673-16680, (2020).
3. S. Saha, A. Dutta and A. Chowdhury, 'Analytical Perspective of Service Gap and Factors of Service Quality in Indian Life Insurance Industry', International Journal of Banking, Risk and Insurance, 7, 1-12, (2019).
4. S. Saha and A. Dutta, 'Influencing Factors of Service Quality Perception in Indian Life Insurance Sector', Global Business Review, 20, 1010-1025, (2019).
5. A. Gope and G. Khuraijam, 'Dynamics of Politics and Poetics of Home: A Study of Manju Kapur's Home', Space and Culture, 7, 14-28, (2019).
6. R. Mallik, 'Regulated Agricultural Markets in 21st Century: An Outline of their Future Role in Tripura', Restaurant Business, 118, 625-636, (2019).
7. R. Mallik, 'Performance of Agricultural Regulated Markets in Tripura-A Quest for Rapid Development', International Journal of Recent Technology and Engineering, 8, 3219-3228, (2019).
8. A. Nongmaithem, 'A Study of Alice Munro's 'The Bear Came over the Mountain'', SSRG International Journal of Humanities and Social Sciences, 6, 63-66, (2019).
9. A. Nongmaithem, 'Life Work, Society: A Conversation with Prof N. Tombi Singh', International Journal of Research Cultural Society (IJRCS), 3, 71-74(2019).

Books Published: Book Chapters-03

Name of the Authors published	Title of the Books	Date of publication of the Book	Issue/ Volume No./ Page No.
Sonit Dutta and Mili Kar	Growth and Prospects of Micro, Small and Medium Enterprises in India (Book Chapter). Book Title- Entrepreneurship Today: A Case Study Approach	2019	pp 39-54
Anuradha Nongmaithem	Love, Lust, Power and Politics: A Study of Vijay Tendulkar's GhashiramKotwal (Book Chapter) Book Title: Recent Trends in Literature and Language.	2019	pp. 200-213.
Uma, Khuraijam Devi and Gyanabati Khuraijam	Need for Women Empowerment in Rural Sector for Sustainable Development (Book Chapter) Book Title-Transforming Leadership: Social & Environmental Justice in Global.	2019	PP.193-205

Distinguished Visitors to the Departments:

Sl. No.	Name of the Visitors and Designation	Date of Visit	Purpose of Visit
01	Mr. Alok Chaudhury, Chief Manager, Regional Office, United Bank of India	07/11/2019	Guest Speaker in Corporate Lecture Series.
02	Mr. Shahid Zaman , Cluster Head- North East HDFC Asset Management Company.	08/11/2019	Guest Speaker in Corporate Lecture Series.

13.5 Institute – Industry Collaboration:

One day industrial visit was arranged for the MBA students on 13th March, 2020 at North Eastern Electric Power Corporation Limited (NEEPCO), Monarchak, Sonamura in the Sipahijala district of Tripura to enable the students to get the insight of the various managerial and operational activities of this power plant.

13.6 Other Activities: All dedicated faculty members of the department are deeply involved in academic, research and administrative responsibilities of the Institute.

14.0 MECHANICAL ENGINEERING DEPARTMENT

14.1 Introduction

The Department of Mechanical Engineering at NIT Agartala was formed in 1965, when the institute started as a State Engineering College by the name of Tripura Engineering College. Currently, the department has more than 375 students in the B. Tech programme, 55 students in the M. Tech programme and 53 scholars in the Ph. D programme, which are supported by 26 faculty members and 20 staff.

The Mechanical Engineering Department of NIT Agartala is privileged to be commemorating a distinguished legacy of half a century of devotion pledged to the cause of higher education in our Nation from its inception in 1965 along with the foundation of the erstwhile Tripura Engineering College itself. Starting out with a modest beginning, it now boasts of a large fraternity whose continuous and indefatigable effort to this day have earned itself numerous coveted and prestigious achievements. The department disseminates its academic scope through its B. Tech. and M. Tech curriculum through the specialization of Thermal Science and Engineering, Automotive Engineering, Manufacturing Technology and Machine Design supported by 15 State-of-the-art research laboratories catering to the various facets of research interests, the department envisages the importance and relevance of live industrial problems in its PhD curriculum. A new M. Tech. programme namely Material Science and Engineering has been introduced from the academic session 2020-21 in collaboration with VNIT Nagpur. Such a perspective to the necessities to be adaptive to the contemporary needs of global engineering interests have resulted in unprecedented recognition of its research potential evident from its research publications in eminent peer reviewed journals, patent filings and several ongoing sponsored research projects and consultancy endorsements from various Govt. and non-Govt. concerns.

Our Nation's transition to a knowledge-based economy is requiring a new generation of educated and skilled workforce for innovation and sustainable growth. Its competitive edge is being determined by our ability to create, share, and use knowledge effectively. The frontiers of a higher education system are increasingly being challenged to remain contemporary to the needs of the global requirements. Rapidly changing global technological requirements with ever decreasing timescales of deployment, liberalization of our nation's industry along with increased social and environmental obligations are challenging the very framework of our contemporary technical education system to provide an industry ready taskforce. To be proactive rather being reactive to the demands of the present and future requirements, the Mechanical Engineering Department of NIT Agartala envisage a plan of action that is multi-faceted and is delivering its objectives through contemporary and innovative models of education using the best of all forms of technology, relevant and appropriate to regional expectations and preferences. Extensive use of ICT based efforts are being put in place to augment and enhance such training that will focus on identifying, developing, promoting, honing and sustaining the inherent skills of our budding engineering and technical professionals. It is through such initiatives that we endeavor to prepare our students both at the Under-graduate and Post-graduate level to be industry ready in the present era of emerging multidisciplinary career opportunities. The Mechanical Engineering Department realizes its pivotal role in providing a firm foundation in mathematical, scientific and engineering fundamentals to its students which is essential to comprehend, analyze, design

and create innovative and novel solutions to real life engineering problems that they are destined to encounter in their professional career. It has also been our fundamental aspiration to inculcate the values of professionalism and ethics in our students coupled with effective communication and multidisciplinary skills to empower them with a strategic advantage on the platform of lifelong learning and innovation. Furthermore, our societal responsibilities have been continuously increasing. To meet these expectations, team effort and a dynamic work culture is the need of the hour. The department realizes that enthusiasm, diligence and commitment as the virtues that will guide our students to adapt to these continuously changing expectations and help them embark on a road of sustained excellence. Committed with a vision to produce high quality Mechanical Engineers with techno-managerial ability to contribute in Industry and Research areas maintaining professional ethics and values, the Mechanical Engineering Department envisages a mission to create knowledge through research in the science and technology of mechanical engineering by developing an effective platform to share knowledge through educational programmes and the dissemination of new discoveries. The Mechanical Engineering Department of NIT Agartala envisions to develop the professional potential of faculty, staff, and students by offering an inviting, nurturing, and challenging environment. This is responsive to the intellectual, social, and cultural needs of a diverse learning community. The Department advocates a research portfolio encompassing traditional areas of mechanical engineering, as well as emerging and interdisciplinary ones in order to foster creativity and critical thinking skills through innovative research and design experiences. Awarded with the coveted and prestigious NBA (National Board of Accreditation) accreditation for 3 years for Under-graduate Courses, the Mechanical Engineering Department with such a depth of its vision and mission, seeks to achieve its cherished goals of creating an edifice of excellence in research and consultancy and to harmonize the values of social upliftment through ethical and conscientious pursuance of the commitments of engineering and technical education.

The major research areas include advanced/non-traditional machining processes, aerodynamics, bearing design, CAD/CAM, combustion, composites, computational contact impact analysis, computational fluid mechanics, computational mechanics, convection, refrigeration systems, energy conservation fatigue, wear and failure analysis, finite element methods, fracture mechanics, heat transfer, internal combustion engines, materials processing and characterization, metal casting, metal forming, multi-phase flows, nano-fluids, propulsion, renewable energy, robotics, rotor dynamics, soft computing in design and manufacturing, welding, tribology, turbo machines, turbulence, vibration etc.

Vision of the Department:

To produce the bright young Professionals of Mechanical Engineering Sciences by providing excellent Teaching Learning Facilities with entrepreneurial skills for meeting the societal needs.

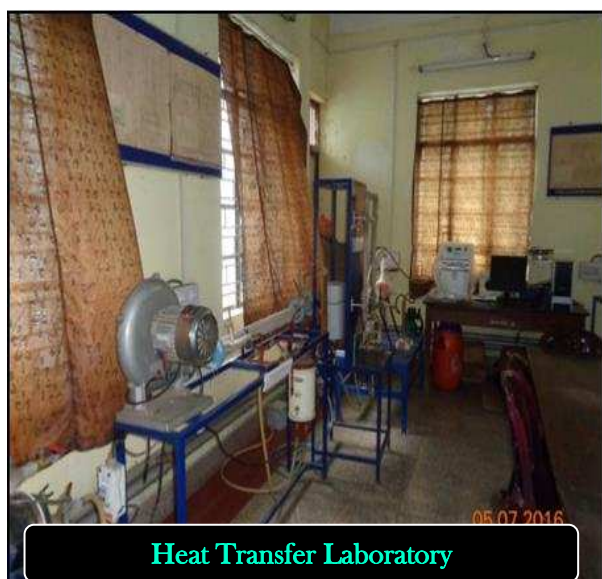
Mission of the Department:

- i. To develop professional attitude so that the students may develop and sustain their skills as Mechanical Engineer.
- ii. To provide Mechanical Engineering Expertise to Industry, government and society.
- iii. To make good human beings possessing Professional Ethics.

- iv. To make responsible citizens with social commitment to foster Research and attitude for development.
- v. To participate in all round development of the region.







14.2 Faculty and their Activities:

Short-Term Courses/ Workshops/ Seminar/ Symposia/ Conferences organized by the faculty members:

Sl. No.	Co-ordinators	Title	Period
Short Term Course			
1	Dr. Madhujit Deb & Dr. Sagnik pal	Value Analysis-An Ethical vision on Engineering Prospects	27 th -31 st May, 2019
2	Dr. Dipak Chandra Das & Dr. Pritam Das	"Computational Techniques in Heating and Cooling Systems"	03 rd -07 th June, 2019
3	Dr. P. Jawahar & Dr. Sagnik Pal	Advanced Materials Manufacturing and Measurements	23 rd to 27 th September, 2019
4	Dr. Dipak Chandra Das, Mr. Arindam Majumder & Dr. Pritam Das	"Optimization Techniques in Multidisciplinary Research"	25 th -29 th November, 2019
Conference			
1	Dr. Swapan Bhaumik Co-Chairman	International Conference on Water, Energy and Biodiversity for Sustainable Development of BIMSTEC Countries (WEB- for BIMSTEC2019)	December 12-14 2019.

Short-Term Courses/ Workshops/ Seminars/ Symposia/ Conferences/ Training attended by the Faculty in Academic Institutions and Public Sector Undertakings:

Sl. No.	Name of Faculty	Title	Period
Workshop:			

1.	Dr. Dipak Chandra Das	"Advanced Materials, Manufacturing and Measurements"	23 rd – 27 th September, 2019
2.	Dr. Dipak Chandra Das	"Value Analysis – An Ethical Vision on Engineering Prospects"	27 th -31 st May, 2019
3	Dr. Ashis Acharjee	"Computational Techniques in Heating and cooling systems"	03-07 June, 2019
4	Dr. Ashis Acharjee	"Advanced Materials, Manufacturing and Measurements"	23-27 September, 2019
5	Dr. Ashis Acharjee	"Value Analysis- An Ethical vision on Engineering prospects"	27-31 May, 2019
6	Dr. Sagnik Pal	"Optimization Techniques in Multidisciplinary Research"	25th -29th November, 2019
7	Dr. Sagnik Pal	"Computational Techniques in Heating and Cooling Systems"	03rd -07th June, 2019
8	Dr. Pinku Debnath	"Value Analysis–An Ethical Vision on Engineering Prospects"	27 th to 31 st May, 2019
9	Dr. Pinku Debnath	"Computational Techniques in Heating and Cooling Systems"	03 rd to 07 th June, 2019
10	Dr. Pinku Debnath	"Advanced Materials, Manufacturing and Measurements"	23 rd to 27 th September, 2019
11	Durbadal Debroy	"Computational Techniques in Heating and cooling systems"	03-07 June, 2019
12	Durbadal Debroy	"Value Analysis- An Ethical vision on Engineering prospects"	27-31 May, 2019
13	Dr. Barnik Saha Roy	Computational Techniques in Heating and Cooling Systems	3 rd -7 th June, 2019
14	Dr. Barnik Saha Roy	Advanced Materials, Manufacturing and Measurements	23rd – 27th September, 2019
15	Dr. Barnik Saha Roy	"Optimization Techniques in Multidisciplinary Research"	25th -29th November, 2019
16	Dr. Manish Bhargava	Advanced Materials and Manufacturing Measurements	23 rd to 27 th September 2019
17	Dr. Manish Bhargava as a Resource person	Skilled Development in Education, Vision -2020	24 th to 28 th February 2020
18	Dr. Rahul Banerjee	"Optimization Techniques in Multidisciplinary Research"	25th -29th November, 2019
19	Dr. Rahul	"Computational Techniques	03-07 June, 2019

	Banerjee	in Heating and cooling systems"	
20	Dr. Ankuran Saha	Computation Techniques in Heating and Cooling Systems	3 rd June 2019 – 7 th June 2019
21	Dr. Ankuran Saha	Advanced Materials, Manufacturing and Measurement	23 rd September – 27 th September 2019
22	Arindam Sinha	"Value Analysis- An Ethical vision on Engineering prospects"	27-31 May, 2019
23	Arindam Sinha	"Computational Techniques in Heating and cooling systems"	3 rd June 2019 – 7 th June 2019
24	Arindam Sinha	"Advanced Materials, Manufacturing and Measurements"	23 rd September – 27 th September 2019
Conference:			
1.	Dr. Ashis Acharjee	"Emergent Research in Mathematics and Engineering"	17-18 May, 2019
2.	Dr, Manish Bhargava	Relevance of Quality Control and Improvement Tools for Reduction in the Rejection of Deep Groove Ball Bearing	2 nd International Mechanical Engineering Congress (IMEC) – 2019, NIT Trichi, 29 th Nov to 1 st Dec 2019
3	Dr, Manish Bhargava	Development of mathematical model and process optimization of deep groove ball bearing.	International Conference on Recent Advancement in computer & Management at Jagannath Univ. Jaipu Springer, Elsevier SSRN 13-14 April 2019
4	Dr. Manish Bhargava	Design & Development of a Device to Reduce the Bearing a load & Work done of the labour for various loading conditions	2 nd International Conference on Recent Innovations & Technological Development in Mechanical Engineering at JECRC Jaipur, 5 th to 7 th April 2019
5	Arindam Majumder	The International Conference on Machine Intelligence and Signal Processing (MISP-2019), Indian Institute of Information Technology, Allahabad, India	September 7-10, 2019
6	Dr. Ajay	International Conference on	22 nd -23 rd June,

	Biswas	Contemporary Issues in "Engineering, Agriculture, Applied Sciences and Humanities (EAH-2019) held at NIT, Srinagar, Jammu and Kashmir.	2019
7	Dr. Ajay Biswas	International Conference on Precision, Meso, Micro and Nano Engineering held at Indian Institute of Technology Indore, Madhya Pradesh.	December 12-14, 2019
Short Term Course:			
1.	Dr. Ashis Acharjee	"Recent Advances in Material Science & Engineering"	19-23 August, 2019
2.	Dr. Ashis Acharjee	"Clean Energy Technologies"	10-14 June, 2019
3	Arindam Sinha	"Recent Advances in Material Science & Engineering"	19 th -23 rd August, 2019

Visits Abroad by Faculty:

Sl. No.	Name of Faculty	Country Visited	Date	Purpose of Visit
01	Dr. Swapan Bhaumik	Japan	May 15-17, 2019	To attend and present the technical paper in the 5th International Conference on Polygeneration (ICP2019) held at Mechanical Engg. Department of Kyushu University, Fukuoka, Japan
02	Dr. Swapan Bhaumik	Qatar	September 25-27, 2019	To attend the IEI Centenary International Engineering Congress on "Smart Engineering - State of the Art Technologies in Oil & Gas and Infrastructure Development" at Doha, Qatar as a Delegate of Institution of Engineers (India)

Honours and Awards obtained:

Sl. No.	Name of Faculty	Name of Award	Awarded by	Award for	Date
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01	Dr. Ashis Acharjee	Best Research Paper Presenter Award	ICERME-2019	Best presentation of research paper	17-18 May, 2019
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Fellowships of Academics and Professional Societies:

Sl. No.	Name of Faculty	Level	Year
01	Dr. SwapanBhaumik	Elected as Chairman, Committee for Advancement of Technology and Engineering (CATE) The Institution of Engineers(India) (IEI)	2020

14.3 Research and Consultancy:

Industrial Consultancy:

Sl. No.	Name of the Faculty	Title	Industry	Amount (Rs)
1	Dr. Ankuran Saha & 10 other Team Members	Consultancy work of 384081 No of Girls Bicycles.	School Education Department, Government of Tripura	716904.00

Research Publications:

Total No. of papers published in Refereed International Journals	:	45
Total No. of papers presented in National Conference	:	02
Total No. of papers presented in International Conferences	:	38
Total No. of Books (chapter) published	:	04
Total No. of patents	:	02(submitted)

In Refereed International Journals:

1. Suman Dey, Madhujit Deb, Pankaj Kumar Das, Title: Application of fuzzy-assisted grey Taguchi approach for engine parameters optimization on performance-emission of a CI engine, Journal: Energy Sources, Part A: Recovery, Utilization, and Environmental Effects (Taylor & Francis), 28/11/2019
2. Narath Moni Reang, Suman Dey, John Debbarma, Madhujit Deb, Title: Effect of linseed methyl ester and diethyl ether on the performance-emission analysis of a CI engine based on Taguchi-Fuzzy optimisation, Journal: International Journal of Ambient Energy (Taylor & Francis), 17/08/2019
3. Kiran Kumar Billa, GRK Sastry, Madhujit Deb, Title: Characterization of emission-performance paradigm of a DI-CI engine using artificial intelligent based multi objective response surface methodology model fueled with diesel biodiesel blends, Journal: Energy Sources, Part A: Recovery, Utilization, and Environmental Effects (Taylor & Francis), 04/01/2020
4. Suman Dey, Narath Moni Reang, Madhujit Deb, Pankaj Kumar Das, Title: Study on performance-emission trade-off and multi-objective optimization of diesel-ethanol-palm biodiesel in a single cylinder CI engine: a Taguchi-fuzzy approach, Journal: Energy Sources, Part A: Recovery, Utilization, and Environmental Effects (Taylor & Francis), 01/01/2020

5. S Dey, M Deb, PK Das Title: An Investigation of Diesohol-Biodiesel Mixture in Performance-Emission Characteristics of a Single Cylinder Diesel Engine: A Trade-Off Benchmark, Journal:International Journal of Automotive and Mechanical Engineering 1/12/2019
6. D.R. Rajendran, E. Ganapathy Sundaram, P. Jawahar, V. Sivakumar Inferences on the Effects of Geometries and Heat Transfer Fluids in Multi Cavity Solar Receivers by using CFD., Environmental Science and Pollution Research 10 December 2019 Vol. 27, 32205–32217
7. D.R. Rajendran, E. Ganapathy Sundaram, P. Jawahar, V. Sivakumar, O. Mahian, E. Bellos Review on influencing parameters in the performance of concentrated solar power collector based on materials, heat transfer fluids and design. Journal of Thermal Analysis and Calorimetry 23 September 2019 Vol. 140, 33 – 51
8. Tinu P Saju; R. Ganesh Narayanan, Barnik Saha Roy, "Effect of pinless tool shoulder diameter on dieless friction stir extrusion joining of 5052-H32 and 6061-T6 Aluminium alloy sheets", Journal of Mechanical Science & Technology, August 2019 Volume 33, Issue 8, pp 3981–3997.
9. Uttam Acharya, Barnik Saha Roy, Subhash Chandra Saha, "Torque and force perspectives on particle size and its effect on mechanical property of friction stir welded AA6092/17.5SiCp-T6 composite joints", Journal of Manufacturing Processes, August 2019 Volume 38, 2019, Pages 113-121.
10. Tanmoy Medhi, Manasij Kumar Yadava, Barnik Saha Roy, Subhash Chandra Saha," An experimental investigation on implications of traverse speed in joining of dissimilar Al-Cu by friction stir welding", The International Journal of Advanced Manufacturing Technology, September 2019 Volume 104 Issue 1-4 pp: 1461-1471, 2019
11. Sudhir Kumar, Barnik Saha Roy, "Novel study of joining of acrylonitrile butadiene styrene and polycarbonate plate by using friction stir welding with double-step shoulder", Journal of Manufacturing Processes, September 2019 Volume 45, 2019, Pages 322-330
12. Uttam Acharya, Barnik Saha Roy, Subhash Chandra Saha, "Effect of tool rotational speed on the particle distribution in friction stir welding of AA6092/17.5 SiCp-T6 composite plates and its consequences on the mechanical property of the joint", Defence Technology, 2019, January 2020 <https://doi.org/10.1016/j.dt.2019.08.017>
13. Surendra Kumar Patel, Raman Nateriya, Barnik Saha Roy, Basil Kuriachen Microstructural and Mechanical Behaviour of WC Reinforced Particles A3003 Surface Composite Fabricated through Friction Stir Processing, Protection of Metals and Physical Chemistry of Surfaces . (Accepted on 15 March 2020)
14. Tanmoy Medhi, Barnik Saha Roy, Subhash Chandra Saha "An experimental investigation on the influence of rotational speed on microstructure and mechanical properties in friction stir welded dissimilar al-cu joints", International Journal of Materials & Product Technology-227870 (Accepted on 30 March 2020)
15. Kumar S., Medhi T., Roy B.S. "Friction Stir Welding of Thermoplastic Composites." In: Shanker K., Shankar R., Sindhwani R. (eds) Advances in Industrial and Production Engineering. Lecture Notes in Mechanical Engineering, April 2019 pp 221-235 Springer, Singapore
16. Kumar S., Roy B.S., Panneerselvam K "Tribological Behaviour of Nylon 6 Composites and Optimization of Process Parameters Using Hybrid Taguchi-GRA and CSA". In: Narayanan R., Joshi S., Dixit U. (eds) Advances in

- Computational Methods in Manufacturing. Lecture Notes on Multidisciplinary Industrial Engineering., Springer, Singapore. October 2019 pp 719-731
17. Dr. Manish Bhargava Ankur & Harsha Ramanand, International Journal of Automobile Engineering, Research and Development (IJAUERD), ISSN (P): 2277-4785; ISSN (E): 2278-9413, An analysis of indian road speed breaker for design Improvement and increasing the life axle of automotive Vehicle by finite element method Dec 2019, 23-28 Vol. 9, Issue 2
 18. Dr. Manish Bhargava Shraddha Arya, M.P. Singh International Journal of Engineering and Advanced Technology (IJEAT) ISSN: 2249-8958, Noise Reduction of Deep Groove Ball Bearing (6205) by Process Optimization - An Experimental Approach Jun 2019, Volume-8 Issue-5
 19. Dr. Manish Bhargava, Khagendra Pathak, Ankur International Journal of Innovative and exploring Engineering Static & Fracture Analysis and Design Optimization of Drive Shaft in Long Distance Belt Conveyor' Volume-8 Issue-11, Page No. 3071-3075. September 2019
 20. Dr. Manish Bhargava, Ankur and Neeraj Kumar, International Journal of Production Technology and Management (IJPTM), "design and fabrication of Manual scavenger with life analysis of its shaft by finite Element method" Volume 10, Issue 2 July -December 2019
 21. Dr. Manish Bhargava Shraddha Arya, Dr. M.P. Singh, International Journal of Scientific & Engineering Research, Case study on Quality Control tools for Deep Groove Ball Bearing Volume 10 & Issue 5, 5Th May 2019
 22. Vamsi Krishna Kolli, Sastry Gadepalli, John Deb Barma, Murali Krishna Maddali, Sreeram Barathula, Naresh Kumar reddy Siddavatam Establishment of lower exhaust emissions by using EGR coupled low heat loss diesel engine with fuel blends of microalgae biodiesel-oxygenated additive DEE-antioxidant DPPD, Thermal Science and Engineering Progress 27th August 2019 ISSN 2451-9049/13
 23. Rahul Kanti Nath, Pabitra Maji, John Deb Barma Development of a Self-Heated Friction Stir Welding tool for welding of polypropylene sheets, Journal of the Brazilian Society of Mechanical Sciences and Engineering 1st December 2019 Electronic ISSN 1806-3691 Print ISSN 1678-5878/41
 24. Ruma Sen, Bikash Choudhuri, John Deb Barma & Prasun Chakraborti An investigation on the effect of different coated electrodes on the surface quality of WEDM by varying discharge energy level, The International Journal of Advanced Manufacturing Technology 9th December 2019 ISSN 0268-3768/106
 25. Ruma Sen, Bikash Choudhuri, John Deb Barma & Prasun Chakraborti Surface integrity study of WEDM with various wire electrodes: experiments and analysis, Machining Science and Technology 13th Jan 2020. ISSN: 1091-0344 (Print) 1532-2483 (Online)
 26. Roy, S., et al. "Effective utilisation of waste cooking oil in a single-cylinder diesel engine using alumina nanoparticles."- Sustainable Energy & Fuels. 11th Nov 2019 4(2): 571-581
 27. Banerjee, P., et al. "How key sociodemographic and spatial variables influence stakeholders' social control frames regarding natural resource conservation in East Sikkim, Accepted 20 March, 2020, Available online 245: 1085.28
 28. B Choudhuri, R Sen, S K Ghosh and S C Saha Comparative machinability characterization of wire electrical discharge machining on different specialized AISI steels, "Bulletin of Materials Science" 17th December, 2019 43:14

29. R. K. Bhogendro Meitei, Pabitra Maji, Ashutosh Samadhiya, Ranit Karmakar, Subrata Kumar Ghosh, Subhash Chandra Saha An Experimental Investigation on Joining of Copper and Stainless Steel by Induction Welding Technique, "International Journal of Precision Engineering and Manufacturing" 20th December, 2019 21:613–621
30. Pabitra Maji, Subrata Kumar Ghosh, Rahul Kanti Nath, Ranit Karmakar, Microstructural, mechanical and wear characteristics of aluminium, matrix composites fabricated by friction stir processing, "Journal of the Brazilian Society of Mechanical Sciences and Engineering" 25th March, 2020 42:191
31. R. K. Bhogendro Meitei, Pabitra Maji, Ashutosh Samadhiya, Ranit Karmakar, Subrata Kumar Ghosh, Subhash Chandra Saha An Experimental Investigation on Joining of Copper and Stainless Steel by Induction Welding Technique International Journal of Precision Engineering and Manufacturing 20th December 2019 21, pages 613–621 (2020)
32. Arindam Majumder, Dipak Laha, P.N. Suganthan Title of the Paper: Bacterial foraging optimization algorithm in robotic cells with sequence-dependent setup times, Title of the Journals: Knowledge-Based Systems 15/5/2019 Volume 172 Pages 104–122
33. Jatinder ND Gupta, Arindam Majumder, Dipak Laha Title of the Paper: Flowshop scheduling with artificial neural networks, Title of the Journals: Journal of the Operational Research Society 20/06/2019 Online first
34. Biplab Bhattacharjee, Prasun Chakraborti, Kishan Choudhuri Evaluation of the performance characteristics of double-layered porous micropolar fluid lubricated journal bearing / Tribology International October 2019 Volume 138, Pages 415–423
35. Biplab Bhattacharjee, Prasun Chakraborti & Kishan Choudhuri, Theoretical analysis of single-layered porous short journal bearing under the lubrication of micropolar fluid / Journal of the Brazilian Society of Mechanical Sciences and Engineering 14 August 2019 volume 41
36. Chiranjit Bhowmik, Prasun Chakraborti, Analytical and experimental modal analysis of electrical transmission tower to study the dynamic characteristics and behaviors / KSCE Journal of Civil Engineering March 2020 Volume 24 Issue 3 Pages 931–942
37. Chiranjit Bhowmik, Prasun Chakraborti, Shankar Swarup Das, Ram Singh Modal Analysis of 132 kV Double Circuit Electric Power Transmission Tower Made up with Composite Material Thermoplastic Long Carbon Fiber Nylon 66 / Advances in Interdisciplinary Engineering July 2019 pp 891–899
38. Biplab Bhattacharjee, Prasun Chakraborti, Kishan Choudhuri Theoretical investigation of porous hydrostatic journal bearing under micropolar fluid lubrication / Journal of Nanomaterials, Nanoengineering and Nanosystems, March 2020 Volume: 234 issue: 1–2, page(s): 11–18
39. Chiranjit Bhowmik, Prasun Chakraborti Study of strength and stability of a composite transmission tower / Proceedings of the Institution of Civil Engineers - Engineering and Computational Mechanics March 2020 Volume 173 Issue 1, pp. 30–36
40. Chiranjit Bhowmik, Prasun Chakraborti Stability Analysis of Electric Transmission Line Tower Made with Composite Material Carbon Fiber Epoxy - An Innovative Approach / Revue des Composites et des Matériaux Avances April 2019 Vol. 29, No. 1, pp. 9–13
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- of WEDM by varying discharge energy level / The International Journal of Advanced Manufacturing Technology 04 January 2020 volume 106, pages 3285–3299
42. Ruma Sen, Bikash Choudhuri, John Deb Barma & Prasun Chakraborti Surface integrity study of WEDM with various wire electrodes: experiments and analysis / Journal Machining Science and Technology An International Journal 13 Jan 2020, Volume 24, Issue 4 Pages 569-591
 43. Shankar Swarup Das, Prasun Chakraborti, Chiranjit Bhowmik, Ram Singh Decision-Making for Selection of Most Suitable Materials for Biomedical Applications/ Advances in Interdisciplinary Engineering June 2019 pp 901-917
 44. Gajghate, S.S., Barathula, S., Das, S. Bhaumik S Experimental investigation and optimization of pool boiling heat transfer enhancement over graphene-coated copper surface. J Therm Anal Calorim, <https://doi.org/10.1007/s10973-019-08740-5>(SCI) , September, 2019 140, 1393–1411
 45. Pandey, S.K., Gupta, S., Acharya, U. and Roy, J. Adaptive neuro fuzzy interference system modeling for wire electric discharge machining of Al7075/B4C composite. Materials Today: Proceedings. 2020 in press

In Proceedings of National Conference:

1. 2nd National Seminar on Engineering Analysis on Ansys Workbench Swami Vivekananda School of Engg. & Technology, Bhubaneswar Importance of Engineering Analysis through different Softwares like Ansys Workbench Swapan Bhaumik.
2. 35th National Convention of Mechanical Engineers Hosur Local Centre, IEI, Hosur, Tamilnadu Study of Performance, Combustion, and Emissions of Biodiesels and Diesel additive (2-EHN) Blends in DI-Diesel engine and Calibrations of NOX-SOOT-BTHE Trade-off characteristics through Taguchi-Fuzzy based Multi-objective Optimization Technique Biplab Deb Barma, Swapan Bhaumik

In Proceedings of International Conference:

1. ICRAME Silchar Neelutpal Ghosh, Sagnik Pal, Sameer S. Gajghate and Swapan Bhaumik 7th -9th Feb, 2020
2. ICAMEE Nagpur Sameer S. Gajghate, Sagnik Pal, Swapan Bhaumik and Prof. Bidyut B Saha 24th -25th Aug, 2019
3. International Conference on Recent Advancement of Mechanical Engineering, (ICRAME 2020) NIT Silchar, Assam, India: 788010 V. Gandhirajan 7th to 9th, February 2020. (Three Days)
4. International conference on " Water, Energy and Biodiversity for sustainable development of BIMSTEC countries" Agartala, Tripura Abhik Majumder 12 to 14 Dec 2019
5. ICMPC 2019 , "Experimental investigation of Aluminium Matrix Composite production and joining", Materials Today: Proceedings, Volume 18, Part 7, 2019, Pages 5276-5285. Rajana Venkatesh, Durjyodhan Sethi, Vamsikrishna Kolli, Barnik Saha Roy
6. IMEC 2019, NIT Trichy "A parametric study of friction stir welded AA6061/SiC AMC and its effect on microstructure and mechanical properties." , (Accepted, Accepted, Materials Today: Proceedings, Elsevier, SCOPUS). Kumar D., Ottarackal D. J., Acharya U., Medhi T., Saha Roy B. & Saha S. C. Nov 29-Dec 1, 2019

7. IMEC 2019, NIT Trichy " Welding condition & microstructure of friction stir welded AA 6061-T6 AND AZ31B", 2nd International Mechanical Engineering Congress, NIT Trichy, Uday kumar, Anurag Prajapati, Uttam Acharya, Tanmoy Medhi, Barnik Saha Roy, S.C Saha Nov 29-Dec 1, 2019
8. (ICMPC-2020), GLA University, Mathura, A comparative analysis between conventional tool and double step shoulder tool for joining Acrylonitrile butadiene styrene using Friction Stir Welding", 10th International Conference on Material Processing and Characterization Sudhir Kumar, Barnik Saha Roy February 21-23, 2020
9. (ICMPC-2020), GLA University, Mathura, Tribological properties of Acrylonitrile Butadiene Styrene in Self-mated contacts and against steel disc", 10th International Conference on Material Processing and Characterization Sudhir Kumar, Barnik Saha Roy, February 21-23, 2020
10. IMEC 2019), NIT Trichy Welding condition & microstructure of friction stir welded AA 6061-T6 AND AZ31B", 2nd International Mechanical Engineering Congress Uday kumar, Anurag Prajapati, Uttam Acharya, Tanmoy Medhi, Barnik Saha Roy, S.C Saha Nov 29-Dec 1, 2019
11. (ICMPC-2020), GLA University, Mathura, A comparative analysis between conventional tool and double step shoulder tool for joining Acrylonitrile butadiene styrene using Friction Stir Welding", 10th International Conference on Material Processing and Characterization Sudhir Kumar, Barnik Saha Roy, February 21-23, 2020
12. IMEC 2019, NIT Trichy Study of microstructure and mechanical properties in friction stir welded aluminium copper lap joint", , (Accepted, Materials Today: Proceedings, Elsevier, SCOPUS). Tapash Chowdhury, Arijit Ghora, Tanmoy Medhi, Uttam Acharya, Barnik Saha Roy, S.C Saha, Nov 29-Dec 1, 2019
13. ICMPC-2020 GLA University, Mathura, Synthesis and characterization of AA7075/TiB2 aluminum matrix composite formed through stir casting method", (Accepted, Materials Today: Proceedings MATPR 12527, Elsevier, SCOPUS) Durjyodhan Sethi, Sanjeev Kumar, Smrity Choudhury, Shashank Sekhar, Barnik Saha Roy February 21-23, 2020
14. ICMPC 2020, GLA University, Mathura, Temperature Distribution and Residual Stress in Friction Stir Welding Process", (Accepted, Materials Today: Proceedings, Elsevier, SCOPUS) Choudhury S., Medhi T., Sethi D., Kumar S., Saha Roy B. & Saha S.C February 21-23, 2020
15. IMEC 2019, NIT Trichy Study of microstructure and mechanical properties in friction stir welded aluminium copper lap joint", , (Accepted, Materials Today: Proceedings, Elsevier, SCOPUS). Tapash Chowdhury, Arijit Ghora, Tanmoy Medhi, Uttam Acharya, Barnik Saha Roy, S.C Saha, Nov 29-Dec 1, 2019
16. International Conference on Recent Developments in Mechanical Engineering ICRAME 2020, NIT Silchar, India Ankan Das, Bhavani Tharra, V V N Siva Rao Sammeta, John Deb Barma 07-09 February 2020
17. Name of the Conference: The International Conference on Machine Intelligence and Signal Processing (MISP-2019), Title of the Paper: Bacterial Foraging Optimization in Non-identical Parallel Batch Processing Machines, Indian Institute of Information Technology, Allahabad, India Arindam Majumder, Dipak Laha September 7-10, 2019

18. International Conference on Recent Trends in Mechanical & Materials Engineering (ICRTMME 2019) Chennai Institute of Technology, Chennai, Vivek P.G (M.Tech Scholar), 12-13th December 2019
19. International Conference on Contemporary Issues in "Engineering, Agriculture, Applied Sciences and Humanities (EAH-2019) NIT, Srinagar, Jammu and Kashmir. Dr. Ajay Biswas 22nd -23rd June, 2019
20. International Conference on Precision, Meso, Micro and Nano Engineering. Indian Institute of Technology Indore, Madhya Pradesh Dr. Ajay Biswas, December 12-14, 2019
21. 10th International Conference on Materials Processing and Characterization (ICMPC 2020) GLA University, Mathura, U.P, India, Mr. Dipankar Dey, February 21-23, 2020
22. 10th International Conference on Materials Processing and Characterization (ICMPC 2020) GLA University, Mathura, U.P, India, Mr. Abhijit Bhowmik February 21-23, 2020
23. 10th International Conference on Materials Processing and Characterization (ICMPC 2020) GLA University, Mathura, U.P, India, Mr. Dipanjan Chakraborty February 21-23, 2020
24. 10th International Conference on Materials Processing and Characterization (ICMPC 2020) GLA University, Mathura, U.P, India, Mr. Sudhir Kumar Chintada February 21-23, 2020
25. 10th International Conference on Materials Processing and Characterization (ICMPC 2020) GLA University, Mathura, U.P, India, Mr. Trinath Keerthipalli, February 21-23, 2020
26. 5th International Conference on Polygeneration (ICP2019) Mechanical Engg. Department of Kyushu University, Fukuoka, Japan Effect of ZrO₂ Nano Particle Coated Heater Surface on Heat Transfer Coefficient under Pool Boiling, Bhaumik S, Bandurkar A, Gajghate S. S, Das S.
27. 5th International Conference on Polygeneration (ICP2019) Mechanical Engg. Department of Kyushu University, Fukuoka, Japan Experimental Investigation of Pool Boiling Heat Transfer over Different Thickness of Graphene Layers on Heater Surface Gajghate S. S, Vashistha S, Das S, Bhaumik S.
28. Int. Conf. in Advances in Mech. And Electrical Engg. (ICAMEE-2019) G. H. Raison College of Engineering, Nagpur Experimental investigation in Aqua Silencer for Diesel Genset - An Approach Towards Clean Environment N. Karmakar, S. Chakraborty, R. Debbarma, S. S. Gajghate, Bidyut B. Saha, S. Bhaumik, S. Pal,
29. Int. Conf, on Water, Energy and Biodiversity (WEB) for Sustainable Development of BIMSTEC Countries ,(WEB for BIMSTEC-2019) Agartala, Tripura, India R1234 Study of Pool Boiling Heat Transfer using R1234yf as Alternative of R134a: A Review Anil Katarkar, Biswajit Majumder, Swapan Bhaumik
30. Int. Conf, on Water, Energy and Biodiversity (WEB) for Sustainable Development of BIMSTEC Countries (WEB for BIMSTEC-2019) Agartala, Tripura, India, Conversion Of Diesel Engine To Diesel/LPG Dual Fuel Engine K.M Sooraj, V. Gandhirajan, S.B Vineeth, S.Bhaumik, S.S Gajghate¹
31. Int. Conf, on Water, Energy and Biodiversity (WEB) for Sustainable Development of BIMSTEC Countries (WEB for BIMSTEC-2019) Agartala, Tripura, India Use Of Diesel Additive To Study the Performance, Combustion And Emissions Of Biodiesels And Diesel Blend In VCR DI-Diesel Engine And Calibrations Of NOX-SOOT-BTHE Trade-Off Characteristics Through

- Optimization Technique Biplab DebBarma, Amalesh Bhattacharya, Swapan Bhaumik
32. Int. Conf, on Water, Energy and Biodiversity (WEB) for Sustainable Development of BIMSTEC Countries (WEB for BIMSTEC-2019) Agartala, Tripura, India Shifting Of Water Adsorption Isotherm Induced By Transitional Metal Doping In Aluminum Fumarate T. H. Rupam M. L. Palash, I.J. Nazli, S. Bhaumik , B. B. Saha
 33. Int. Conf, on Water, Energy and Biodiversity (WEB) for Sustainable Development of BIMSTEC Countries (WEB for BIMSTEC-2019) Agartala, Tripura, India Diesel-Neem Biodiesel Blends: A Performance Emissions Trade-Off Study Amalesh Bhattacharya, BiplabDebBarma and SwapanBhaumik
 34. Int. Conf, on Water, Energy and Biodiversity (WEB) for Sustainable Development of BIMSTEC Countries (WEB for BIMSTEC-2019) Agartala, Tripura, India Reviewing the Effect of Surface Parameters on Pool Boiling Heat Transfer Biswajit Majumder, Anil Katarkar, Swapan Bhaumik
 35. Int. Conf, on Water, Energy and Biodiversity (WEB) for Sustainable Development of BIMSTEC Countries (WEB for BIMSTEC-2019) Agartala, Tripura, India Effects Of 2-Ethylhexyl Nitrate Concentration In The Diesel/Biodiesel Blends On Engine Performance, Combustion And Emissions And Optimum Output Determination Of NHC-PM-BSFC Trade-Off With Taguchi-Fuzzy Multi-Objective Optimization Application Biplab DebBarma, Amalesh Bhattacharya and SwapanBhaumik
 36. International Conference on Sustainable Innovations in Civil & Mechanical Engineering (ICSICME- 2020) SKN Sinhgad College Of Engineering, Korti, Pandharpur, Maharashtra, India. Review on Passive Heat Enhancement Techniques in Pool Boiling Heat Transfer, Anil Katarkar, Biswajit Majumder, SwapanBhaumik
 37. International Conference on Sustainable Innovations in Civil & Mechanical Engineering (ICSICME- 2020) SKN Sinhgad College Of Engineering, Korti, Pandharpur, Maharashtra, India. Effect of Structured Surface on Contact Angle Using Sessile Droplet Method" Biswajit Majumder, Anil Katarkar, SwapanBhaumik
 38. Int. Conf. in Recent Advancement in Mech. Engg. (ICRAME-2020) NIT Silchar Design, Fabrication and Experimental of Aqua Silencer for Diesel Genset Neelutpal Ghosh, Sagnik Pal, Sameer S. Gajghate and SwapanBhaumik

Book chapter Published:

Sl. No.	Name of the Authors published	Title of the Book Chapter	Date of publication of the Book chapter	Issue/ Volume No./ Page No.
1	Kiran Kumar Billa, G.R.K Sastry , Madhujit Deb	Artificial Intelligence Based Artificial Neural Network Model to Predict Performance and Emission Paradigm of a Compression Ignition Direct Injection Engine Under Diesel-Biodiesel Strategies. <i>Name of the Book: Energy Recovery Processes from Wastes</i> <u>Bibliographic information</u>	10 September, 2019	Pages: 85-100

		DOI: https://doi.org/10.1007/978-981-32-9228-4 Copyright Information: Springer Nature Singapore Pte Ltd. 2020 Publisher Name: Springer, Singapore Print ISBN978-981-32-9227-7 Online ISBN978-981-32-9228-4		
2	M. Balasubramanian and P. Jawahar	Rubber - CNT Nanocomposites: Advances in Nanostructured Composites: Volume 1: Carbon Nanotube and Graphene Composites	30 April 2019 CRC Press (Taylor and Francis Group)	Chapter 13: Vol. 1: ISBN: 978-1-482-23663-7
3	Arindam Majumder, Rajib Ghosh	Title of the Book Chapter: Task Allocation and Path Planning of a Multi-Robot System Using Heuristic Coupled Particle Swarm Optimization Algorithm Title of the Book : Handbook of Research on Developments and Trends in Industrial and Materials Engineering	Release Date: November, 2019	
4	Sameer S. Gajghate, Anil R. Acharya and Swapan Bhattacharya	Advances in Mechanical Engineering, Lecture Notes in Mechanical Engineering by B. B. Biswal et al(eds.), <u>Book chapter:</u> "Experimental Studies on Energy Conservation in Pool Boiling Heat Transfer Using Eco-friendly Additive,"	Dec 2019	Page No. 949-961, ISBN No. 978-981-15-0124-1 https://doi.org/10.1007/978-981-15-0124-1_85 , (SPRINGER)

Distinguished Visitors to the Departments:

Sl.No.	Name of the Visitors and Designation	Date of visit	Purpose of visit
1	Dr. Sujoy kr Saha, Professor, IEST Shibpur	07.05.2019	Examiner, M.Tech Thesis
2	Dr. Ujjwal kr. Saha, Professor, IIT Guwahati	07.05.2019	Examiner, M.Tech Thesis
3	Dr. Rajat Gupta, Director. NIT Mizoram	07.05.2019	Examiner, M.Tech Thesis
4	Dr. Asish Bandyopadhyay, Professor, Jadavpur University	08.05.2019	Examiner, M.Tech Thesis
5	Dr. Krishna Murari Pandey, Professor, NIT Silchar	08.05.2019	Examiner, M.Tech Thesis

6	Dr. Goutam Majumder, Professor & HEAD, Jadavpur University	08.05.2019	Examiner, M.Tech Thesis
7	Mr. Sanjoy Sharma, GM, ONGC, Tripura asset	09.05.2019	Examiner, B.Tech Thesis
8	Mr. Dipankar Bhattacharya, CGM, ONGC, Tripura asset	09.05.2019	Examiner, B.Tech Thesis
9	Dr. P.M.V Subbarao, Professor, IIT Delhi	27.05.2019	Expert speaker
10	Dr. Sanjeev Prashar, Dean, IIM Raipur	27.05.2019	Expert speaker
11	Dr. Sushil S. Ramdasi, Deputy Director, ARAI Pune	28.05.2019	Expert speaker
12	Dr. Swarnendu Sen, Professor, Jadavpur University	29.05.2019	Expert speaker
13	Dr. Pallab Sinha Mahapatra, Assistant Professor. IIT Madras	05.06.2019	Expert speaker
14	Dr. Dipankar N. Basu, Professor. IIT Guwahati	06.06.2019	Expert speaker
15	Dr. M.R. Ravi, Professor, IIT Delhi	07.06.2019	Expert speaker
16	Dr. Madhusudan Pal, Scientist-F, DRDO, Delhi	09.09.2019	Expert speaker
17	Dr. P.K. Singh, Professor. SLIET, Logowal	23.09.2019	Expert speaker
18	Dr. Debasish Datta, Professor, IEST Shibpur	24.09.2019	Expert speaker
19	Mr. K.V. Ramanan, GM, GTI Chennai	25.09.2019	Expert speaker
20	Dr. S. Kanagaraj, Professor, IIT Guwahati	27.09.2019	Expert speaker
21	Dr. A.P. Patil, Professor & HEAD, MME, VNIT Nagpur	05.11.2019	Syllabus review
22	Dr. R. Ganesh Narayanan, Professor, IIT Guwahati	22.11.2019	Syllabus review
23	Dr. Uday Chakkinngal, Professor & HEAD, MME, IIT Madras	22.11.2019	Syllabus review
24	Dr. A.P. Patil, Professor & HEAD, MME, VNIT Nagpur	22.11.2019	Syllabus review
25	Dr. Dilip Datta, Professor, Tezpur University	26.11.2019	Expert speaker
26	Dr. C. Balaji, Professor, IIT Madras	27.11.2019	Expert speaker
27	Dr. Saurav Datta, Assot Professor, NIT Rourkella	28.11.2019	Expert speaker
28	Dr. Vikash Rastogi, Professor, DTU, Delhi	11.01.2020	Expert, NBA

14.4 Other Activities

Sl. No.	Name of Faculty	Date of Venue	Role	Venue
1	Dr. Ashis Acharjee	Since Septemb er, 2019	Departmental Placement Co-ordinator	CCD
2	Abhik	18-05-	Defended PhD	IIT Kgp

	Majumder	2020	Thesis through Open viva voce	
3	Dr. Manish Bhargava	24 th -28 th Feb, 2020	Resource Person	FDP On "Skill development in Education-Vision 2020, MAIET, JAIPUR (Raj.)
4	Dr. Prasun Chakraborti	05/03/2020	Expert talk on "combustion and engine tribology"	Assam Science and Technology University, Guwahati
5	Dr. Swapan Bhaumik	May 15-17, 2019	Chaired Technical Session-16: Energy and Environmental Studies during ICP2019	Kyushu University, Japan
6	Dr. Swapan Bhaumik	July 09, 2019	Guest of Honour	As Vice President of The Institution of Engineers (India) during the Programme of Conferment of Honorary Fellowship to Prof. Dr. Kaptan Singh Solanki, Hon'ble Governor, Tripura by IEI
7	Dr. Swapan Bhaumik	July 28, 2019	Chief Guest as Vice President of IEI	2 nd National Seminar on Engineering Analysis on Ansys Workbench at Swami Vivekananda School of Engg. & Technology, Bhubaneswar
8	Dr. Swapan Bhaumik	August 12, 2019	Member	Bhavan's Agartala Kendra Committee of Bharatiya Vidhya Bhavan
9	Dr. Swapan Bhaumik	September 04, 2019	Guest of Honour as Vice President of IEI	Inaugural Ceremony of 35th National Convention of Mechanical Engineers of IEI held at Adiyaman Engg. College, Hosur, Tamilnadu
10	Dr. Swapan Bhaumik	10 th November, 2019	Guest of Honour as Vice President of IEI	27 th IEI Convocation and Technicians'/ Students' Convention on 9 th & 10 th November 2019 held at "Birla Auditorium, Statue Circle, C- Scheme, Rambagh, Jaipur, Rajasthan."

15.0 MATHEMATICS DEPARTMENT

15.1 Introduction:

The Department of Mathematics, National Institute of Technology, Agartala has the legacy of serving the State of Tripura since 1965 under Tripura Engineering College (TEC). TEC was upgraded to National Institute of Technology, Agartala in the year 2006. Since then the Department is functioning as full flagged Department offering UG and PG courses of the Department itself, apart from catering the needs of the other Departments in respect of taking subjects Engineering Mathematics, Numerical Methods, Operation Research, Statistical Method etc. Department of Mathematics is now one of the premiere Departments of NIT, Agartala offering both UG and PG (BS-MS Mathematics, BS-MS Mathematics & Computing and M.Sc. in Mathematics) level courses and collaborative as well as multidisciplinary Ph.D. programmes.



Departmental Computer lab1



Students working in Computer lab

15.2 Academic Programme:

For imparting quality education, both PG and UG level courses (M.Sc. in Mathematics, BSMS in Mathematics and BSMS in Mathematics & Computing) are taught in Mathematics Department. Admission in the two years (4 Semester) M.Sc. Degree and five years (10 Semesters) BSMS Courses are made through CCMN and JEE Mains with an initial intake capacity of 13 and 25 students respectively. Both of these M.Sc. and Dual Degree Programmes encourage and persuade the students to grasp in depth knowledge and also widen their career opportunities.

The Department offers collaborative and multidisciplinary Ph.D. programmes in Mathematics admitting both full time and part time research scholars. Moreover, M.Sc in Mathematics & Computing course will be commenced from the academic session 2020-21.

15.3 Faculty and their Activities:

The Department has highly qualified faculty members comprising of one Professor (01), four (04) Associate Professors, nine (09) Assistant Professors (Contractual), one (01) Teaching Assistant and one (01) Lab Assistant. In their pursuit of research, the faculty members are doing an extensive study in vast and diverse fields relating to Topology, Generalized fuzzy topological space, Inventory management (Operations Research), Bi-topology, MCDM, Fuzzy control system, Fuzzy optimization, Computational Fluid dynamics, Inventory control, Biomathematics, Graph theory, ODE & PDE, Super-symmetric Quantum Mechanics, Water wave mechanics, Heat transfer, Convection, Numerical methods, Neural network, Wireless network, Image processing etc. The Department is looking forward to offer new courses in near future.

Short-Term Courses/ Workshops/ Seminar/ Symposia/ Conferences organized by the faculty members:

Sl. No.	Co-ordinators	Title	Period (Dd th –Dd th Month, Year)
International Conference:			
1.	Dr. Debasish Bhattacharya and Dr. Baby Bhattacharya	International Conference on Emergent Research in Mathematics and Engineering	17 th -18 th May, 2019

Short-Term Courses/ Workshops/ Seminars/ Symposia/ Conferences/ Training attended by the Faculty in Academic Institutions and Public Sector Undertakings:

Sl. No.	Name of Faculty	Title	Period
Workshop:			
1.	Dr. Debasish Bhattacharya	Invited lecture on 'A De-Novo Programming Approach to Solve Multi-Objective Optimization Problem' in one week National Workshop on "Computational Mathematics and Application (NWCMA 2019)" at Maharaja Bir Bikram University, Agartala	12 th -16 th September, 2019

2.	Dr. Apu Kumar Saha	Invited lecture on 'Nature-Inspired Optimization Algorithms' in one week National Workshop on "Computational Mathematics and Application (NWCMA 2019)" at Maharaja Bir Bikram University, Agartala	12 th -16 th September, 2019
3.	Dr. Apu Kumar Saha	Invited lecture on 'Improved Bio-Inspired Optimization Techniques' in TEQIP-III Sponsored Five Day Workshop on "Optimization Techniques in Multidisciplinary Research" at Mechanical Engineering Department, National Institute of Technology, Agartala	25 th -29 th November, 2019
4.	Dr. Apu Kumar Saha	Invited lecture on 'Metaheuristics and civil engineering' in "International Workshop on Advanced Seismology, Seismic Hazard and Earthquake Engineering: Theory, Simulation and Observations (ASSHEE 2019)" at Civil Engineering Department, National Institute of Technology Agartala	25 th - 29 th November, 2019
Training:			
1.	Dr. Apu Kumar Saha	Invited lecture 'On Bio-Inspired Optimization Techniques' in TEQIP-III Sponsored Faculty Development programme (FDP) on "Machine Learning and Internet of Things" at Tripura Institute of Technology, Narsingarh, Tripura (W)	15 th June, 2019

Conference:

Sl. No.	Name of Faculty	Title of Conference	Title of the paper	Period
1.	Dr. Baby Bhattacharya	International Conference on Emergent Research in Mathematics and Engineering -2019	A Study on Soft Generalized Regular Closed Set.	29 th - 30 th June ,2019
2.	Dr. Baby Bhattacharya	NCVMIAIM-2019	A survey on Vedic Mathematics before 1200 AD	28 th - 29 th Decemb er ,2019
3.	Dr. Baby Bhattacharya	9th International Conference on Soft Computing for Problem Solving (online presentation)	Some Applications of Generalized Fuzzy gamma*-Closed Sets.	2 nd -4 th Septem ber, 2019
4.	Dr. Paritosh Bhattacharya	TENSYMP-2019	Global Behavior of a within host viral	7 th -9 th June

			dynamic model with no cytolytic cure effect.	2019
5.	Dr. Uttam Kumar Bera	IEEE FUZZ 2019	A debris removal plan for emergency response minimizing cost and time under Neutrosophic environment	23 rd - 26 th June, 2019
6.	Dr. Sayanta Chakraborty	International Conference on Emergent Research in Mathematics and Engineering -2019	Solution of General De-Novo Programming Problem using Fuzzy Technique with Some Additional Constraints	17 th - 18 th May, 2019
7.	Dr. Sayanta Chakraborty	ICRAMA-2019	Reflection of Decision Maker's Choice in the Solution of General De-Novo Programming Problem under Fuzzy Environment	16 th - 18 th July, 2019
8.	Dr. Jayanta Debnath	International Conference on Emergent Research in Mathematics and Engineering -2019	An IFS Approach for Distance Measure of DNA Sequences	17 th - 18 th May, 2019
9.	Dr. Apu Kumar Saha	Delivered Keynote Speech on 'A Brief Discussion on Evolutionary Optimization Algorithms' in "4 th International Conference on Advanced Computing and Intelligent Engineering (ICACIE 2019)" at Rama Devi Women's University, VidyaVihar, Bhubaneswar, India		21 st - 23 rd December, 2019
10.	Dr. Debasish Bhattacharya	Delivered Invited Talk on 'Multi-Objective Optimization Problem- A De-Novo Approach' in "International Conference on Recent Advances in Mathematics and its applications (ICRAMA-2019)" at Tripura University, Tripura, India.		16 th - 18 th July, 2019

Visits Abroad by Faculty:

Sl. No.	Name of Faculty	Country Visited	Date	Purpose of Visit
1.	Dr. Uttam Kumar Bera	New- Orleans, USA	23 rd -26 th June, 2019	IEEE-FUZZ 2019
2.	Dr. Baby Bhattacharya	Hungary Buda Pest	27 th June -2 nd July, 2019	4 th ICRMR- 2019

Honours and Awards obtained:

Sl. No.	Name of Faculty	Name of Award	Awarded by	Award for	Date
1.	Dr. Sayanta Chakraborty	Best paper presenter in ICERME-2019	Mathematics Department, NIT Agartala	Best paper presenter	17 th -18 th May, 2019
2.	Dr. Jayanta Debnath	Best paper presenter in ICERME-2019	Mathematics Department, NIT Agartala	Best paper presenter	17 th -18 th May, 2019

15.4 Research and Consultancy:

Faculty members are doing collaborative research with faculties of other Departments of NIT Agartala as well as other Institutes. Moreover 14 (approximately) research scholars are pursuing their Ph.D. in the Department in different research areas and two (02) project fellows are working as JRF in research projects. Presently eight (08) Sponsored Research Projects are being carried out by the Departmental faculty members out of which 02 projects are leaded by the Department itself in collaboration with ISRO, MNRE etc.

Sponsored Research Projects:

Sl. No.	Title	Period	Funding Agency	Amount (in lakhs)	Co-ordinators
1.	Spatial distribution of uranium and associated water quality parameters of all districts of Tripura	2019-21	BRNS	26.30	Tarun Kumar Mishra (PI) & Dr. Uttam Kumar Bera (Co-PI)
2.	Nonlinear plasma wave dynamics in unbounded planar or bounded nonplanar geometry	2019-21	CSIR	14.11	Debjit Dutta (PI) & Dr. Uttam Kumar Bera (Co-PI)
3.	Modelling of Green Logistic under different uncertain environment using soft computing	2019-20	NPIU, AICTE	5.37	Dr. Bijoy Krishna Debnath (PI) & Dr. Uttam Kumar Bera (Co-PI)
4.	A study on deterministic model for	2019-2020	AICTE	4.18	Dr. Ajoy Mondal,

	HIV/AIDS through stability analysis and approximate analytical method				Assistant Prof, Dept. of Mathematics, Dibrugarh University (PI) & Dr. Paritosh Bhattacharya (Co-PI)
5.	Design, development and demonstration of solar dryer suitable for drying natural rubber sheets in North-East India	2017-2020	MNRE	21.40	Dr. Subarna Maiti, Principal Scientist, CSIR-CSMCRI (PI) & Dr. Paritosh Bhattacharya (Joint-PI)
6.	On Finding Suitable Ionospheric Precursors for Earthquakes for North Eastern Region	2019-2021	ISRO, Dept. of Space, Govt. of India	10.18	Dr. Jayanta Kumar Rakshit (PI), Dr. Paritosh Bhattacharya (Co-PI)
7.	Long Term Trend in Weather Parameters and Atmospheric Chemistry and its Effect on Tea Cultivation over North-East India	2019-2022	ISRO, Dept. of Space, Govt. of India	19.80	Dr. Paritosh Bhattacharya(PI), Prof. Umesh Mishra (Co-PI)
8.	Development of An Integrated, Miniature and Portable Air Pollution Monitoring System	2019-2021	ISRO, Dept. of Space, Govt. of India	24.43	Dr. Paritosh Bhattacharya (Co-PI)

Research Publications:

Total No. of papers published in Refereed International Journals : 44
 Total No. of papers presented in National Conference : 01
 Total No. of papers presented in International Conferences : 07(approx)

In Refereed International Journals:

1. M. Dhar and P. Bhattacharya, 'Analysis of SIR Epidemic Model with Different Basic Reproduction Numbers and Validation with HIV and TSWV Data', Iranian Journal of Science and Technology, Transactions A: Science, 43, 2385-2397, (2019).
2. M. Dhar, S. Samaddar and P. Bhattacharya, 'Modeling the Effect of Non-Cytolytic Immune Response on Viral Infection Dynamics in the Presence of Humoral Immunity', Nonlinear Dynamics, 98 (1), 637-655, (2019).
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5. N. Paul, D. Sarma and U. K. Bera, 'A Neutrosophic Solid Transportation Model with Insufficient Supply', 2019 IEEE Region 10 Symposium (TENSYP),), Kolkata, India, 7th - 9th June 2019, 10.1109/TENSYP46218.2019.8971130.
6. S. Sharma, A. K. Saha, S. Nama, 'An Enhanced Butterfly Optimization Algorithm for Function Optimization', 4th International Conference on Soft Computing: Theories and Applications (SoCTA-2019), National Institute of Technology (NIT) Patna, Bihar, 27th -29th December 2019.
7. S. Sharma, A. K. Saha, S. Nama, 'BOSCA- A novel hybrid Butterfly optimization algorithm enhanced with Sine Cosine algorithm', 4th International Conference on Advanced Computing and Intelligent Engineering (ICACIE-2019), Rama Devi Women's University, Bhubaneswar, Odisha, 21st - 23rd December 2019.
8. J. Pal, S. Bhattacharjee, A. K. Saha and P. Dutta, 'Study on Temperature Stability and Fault Tolerance of Adder in Quantum-dot Cellular Automata', 5th International Conference on Signal Processing, Computing and Control (ISPCC)', Solan, India, 69-74, 10th -12th Oct 2019, IEEE, doi: 10.1109/ISPCC48220.2019.8988491.

Distinguished visitors to the Departments:

<i>Sl. No.</i>	<i>Name of the Visitors and Designation</i>		<i>Date of Visit</i>	<i>Purpose of Visit</i>
1.	Valentina E. Bala	Professor	17 th -18 th May, 2019	ICERME-2019
2.	Partha Sarathi Chakrabarti	Professor	17 th -18 th May, 2019	ICERME-2019
3.	Natesan Srinivasan	Professor	17 th -18 th May, 2019	ICERME-2019
4.	Shyamal Kumar Mondal	Professor	17 th -18 th May, 2019	ICERME-2019
5.	Sanyasirajy VSS Yedida	Professor	4 th November, 2019	ICERME-2019
6.	Izhar Uddin	Assistant Professor	17 th -18 th May, 2019	ICERME-2019
7.	Rajeeb Dey	Assistant Professor	17 th -18 th May, 2019	ICERME-2019
8.	Neha Bhardwaj	Assistant Professor	17 th -18 th May, 2019	ICERME-2019

15.5 Other Activities:

- a. One student of M. Sc (Mathematics) qualified NET in 2019.
- b. Three students of BSMS Mathematics and one student of M.Sc. Mathematics qualified Gate-2020.
- c. One of the students of BSMS Mathematics is selected for MS at IIT Kanpur.
- d. A new course M.Sc in Mathematics and Computing has been approved in June 2019.
- e. A new course BSMS in Mathematics and Computing was started in academic session 2019-20.

- f. Two (02) of the students of BSMS (Mathematics) participated in Mini MTTS Programme in Assam Kajiranga University, Assam during 22nd -27th February, 2020.
- g. One (01) of the students of BSMS (Mathematics) pursued for Internship at Think Again Lab, Kolkata domain for 3 months w.e.f. January, 2020.
- h. Total 31 papers are published in SCI/SCIE indexed journals, 12 papers are in SCOPUS indexed journals and 01 paper in referred international journal.

16.0 PHYSICS DEPARTMENT

16.1 Introduction:

From the inception of the institute, the mandate of the Physics Department has been the conduction of teaching courses for students of Science and Engineering disciplines as well as to conduct interdisciplinary studies. Over the years the department, has evolved into State's and region's premier Engineering Physics teaching institution with sufficient infrastructure to run various undergraduate and postgraduate courses. Presently, the department runs 5-year dual BS-MS course and 2-year M.Sc. course in Physics along with the flagship programme of 5-year dual BT-MT course in Engineering Physics. In addition the department teaches two semester long Engineering Physics course for B.Tech students of all Engineering branches. All of these courses are aimed to encourage the Science and Engineering students to acquire knowledge along with integrated thinking about education and high level research in Physics.

The faculty members are engaged in rendering the Science and Engineering undergraduate students with the fundamental knowledge of Physics and problem solving skills, requisite for a bright career, and striving tirelessly to improve the education further. The course structure of the four semester Master's Degree programme (M.Sc.) in Physics has been designed with the specializations in Condensed Matter Physics, Physics of Plasmas, Thin Film and Nanotechnology, and Gravitation and Cosmology etc. to blend all best in these areas of contemporary and applied Physics to create the post-graduates who are equally comfortable with science and technology. The department currently has a total of 123 students in Five year Dual degree programme, 14 students in M.Sc Programme, about 850 students in its roll which includes the B.Tech programme, and 14 Ph.D. scholars. The department is well equipped with laboratory facilities required to facilitate the need of undergraduate, post graduate students and the research activities. The department has faculty strength of 15 from all quarters of Physics.

A number of students from the Physics department secured high scores in prestigious NET and GATE examination and joined in various IITs and IISc to pursue further advanced research. Students graduated from Physics department got opportunity to pursue better research career in universities abroad and also secured job as Scientist in Bhaba Atomic Research Centre (BARC), a place of national pride.

The department has a vibrant research programme in various frontline areas of research including various projects sponsored by SERB-DST and CSIR which are currently going on. Physics department has received FIST project from Department of Science and Technology, Government of India. The faculty members ensure the best possible research work for the research scholars engaged in respective fields of research in the major thrust areas of Thin Film and Nano-Science, Liquid Crystals, Plasma Physics and Theoretical High Energy Physics. The faculty members have also established collaborative research with various national and international institutes of repute.



16.2 Academic Programme:

Apart from offering courses to the 1st year BTech engineering students, the department engages various undergraduate and post graduate courses. This includes 4+1 year BTMT and BSMS in Engineering Physics and Physics respectively. Also, the Department runs 2 year Msc programme in Physics. Below is the list of students in each semester.

16.3 Research and Consultancy

Sponsored Research Projects:

Sl. No.	Title	Period	Funding Agency	Amount (in lakhs)	Coordinators
1	Development of organometallic nano-composites and scientific investigation on their	2018-2021	CSIR	16.5	Dr. Biswajit Saha

	functionalization towards improved adsorptive removal of toxic dyes for application in industrial wastewater treatment				
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Research Publications:

Total No. of papers published in Refereed National Journals	: 06
Total No. of papers published in Refereed International Journals	: 26
Total No. of papers presented in international Conference	: 05

In Refereed International Journals:

1. N Deka, P Chakraborty, DC Patra, S Dhar, S P Mondal, "Self-powered broadband photodetection using PbS decorated ZnO nanorods/reduced graphene oxide junction", Materials Science in Semiconductor Processing, 118, 105165(2020).
2. S Dhar, P Chakraborty, N Deka, S.P. Mondal, "Broadband photosensing using p-type cupric oxide nanorods/conducting polymer Schottky junction" Chemical Physics, 529, 110578 (2020).
3. P Chakraborty, S Dhar, N Deka, K Debnath, S.P. Mondal, "Non-enzymatic salivary glucose detection using porous CuO nanostructures" Sensors and Actuators B: Chemical, 302, p.127134 (2020).
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5. P. Chakraborty, S. Dhar, K. Debnath, T. Majumder and S. P. Mondal, "Non-enzymatic and non-invasive glucose detection using Au nanoparticle decorated CuO nanorods", Sensors and Actuators B, 15, 776-785 (2019).
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7. S. Sarkar, B. Deb, B. Dey, S. Chakraborty, S. Suklabaidya, D. Bhattacharjee, S. Majumder, Y. Suzuki, J. Kawamata, S. A. Hussain, "Self-standing films of tetraindolyl derivative and saponite clay mineral with reversible colour switching properties." Journal of Physics and Chemistry of Solids, 114, 109487, (2020).
8. Ajit Debnath, Krishna Deb, Kartick L. Bhowmik, Biswajit Saha, Reduced Hopping Barrier Potential in NiO Nanoparticle-Incorporated, Polypyrrole-Coated Graphene with Enhanced Thermoelectric Properties, ACS applied Energy Materials, Article in Press (2020).
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10. Mahashweta Bhowmik, Animesh Debnath, Biswajit Saha, Effective Remediation of an Antibacterial Drug from Aqua Matrix Using CaFe₂O₄/ZrO₂ Nanocomposite Derived via Inorganic Chemical Pathway: Statistical Modelling by Response Surface Methodology, Arabian Journal for Science and Engineering, Article in Press (2020).

11. Akash Deb, Animesh Debnath, Biswajit Saha, Sono-assisted enhanced adsorption of eriochrome Black-T dye onto a novel polymeric nanocomposite: kinetic, isotherm, and response surface methodology optimization, *Journal of Dispersion Science and Technology*, Article in Press (2020).
12. Payel Das, Animesh Debnath, Biswajit Saha, Ultrasound-assisted enhanced and rapid uptake of anionic dyes from the binary system onto MnFe₂O₄/polyaniline nanocomposite at neutral pH. *Applied Organometallic Chemistry*, Vol 34, Issue 8, pages e5711 (2020).
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14. Akash Deb, Animesh Debnath, Biswajit Saha, Ultrasound aided rapid and enhanced adsorption of anionic dyes from binary dye matrix onto novel hematite/polyaniline nanocomposite: Response surface methodology optimization, *Applied Organometallic Chemistry*, Vol 34, Issue 2, pages e5353 (2020).
15. Mahashweta Bhowmik, Animesh Debnath, and Biswajit Saha, Fabrication of mixed phase CaFe₂O₄ and MnFe₂O₄ magnetic nanocomposite for enhanced and rapid adsorption of methyl orange dye: statistical modeling by neural network and response surface methodology, *Journal of Dispersion Science and Technology*, article in press (2019).
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19. Sarit Chakraborty, S. K. Mandal, Biswajit Saha, Optically tunable magnetoelectric properties of inorganic-organic multiferroic flexible film, *Journal of Applied Physics*, Vol 25, pages 204102, (2019).
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21. Sarit Chakraborty, S. K. Mandal, B.Saha, Magneto-optic and magneto-electric effects in poly(vinylidene fluoride)- Zn_{0.2}Co_{0.8}Fe₂O₄ nanocomposite organic flexible film. *Ceramics International*, Vol 45, Pages 14851-14858 (2019).
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25. Kamanashis Sarkar, Krishna Deb, Arun Bera, Ajit Debnath, Biswajit Saha, Tuning of Optical and Electrical Properties of Polyaniline on Flexible Cellulose through Eosin Y Dye Interaction, *Materials Research Express*, Vol 6, Pages 075317 (2019).
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3. Manash Kr. Paul and S. Chakraborty, Response to "Sheath Oscillations During Directional Motion of Fire Tube Formation in Expanding RF Plasma", vol. 27, pp. 014704, 2020.
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17.0 PRODUCTIONENGINEERING DEPARTMENT

17.1 Introduction

Production Engineering Department was established in the year of 2005 while it was Tripura Engineering College (presently National Institute of Technology) and is approved by AICTE. Presently the department is offering Bachelor of Technology in Production Engineering and M.Tech in Computer Integrated Manufacturing and as well as Doctoral Programme where students are encouraged to acquire knowledge facilities with an integrated thinking about education research & development, production and training. The students are provided knowledge to understand the fundamental of basic sciences and humanities, inter disciplinary knowledge, innovation, creative and problem solving abilities, intellectual honest and professional ethics, capacity for team work in inter disciplinary, national and international environment. It also helps the students to understand society, culture and global processes. The department helps to induce entrepreneurship interest in students. Also to align and educate our students from Production Engineering Department to improve their fundamental knowledge to bring innovative technology and to build products either by themselves or by working with various industries to boost economic condition of our county and also North-East part of India.

The Department has seven numbers of permanent faculty and five numbers of contractual faculty members. All faculties are deeply involved in academic, research and administrative responsibilities of the Institute.

The Production Engineering Department is having Metallographic, Non Traditional Machining, CNC automation & Robotics, Ergonomics & Condition Monitoring, CAD/CAM, Metal Forming and Metal Casting, Mechanics of Machine laboratory, Mechatronics Laboratory and Quality Engineering Laboratories.

PICTURES OF EXISTING LABS



Pictures of Non Traditional Machining Laboratory



Pictures of CNC, Automation and Robotics Laboratory



Picture of Metallography Laboratory Picture of CAD/CAM Laboratory



Picture of Condition Monitoring



Picture of Metal Casting and Forming Laboratory



Picture of Strength of Material Laboratory

17.2 Faculty and their Activities

Short-Term Courses/ Workshops/ Seminars/ Symposia/ Conferences organized by the faculty members:

Sl. No.	Coordinators	Title	Period
<i>Workshop</i>			
1.	Dr. Uttam Kumar Mandal & Mr. Debashis Podder	"Recent Advances in Material Science & Engineering"	19 th -23 rd August, 2019
2.	Dr. Swarup Paul & Dr. Sujoy Chakraborty	"Sustainable Manufacturing and Advancement in Non-Traditional Machining Approaches"	22 nd -26 th January, 2020

Short-Term Courses/ Workshops/ Seminars/ Symposia/ Conferences/ Training attended by the Faculty in Academic Institutions and Public Sector Undertakings:

Sl. No	Name of the Faculty	Title	Period
Workshop:			
1.	Dr. Sujoy Chakraborty, Dr. Bishop Debbarma, Ms. Pushparenu Bhattacharjee, Dr. Nabarun Biswas	"Recent Advances in Material Science & Engineering"	19 th -23 rd August, 2019
2.	Dr. Bishop Debbarma, Ms. Pushparenu Bhattacharjee, Dr. Nabarun Biswas, Mr. Debashis Podder	"Sustainable Manufacturing and Advancement in Non-Traditional Machining Approaches"	22 nd -26 th January, 2020
Conference:			
1.	Dr. U.K. Mandal	"52 nd Annual Convention of the Operational Research Society of India and International Conference"	15 th -18 th December, 2019
2.	Dr. U.K. Mandal	"International Conference on Advances in Mechanical Engineering"	10 th – 11 th January, 2020
3.	Dr. U.K. Mandal	"International Conference on Clean and Renewable Energy"	10 th – 12 th July, 2019
4.	Dr. Kishan Choudhuri & Dr. Swarup Paul	"International Conference on Precision, Meso, Micro & Nano Engineering [COPEN11]"	12 th to 14 th December 2019

Fellowships of Academics and Professional Societies:

Sl. No.	Name of Faculty	Level	Year
ISTE/CSI and others			
1.	Dr. Prasenjit Dutta	Member (IEI)	2015
2.	Dr. Kishan Choudhuri	i. Associate Member (IEI) ii. Member (ISTE) iii. Member (FOSET)	2000 2004 2009
3.	Dr. Swarup Paul	i. Associate Member (IEI) ii. Member (ORSI) iii. Member (ISTE) iv. Member (TSI) v. Member (SAE) vi. Member (FOSET)	2001 2008 2009 2011 2009 2010
4.	Dr. U.K Mandal	Member (IEI)	2014
5.	Dr. Bishop Debbarma	Associate Member (IEI)	2014
6.	Dr. Sujoy Chakraborty	Associate Member (IEI)	2010
7.	Dr. Nabarun Biswas	Associate Member (IEI)	2010
8.	Ms.Pushparenu Bhattacharjee	Associate Member (IEI)	2014
9.	Mr. Debashis Podder	Associate Member (IEI)	2015

*IEI- The Institution of Engineers (India), *ISTE- The Indian Society for Technical Education, *FOSET- Forum of Science Engineering and Technology, *ORSI- Operational Research Society of India, *TSI- Tribology Society of India, *SAE- Society of Automotive Engineering.

17.3 Design and Development Activities:

The Department of Production Engineering has equipped with some advanced laboratories with modern equipments. The details are given below:

1) CNC Wire Cut EDM 2) Electric Discharge Machine 3) Five Axis Robot 4) CNC Vertical Milling 5) Rockwell Hardness Testing Machines 6) Vickers's Hardness Testing Machines 7) Direct Reading Ferro Graph & Analytical Ferro Graph 8) Muffle Furnace 9) Induction Furnace 10) Hydraulic Press 11) Pneumatic Hammer 12) Image Analyzer 13) CAD Software- CATIA, PRO-E, DELMIA 14) 3D Surface Profilometer

17.4 Research and Consultancy:

Research Publications:

Total No. of papers published in Refereed International Journals : 18 (Eighteen)

Total No. of papers presented in International Conferences : 07 (Seven)

In Refereed International Journals:

1. Das, S., Paul, S., & Doloi, B. (2019). Application of CFD and vapor bubble dynamics for an efficient electro-thermal simulation of EDM: an integrated approach. The International Journal of Advanced Manufacturing Technology, 102(5-8), 1787-1800.
2. B. Bhattacharjee, P. Chakraborti, K. Choudhuri, "Evaluation of the performance characteristics of double-layered porous micropolar fluid lubricated journal bearing." Tribology International, (2019), Vol. 138, pp. 415-423.
3. B. Bhattacharjee, P. Chakraborti, K. Choudhuri, "Theoretical analysis of single-layered porous short journal bearing under the lubrication of micropolar fluid." Journal of the Brazilian Society of Mechanical Sciences and Engineering, (2019), Vol. 41, pp. 365 (1-9).
4. Das, S., Paul, S., & Doloi, B. (2019), "An experimental and computational study on the feasibility of bio-dielectrics for sustainable electrical discharge machining", Journal of Manufacturing Processes, 41, 284-296.
5. S Debnath, G R K Sastry, R Naresh Rai, "Multi-Objective Decision Making Optimization for Electro Discharge Machining Process of Al-4.5Cu-SiC Composite Using Fuzzy-Topsis", Journal of Scientific & Industrial Research, Vol-27, Feb. 2019, PP. 86-90.
6. Rabisankar Debnath, Gadepalli Ravi Kiran Sastry, Ram Naresh Rai, "An experimental investigation of performance and emission of thumba biodiesel using butanol as an additive in an IDI CI engine and analysis of results using multi-objective fuzzy-based genetic", Environmental Science and Pollution Research, 26(3) 2019, pp. 2281-2296.
7. Biplab Bhattacharjee, Prasun Chakraborti, Kishan Choudhuri, "Theoretical Investigation of Porous Hydrostatic Journal Bearing under Micropolar Fluid Lubrication". Proceedings of the Institution of Mechanical Engineers, Part N:

- Journal of Nanomaterials, Nanoengineering and Nanosystems, (2020), Vol. 234, pp. 11-18.
8. Biplab Bhattacharjee, Prasun Chakraborti, Kishan Choudhuri, "Nano-fluid Lubrication of Single-Layered Porous Hydrostatic Bearing: A Theoretical Approach." Journal of the Brazilian Society of Mechanical Sciences and Engineering, (2020), Vol. 42, pp. 365 (1-9).
 9. Das, S., Paul, S., & Doloi, B. (2020), "Feasibility Investigation of Neem Oil As A Dielectric For Electrical Discharge Machining", The International Journal of Advanced Manufacturing Technology, 106(3-4), 1179-1189.
 10. Syed Abou Iltaf Hussain, Binayak Sen, Archisman Das Gupta, Uttam Kumar Mandal, "Novel Multi-objective Decision-Making and Trade-of Approach for Selecting Optimal Machining Parameters of Inconel-800 Superalloy" Arabian Journal for Science and Engineering, 45, pages 5833–5847 (2020).
 11. Binayak Sen, Syed Abou Iltaf Hussain, Mozammel Mia, Uttam Kumar Mandal, Sankar Prasad Mondal, "Selection of an ideal MQL-assisted milling condition: an NSGA-II-coupled TOPSIS approach for improving machinability of Inconel 690" The International Journal of Advanced Manufacturing Technology, 103, Issue 5-8 (2020).
 12. Binayak Sen, Mozammel Mia, Uttam Kumar Mandal, Sankar Prasad Mondal, "Influence of Al₂O₃ and palm oil-mixed nano-fluid on machining performances of Inconel-690: IF-THEN rules-based FIS model in eco-benign milling" The International Journal of Advanced Manufacturing Technology, 103, Issue 9-12 (2020).
 13. Binayak Sen, Mozammel Mia, Uttam Kumar Mandal, Sankar Prasad Mondal, "GEP- and ANN-based tool wear monitoring: a virtually sensing predictive platform for MQL-assisted milling of Inconel 690" The International Journal of Advanced Manufacturing Technology, 105, pages 395–410 (2019).
 14. Binayak Sen, Mozammel Mia, Uttam Kumar Mandal, Bapi Dutta, Sankar Prasad Mondal, "Multi-objective optimization for MQL-assisted end milling operation: an intelligent hybrid strategy combining GEP and NTOPSIS", Neural Computing and Applications, 31, pages 8693–8717 (2019).
 15. Binayak Sen, Mozammel Mia, G. M. Krolczyk, Uttam Kumar Mandal, Sankar Prasad Mondal, "Eco-friendly cutting fluids in Minimum Quantity Lubrication assisted machining: A review on the perception of sustainable manufacturing", International Journal of Precision Engineering and Manufacturing-Green Technology, 2019.
 16. Arvind Kumar, Arnab Pal, Ram Naresh Rai, "MOGA Optimization of Wear Performance of Stir Cast AA7050/B4C-T6 Ex-Situ Metal Matrix Composite", International Journal of Materials and Product Technology, 2020.
 17. Arvind Kumar, Ram Naresh Rai, "Grey-Taguchi and TOPSIS-Taguchi-Based Optimisation of Performance Parameters of Spark EDM on Heat-Treated AA7050/5 B4C Composite", J. Inst. Eng. India Ser. D (2020) 101(1):71–79.
 18. Hussain, S. A. I., Baruah, D., Dutta, B., Mandal, U. K., Mondal, S. P., & Nath, T. (2019). "Evaluating the impact of service quality on the dynamics of customer satisfaction in the telecommunication industry of Jorhat", Assam Telecommunication Systems, 71(1), 31-53.

In Proceedings of International Conference

1. Podder D., Mandal U.K., Chakraborty S., Biswas N., Preparation of a New Hybrid Reinforced MMC by Using a Commercially Low Cost New Casting

- Process to Check the Mechanical Property and Microstructure, 1st International Conference on Clean and Renewable Energy, NIT Durgapur, pp- 53, 10th – 12th July, 2019.
2. Hussain SAH., Chandra H., Sen B., Mandal U.K., "Bi-objective Firefly Optimization Algorithm for Multi-stage Parallel Machine Scheduling", International Conference on Advances in Mechanical Engineering, VNIT Nagpur, pp- 83, 10th -11th January, 2020.
 3. Sen B., Chandra H., Mandal U.K., "Artificial Intelligence-Fuzzy Logic Synergy: A Promising Pathway in the Characterization of the Machining Performance Profile of Inconel 690", International Conference on Advances in Mechanical Engineering, VNIT Nagpur, pp- 84, 10th -11th January, 2020.
 4. Mandal U.K., Podder D., Chakraborty S., Karmakar B., "Preparation of SiC and Al₂O₃ of Single, Double, and Triple Particle Size Reinforced AMC by Using Vacuum Moulding and Stir Casting to Investigate the MRR of the AMC", International Conference on Advances in Mechanical Engineering, VNIT Nagpur, pp- 83, 10th -11th January, 2020.
 5. Mandal U.K., "Emopso Algorithm with Mutation Factor for Scheduling Multi-Stage Parallel Machine Problem", 52nd Annual Convention of the Operational Research Society of India and International Conference, pp-109, 15th-18th December, 2019.
 6. Paul S., Das S., Paul Sukomal., Doloi B., "Investigation of the Impact of Bio-dielectric on the Sustainable Electric Discharge Machining of Ti6Al4V", International Conference on Precision, Meso, Micro & Nano Engineering [COPEN11], IIT Indore, 12th to 14th December 2019.
 7. Podder S., Choudhuri K., "Fabrication & Experimental Investigation of a Three Finger Robotic Gripper Actuated by Micro Servos", International Conference on Precision, Meso, Micro & Nano Engineering [COPEN11], IIT Indore, 12th to 14th December 2019.

Book Chapter:

SL No.	Authors	Title of the Paper	Book Title	DOI	Date of publishing
1.	Hussain, S. A. I., Mandal, U. K., & Mondal, S. P.	Developing a Decision-Making Model Using Interval-Valued Intuitionistic Fuzzy Number	In Harmony Search and Nature Inspired Optimization Algorithms	DOI: 10.1007/978-981-13-0761-4_27	2019
2.	Hussain, S. A. I., Mondal, S. P., & Mandal, U. K.	Vikor Method For Decision Making Problems in Interval Valued Neutrosophic Environment	Fuzzy Multi-criteria Decision-Making Using Neutrosophic Sets	DOI: https://doi.org/10.1007/978-3-030-00045-5_22	2019
3.	Mondal, S. P., Hussain, S. A. I., Sen, B., & Mandal, U. K.	Linear and Non-linear Neutrosophic Numbers	Fuzzy Multi-criteria Decision-Making Using Neutrosophic Sets	DOI: 10.1007/978-3-030-00045-5_4	2019

Distinguished Visitors to the Departments:

Sl.No.	Name of the Visitors and Designation	Date of Visit	Purpose of Visit
1.	Prof. Arvind Jayant, Professor, Sant Longowal Institute of Engineering and Technology	12 th May, 2019	External Examiner
2.	Prof. Biswanath Doloi, Professor, Jadavpur University	22 nd January, 2020	Expert Speaker
3.	Prof. Shankar Singh, Professor, Sant Longowal Institute of Engineering and Technology	23 rd January, 2020	Expert Speaker
4.	Prof. Partha Saha, Professor, IIT Kharagpur	22 nd January, 2020	Expert Speaker
5.	Dr. Manas Das, Associate Professor IIT Guwahati	24 th January, 2020	Expert Speaker
6.	Prof. K.P. Maity, Professor, NIT Rourkela	25 th January, 2020	Expert Speaker
7.	Prof. Indrajit Chakraborty, Professor, IIT BHU	20 th August, 2019	Expert Speaker
8.	Prof. Dipankar Bandyopadhyay, Professor, IIT Guwahati	20 th August, 2019	Expert Speaker
9.	Prof. Balasubramaniam, Professor, IIT Madras	22 nd August, 2019	Expert Speaker
10.	Prof. Rahul Mitra, Professor, IIT Kharagpur	20 th August, 2019	Expert Speaker
11.	Prof. Rajesh Prasad, Professor, IIT Delhi	17 th August, 2019	Expert Speaker
12.	Prof. Joseph Anand Vaz, Professor, NIT Jalandhar	22 nd August, 2019	Expert Speaker
13.	Dr. P Karuna Purnapu Rupa, Associate Professor, Tripura University	23 rd August, 2019	Expert Speaker

18.0 CENTRAL LIBRARY

18.1 Introduction:

NIT Agartala Central Library inherited some of its resources from the then Tripura Engineering College, controlled and managed by Dept. of Higher education, Govt. of Tripura in 2006. In the year 2010 the Central Library shifted to a building with a carpet area of 727.18 SqM. Since then it has grown in size and content to take a notable shape. In January 2018 the library has been shifted to its newly constructed sophisticated building with all modern amenities for library readers. At present the ground floor with 2282.00 sqm. and the first floor with 2282.00 sqm. of the new building is being utilized by the library. Since the new building has large floor area the collections have been arranged and separated department wise for easy searching of books. It has separate non-book section, reserved section and foreign books section. A separate non-book section is opened for the benefit of the PG and PhD scholars and faculty members of the institute. The library is at present equipped with facilities and resources in the forms of books, e-journals, dissertation, thesis, CD ROM, back volumes journals etc. Purified water facility, ample lit space for reading with adequate sitting capacity are provided in both the floors for making an aesthetic appeal to the library users. It has a separate conference room with 20 seating capacity. The Bio-metric attendance of library staff has already been introduced. The library is also covered with CCTV surveillance.

The library is equipped with fully functional RFID system to ensure the facility like security, automated issue & return of books, self check-in & check-out facility and tracking of tagged library materials under these systems. 30000 selected volumes of books have been 'RFID tagged'. Process is going on for tagging entire collection of the library under the RFID systems. Library is now functioning to attain the goal of creating knowledgeable persons in the society as well as to provide modern library facilities to its readers.

18.2 Library Information Services Statistics:

Item	2017-2018	2018-2019	2019-20	Remarks
A. Collections:				
Books	85336(As per Accession register)	85452(As per Accession register)	89714 [63981(GL)+25733(BB)]	Current physical book as per accession register 73800 . As because 15914 nos of books fall under damaged, written off, missing, Accession dropped, torned etc.
Ph. D. Theses	86	107	116	09 nos of PhD thesis added during this period
Book Bank (General)	Nil	116	Nil	
Book Bank (Weaker Section)	956	NA	NA	
Current Periodicals by	9	8	8	

Subscription				
Current Periodicals by Exchange/ Gift	174	302	22	
C.D	662	662	662	
B. Membership:				
Staff	10	1	3	
Faculty	4	5	10	
Students	1052	1081	1195	
C. Services : Circulation				
Number of Readers visited	28239	17818	42613	
Number of Books/ Journals issued	14205	15426	18874	
Number of Books issued Book Bank (Weaker Section)	3598	NA	NA	
Overdue & other charges collected	Nil	Nil	167837	
Xerox charges collection	Nil	Nil	Rs.407	
D. Reservation of Books				
Registered	55	10	15	
Fulfilled	51	8	14	
E. Loans				
Permanent Loan issued	65	Nil	Nil	
CD-ROM search by users	5	8	4	
F. Reprography Service				
Number of Xerox copies supplied	Nil	Nil	407	
G. Expenditure on				
Books Printed	Rs.4,39,930	Nil	Rs.21,57,077	(Payment is yet to be made)
Printed Journals	Rs.23,892	Nil	Nil	
E-books	Nil	Nil	Nil	e-resources has been made available through ESS only.
E-journals	Nil	Nil	Nil	
H. New Journals Added	585	2856	2778	e-journals added through ESS
I. Any other material, if any:	Yes	Yes	Yes	Glass Door Almirah, AC, Digital Copier, Office Chair, Desktop PCs, Stand Fan, networking items etc.

18.3 Binding Facilities:

Torn books are bound by the library staff. There is a plan to start a binding section in NITA Central Library in future.

18.4 New Facilities/ Equipments added:

Data entries of books have been completed (except the newly purchased ones) to enrich the OPAC system (LAN) in the library for searching the repositories in the library mainly under three approaches - Authors, Titles and subjects. Non-book section is opened recently in the library. Some reading tables (ten) 10 nos with adequate seating capacity, water purifier and cooler- 2 nos, 20 seater conference table and chairs and a biometric attendance machine have been added in the library. NITA Central Library is covered with the CCTV surveillance. Library has started fully automated circulation system for books. Building of Digital Repository of the institute through DSpace is already in progress. Institute library is also providing the facility of plagiarism checking through URKUND software.

18.5 Future Plan:

- (i) RFID tagging of entire collection of the library.
- (ii) Complete automation of NITA Central library.
- (iii) Starting documentation work and services on different subjects specially in Science and Engineering.
- (iv) Providing resource sharing and inter-library loan facilities.
- (v) Launching user-education programme.
- (vi) Online question paper facilities to be provided for different PG & UG previous years examinations.
- (vii) Building complete repository of institute.

18.6 Other activities:

Library staff has also participated in the online training cum workshop on library software.

19.0 STUDENT AMENITIES AND ACTIVITY

19.1 Hostels:

The Institute has both Boys' and Girls' Hostel facilities. Students are accommodated in 4 Boys' Hostels and 1 Girls' Hostel. Present status of the Hostels is given below:

Name of the Hostel/ Unit	Name of the Warden	Hostel Seat Capacity	Seat Occupied
Aryabhatta Hostel	Dr. P Jawahar Dr. Susanta Ghanta Dr. Tridib Bhowmik Mr. Prashant Bharadwaj	944	850
Dhalai & Gomati Hostel	Dr. Subrata Kumar Ghosh Dr. Muthusivaramapandian	208	67
RNT	Dr. Mitra Barun Sarkar Dr. Dijendranath Roy Dr. Apurba Chakraborty Dr. Chakradhar Behera	1554 (Single)	1084
Gargi (Girls Hostel)	Dr. Nabamita Goswami Dr. Nandini Roy	436	405

19.2 Medical Facilities:

A well equipped Medical Unit with three Medical Officers, Two Pharmacists, Two Nurse and other supporting staff is available in the campus for rendering medical care to the students, staff and other inmates of the campus. Presently we have three Ambulances in our Medical Unit. In case of medical emergency, arrangements are made for taking the patients to the Jirania Rural Hospital (Primary Health Centre) which is 4 K.M. away from the campus or to the State Hospitals in Agartala.

19.3 NCC:

NIT Agartala has started the NCC unit of 100 cadets for Boys and Girls.

19.4 Gymkhana:

The NITA Student Gymkhana is an active student organization that acts as a link between the students and the administration. The Gymkhana promotes the objectives of fostering extra-curricular and co-curricular activities and welfare of students. The Gymkhana is managed by the students for the students, under the guidance and active participation of the faculty and staff members. It comprises of four committees' viz. Cultural committee, Sports and games committee, Technical and Alumni committee. In the hierarchy, individual secretaries of clubs and committees work under the general secretaries. All the members of the Students' Gymkhana are elected by the students.

19.5 ACTIVITY OF SPORTS, CULTURAL, TECHNICAL & NSS:

Sl.	EVENTS CONDUCTED	ACHIEVEMENTS	DATE
1.	WORLD'S HEALTH DAY	Successfully Organized	07th APRIL,2019
2.	PRIZE DISTRIBUTION CEREMONY	Successfully Organized	3rd MAY,2019

3.	INTERNITONAL DAY OF YOGA CELEBRATION	Successfully Organized	21ST JUNE 2019
4.	INDEPENDENCE DAY CELEBRATION	Successfully Organized	15TH AUGUST 2019
5.	AAYAM 7.0	Successfully Organized	31 st October,2019 to 2 nd November 2019
6.	STATE LEVEL NSS AWARD RECEIVED	MR. ANUPAM PAL, NSS Programme Officer & NSS Unit NITA	24.09.2019
7.	BLOOD DONATION CAMP	Successfully Organized	07.12.2019
8.	NSS SPECIAL CAMP	Successfully Organized	7 th December 2019 to 12 th December 2019
9.	SWACHA BHARAT ABHIYAN	Successfully Organized	2 nd October 2019
10	Inter NIT Athletic Meet, NIT Rourkela	Achievement: 100 mtr and High Jump(Bronze-2 nos), High Jump Men and Women, Hurdle women (Silver-3 nos)	24-26 January 2020
11	Inter NIT (Gym, Chess and Tennis) at NIT Jaipur	Achievement: Champion of the Champion(Mr. NIT), Mr. Anirudha Patel, 3 rd year ME Dept	17-19October, 2019
12	Annual Athletic Meet (Under Fit India Movement Programme)	Successfully Organized at NIT Agartala	1 st and 2 nd February, 2020
13	Inter Department Football(Under Fit India Movement Programme)	Successfully Organized at NIT Agartala	21 st October 2019
14	Inter Department Cricket (Under Fit India Movement Programme)	Successfully Organized at NIT Agartala	26 th October 2019
15	Khel Kabadi Competition (Under Fit India Movement Programme)	Successfully Organized at NIT Agartala	30 th October 2019
16	Inter NIT	Participation in Inter NIT (T.T and Yoga) at NIT Silchar	11 th to 13 th October 2019
17	Inter NIT Basketball and	Successfully Participated	17 th to 19 th January

	Kabadi at NIT K Suratkal		2020
18	Yoga Session under Fit India Movement	Successfully Organized at NIT Agartala	15 th February 2020
19	EBSB DAY	Successfully Organized at NIT Agartala	6 TH Dec.2019
20	EBSB Club formed in NIT Agartala		10 th Jan.2020
21	SWACHHTA PAKHWADA	Successfully Organized at NIT Agartala	16 Jan to 31 st Jan 2020
22	EBSB DAY	Successfully Organized at NIT Agartala	8 th Feb. 2020
23	EBSB CLUB DAY	Successfully Organized at NIT Agartala	22 nd Feb 2020

19.6 Other Activities:

The students of NIT-A participated in the national level Technical Fest organized by different IITs and NITs. They are also actively engaged in different technical and cultural clubs like - Music, Photographic, Dance, Robotics, Magazine, Fine Art, Drama Club, Soft Skill development, Programming, Meditation, Science and Trekking Clubs. The students also take part in different activity on the 'Engineer's Day' organized by IEI.

20.0 CENTRE FOR CAREER DEVELOPMENT

20.1 Introduction:

The Institute has a dedicated Centre for Career Development for organizing industrial training, study tours, Apprenticeship Training and Placement for all the students. The placements have benefited the institute with proud statistics from the past year with an outstanding percentage of almost 84.54% of total eligible students being placed in organizations of high repute. Last year, total 350 offers (Total eligible students of B.Tech is 414) have been received from different companies and organizations like Synopsis, Yodlee, Amdocs, Capgemini, L&T Heavy, Wipro, L&T Construction, Oracle GBU, Allstate, Maruti Suzuki, Medlife, MAQ Software, Topper.com, KPIT, Infosys, Oracle Finance, Deloitte, Avanti Learning Centre, Vedanta, ADP, Reliance Industries, Tata Projects etc.

This year too, since July 2019, the turn out of various organizations and companies of repute have been very high in our institute. Because of the immense efforts by the entire Placement team of the institute, the institute has recorded sky high turn out of companies, in a short span of time. Companies which have already visited us in this short span of time are organizations like TVS Motors, Mechmocha, LnTInfotech, First American, Tredence Analytics, Samsung R&D (Bangalore) and Samsung R&D (Delhi), Capgemini, Reliance IT, Amdocs, Nokia, Jungle Works, Tata Steel, Delhivery, Alstom, Saggeza, Wipro, Accenture, Addverb, Samsung R&D Delhi, Addverb, Byju's, Oracle Finance, Reliance Jio, Value Lab, Virtusa, IBM and Tata Projects. Till now, the placement team has fetched the institute a total number of 204 (overall) job offers. In the pipeline are reputed organizations such as Amazon, Samsung (Noida), L&T Construction, Ashok Leyland and Infosys. I appeal to the students' community to act as our brand ambassadors in the companies in which they are placed, and ensure that their respective organizations participate in the placement drive of our institute. Through this I request all the students to help us in achieving better institutional development, and thus participate in the entire process of nation building.

Placement cell also provides internship to pre final year engineering students during summer and winter vacations in different organizations like Airports Authority of India, Bharat Coking Coal Limited, CSIR-Institute of Minerals and Materials Technology, Hindustan Petroleum Corporation Limited, Tripura State Pollution Control Board, ILS Hospital Agartala, Hetero Biopharma, Vertex Living Mordernised, Tripura Housing & Construction Board, Tribeni Construction Limited, Tata Steel Limited, Google India, IOCL Bongaigaon Refinery, Identiv Technologies, IIT Kharagpur, Linux World Pvt. Ltd. etc.

20.2 Faculty and their activities:

Name of the Faculty	Designation	Function
Dr. Mrs. Tara Sen	Chairman and TPO, CCD	All placement related matters comprising of mentoring and monitoring, and institution-company relationship management, futuristic industry-institute relationship building, HR management and communication, student management pertaining to placements, student grievances and redressal, Placement percentage

		enhancement activities, placement policy formulation, Students coordinator guidance and monitoring, etc. Student grievances and redressal for placements purpose.
Mr. Subhajit Deb	Assistant TPO	Assisting the TPO in all the above stated endeavors and additionally arrangements of HR accommodation, lab arrangements for online test, manpower arrangements for online tests, vehicle arrangements, all PPT, LAB SET UP, auditorium arrangements, HR management and communication etc.
Dr. Bibhab Kumar Lodh		
Mr. Apangshu Das	Faculty coordinator, CCD	All accounts related to placements only in CCD, HRs and placement incurred food Bills, vehicle Bills, guest house accommodation Bills, etc., and adjustments of the same for CCD. All communications related to other departmental coordination required in terms of placements.
Mr. Partha Kumar Deb		
Dr. P. Jawahar	Vice-chairman	All coordination and arrangements of Training and internship related activities. Company handling for exclusive internships and apprenticeships for students, 2 nd and 3 rd year students grievances and redressal for training and internships. Coordinator of mock test and MOCK interviews etc. Communication with company pertaining to internships.
Dr. Rajib mallik	Faculty Coordinator, CCD (Training and Internships)	All training and internship related arrangements, arrangements for internship interviews, and assisting the vice- chairman in all the above endeavors. Communication with company pertaining to internships. Along with chairman all CCD related data management and handling pertaining to TEQIP, MHRD, NIRF, Parliamentary questions and RTI etc. All communications related to other departmental coordination required in terms of data for TEQIP, MHRD, NIRF, Parliamentary questions and RTI etc.
Dr. Kaju Nath		Accounts related to CCD with regards to Audit settlement and all Purchase related to CCD and over-all accounts Monitoring of CCD and up-keeping of all accounts related registers etc. Internal auditing once in two-months for all CCD accounts.

Visits in India by Faculty:

Sl. No.	Name of Faculty	State Visited	Date	Purpose of Visit
1	Mr. Apangshu Das	Assam	13.07.2019	Regarding pool campus drive for North East Technical Colleges organized by NPIU

20.3 Design and Development Activities:

The institute has a dedicated Centre for Career Development for organizing industrial training, study tours, Apprenticeship Training and Placement for all the students. The placements have relented the institute with proud statistics from the past year with an, outstanding percentage of almost 94.12% of total eligible students being placed in organizations of high repute. Last academic year (2019-20), 374 students were eligible. Total 352 offers have been received from different companies and organizations like Oracle GBU, Byjus, Amdocs, Intel, Vedanta, Capgemini, Samsung R & D, Infoys, Reliance JIO, Wipro, Tredeence, L&T Construction, L & T Infotech, Optum, CGI etc.

We are happy to announce that this academic year too, since August 2019, the turn out of various organisations and companies of repute have been very high in our institute. Because of the immense efforts by the entire Placement team of the institute, the institute has recorded sky high turn out of companies, in a short span of time. Companies which have already visited us in this short span of time are organizations like Synopsis, like Oracle GBU, Byjus, Amdocs, Intel, Vedanta, Capgemini, Samsung R & D, Infoys, Reliance JIO, Wipro, Tredeence, L&T Construction, L & T Infotech, Optum, CGI etc. We appeal to the student's community to act as our brand ambassadors in the companies in which they are placed, and ensure that their respective organizations participate in the placement drive of our institute. Through this we request all the students to help us in achieving better institutional development, and thus participate in the entire process of nation building.

For the academic year 2019-20, students are placed in these organizations like TVS Motors-1, LnTInfotech-4, First American-2, Tredeence Analytics-5, Samsung R&D Bangalore-4, Capgemini-28, Reliance IT-3, Amdocs-6, Nokia-12, L&T Construction-35, Jungle Works-6, Tata Steel-1, Delhivery-6, Alstom-12, Saggeza-4, Wipro-24, Accenture-6, Samsung R&D Delhi-8, Addverb-1, Byju's-16, Oracle Finance-15, Reliance Jio-11, Value Lab-1, Tata Projects-4, Virtusa-5, PSA Avtec-4, Optum-2, Samsung R&D Noida-15, Infosys-20, Vedanta-5, Raam Group-2, CGI-6, Reliance Industries Ltd.-6, Anglo eastern-1, Vedanta Ltd-9, Maruti Suzuki-4, JCB-2, Cognizant-1, Tata Power-9, Oracle GBU-4, KEC International-4, DXC Technology-17, HDFC Life-19, Aarti Industries-1, L&T Ltd.-1.

CCD also provides internship to pre final year engineering students during summer and winter vacations in different organizations like Airports Authority of India, Bharat Coking Coal Limited, CSIR-Institute of Minerals and Materials Technology, Hindustan Petroleum Corporation Limited, Tripura State Pollution Control Board, ILS Hospital Agartala, Hetero Biopharma, Vertex Living Mordernised, Tripura Housing & Construction Board, Tribeni Construction Limited, Tata Steel Limited, Google India, IOCL Bongaigaon Refinery, Identiv Technologies,

IIT Kharagpur, Linux World Pvt. Ltd. etc. Last academic year (2019-20) total 413 students participated during Summer Vacation and 458 Students participated during Winter Vacation in training & internship activities.

Detailed placement report for UG level:

Branch	Total student eligible in under-graduate level	Name of the Company	Total offer in Bachelor Degree level Based on eligibility	Placement Percentage
Bio Engineering	7	Wipro Byju's DXC Technology HDFC Life	5	71.43
Chemical Engineering	24	Tredence Analytics Capgemini Jungle Works Byju's Infosys Vedanta Reliance Industries Ltd. Vedanta Ltd DXC Technology HDFC Life Aarti Industries	19	79.17
Civil Engineering	84	Tredence Analytics Capgemini L&T Construction Tata Steel Wipro Byju's Tata Projects Infosys CGI KEC International DXC Technology HDFC Life	49	58.33
Computer Science and Engineering	59	LnTInfotech First American Tredence Analytics Samsung R&D Bangalore Capgemini Reliance IT Amdocs Nokia Jungle Works Delhivery Alstom Saggeza Wipro	82	100

		Accenture Samsung R&D Delhi Byju's <i>Oracle Finance</i> Reliance JIO Value Lab <i>Samsung R&D Noida</i> CGI Cognizant Oracle GBU HDFC Life		
Electrical Engineering	47	Capgemini <i>L&T Construction</i> <i>Alstom</i> Wipro Accenture <i>Byju's</i> <i>Oracle Finance</i> Tata Projects <i>Virtusa</i> <i>Optum</i> <i>Infosys</i> CGI Vedanta Ltd Tata Power	44	93.62
Electronics & Instrumentation Engineering	22	<i>LnTInfotech</i> <i>Capgemini</i> <i>Nokia</i> Wipro <i>Oracle Finance</i> <i>Virtusa</i> <i>Infosys</i> <i>Vedanta</i> <i>Reliance Industries Ltd.</i> <i>Vedanta Ltd</i> <i>Tata Power</i> <i>DXC Technology</i>	23	100
Electronics and Communication Engineering	45	<i>LnTInfotech</i> <i>Tredence Analytics</i> <i>Capgemini</i> Reliance IT <i>Amdocs</i> <i>Nokia</i> <i>Jungle Works</i> Saggeza Wipro <i>Byju's</i> <i>Oracle Finance</i> <i>Reliance Jio</i> <i>Virtusa</i>	61	100

		Optum Samsung R&D Noida Infosys Raam Group KEC International DXC Technology HDFC Life		
Mechanical Engineering	62	TVS Motors Capgemini L&T Construction Alstom Addverb Byju's Tata Projects PSA Avtec Infosys Raam Group Anglo eastern Vedanta Ltd JCB DXC Technology HDFC Life L&T Ltd.	50	80.64
Production Engineering	24	Tredence Analytics Capgemini Alstom Wipro Accenture Byju's Maruti Suzuki JCB DXC Technology	19	79.17
Total Eligible in UG	374		352	94.12

Detailed placement report for PG level:

Branch	Total student eligible in PG level	Declaration given By the candidates for not participating in the campus drives	Name of the Company	Masters Degree level	Total (Total offers Declaration) Since the declaration by the candidates will be counted as placement	Placement Percentage
Civil Engineering	24		L&T Construction Infosys HDFC Life	14	14	58.33

			KEC International			
Computer Science and Engineering	10	1	Capgemini Amdocs Nokia Oracle Finance Oracle GBU	9	10	100
Electrical Engineering	25	2	Byju's IBM KEC International	8	10	40
Electronics and Communication Engineering	9		Nokia Cognizaant Intel	5	5	55.56
Mechanical Engineering	20	4	Infosys	3	7	35
MCA	14		Infosys Oracle Finance Oracle Finance Infosys NXT LifeTechnology	9	9	64.29
MBA	9		Bandhan Bank Future Group Axis Bank	8	8	88.89
BTMT	9	1	Byju's HDFC Life	2	3	33.33
BSMS	35	13	Infosys	2	15	42.86
Total	155	21		60	81	52.25

21.0. CAMPUS AMENITIES AND INFRASTRUCTURE DEVELOPMENT INITIATIVES

21.1 Introduction:

The Institute has gone through a rapid growth in its Infrastructure Development as per commitment in its strategic plan, a journey towards excellence. Converting an existing State Level Engineering Institute (Viz TEC) having infrastructure and logistic inadequacies into an institute of National excellence is a formidable challenge. But the growth process which has taken place during the last five years at NIT Agartala is an indication of growth oriented programmes and realistic planning in the right direction.

21.2 Major Works:

The Institute is spread over an area of 365 (three hundred sixty five) acres of land. The following major works have been completed.

Sl. No.	Name of the Works	Rupees in Lakhs
1.	Construction of Boys and Girls Hostels, Dining and Common Rooms.	11566.44
2.	Construction of Market Complex(G+1)	672.00
3.	Internal Road Development.	1441.94
4.	Construction of Laboratories cum Canteen Building, Workshop and Academic Building. Construction of G+6 Academic Building	5178.16
5.	Construction of Staff Housing, Guest House, Director's, Residence.	6046.49
6.	Construction of Central School	2395.00
7.	Construction of Administration Block I & II and Seminar Hall.	4765.86
8.	Construction of School of Management Block.	3722.41
9.	Construction of Computer Centre and Central Library.	7983.90
10.	Construction of New Housing (H4B two blocks consisting of 48 flats).	2698.54
11.	Construction of Duplex housing(10 nos)	1148.29
12.	Additional Floor of Central School.	995.85
13.	Construction of Sports Complex at NIT Agartala	6312.19
14.	Area development works in and around Central.	229.732
15.	Construction of 1500 Capacity Boys Hostel at NIT Agartala.	14415.40
16.	Up-gradation of the internal main road with both side footpath including side drain, electric post, sitting arrangement at a certain interval & conduit from main gate-1 to auxiliary gate-2 via housing and boys hostel & auxiliary gate-2 to main gate-1 and auditorium to existing play ground (old) at NIT Agartala	1164.75

Work in progress:

The following works are in progress.

Sl. No.	Name of the Works	Rupees in Lakhs
1.	Supply, Installation, Testing & Commissioning of 14 (fourteen) numbers lifts in Administrative Building 1 & 2, School of Management, ECE building, International Guest House & DoNER and Central Library at NIT Agartala.	417.13
2.	Special Repair, retrofitting and up gradation of Dhalai Hostel building, at NIT Agartala, Tripura.	99.88
3.	Special Repair, retrofitting and up gradation of Library building, at NIT Agartala.	70.23

21.3 Housing Facilities :

As regards residential buildings, staff housing units having 24 (twenty four) flats in each of H3A, H3B, H4A, H4B, H5 type housing and 12 (twelve) flats in each of H2A, H2B type housing have been completed and functional. The Director's Bungalow is completed and functional. New H4B2, H4B3 with 24 (twelve) flats each and 10 (ten) nos. duplex type housing are also completed and functional.

21.4 Guest House :

There is one Old Guest House at NIT Agartala having 13 Nos. double bed rooms and a Transit House at Agartala having two Single bed rooms, one double bed room and one conference hall. A new International Guest House having 33 (thirty three) single bed rooms, 10 (ten) suits and 05 (five) VVIP Suits is completed and functional.

21.5 Hostel :

Boys' Hostel : Arryabhata: 1000 Capacity, Howrah: 128 Capacity, Dhalai: 92 Capacity, Goumati: 128 Capacity, Girls' Hostel: Gargi: 500 Capacity are functional. The 1500 capacity boys' hostel (Rabindranath Tagore hostel) has been completed and functional. 200 capacity girls' hostel to be started shortly.

22.0 CENTRE FOR INDUSTRIAL CONSULTANCY AND SPONSORED RESEARCH

22.1 Introduction :

Our campus is witnessing an exponential growth in R&D activities. Apart from a large consultancy work undertaken by our engineering departments, academic research gains its momentum day by day. Papers have been published by our faculty members and research scholars in different refereed journals of international and national repute. Research papers have been presented in various conferences and symposia and symposia held at national international levels. Seminars, conferences, symposia at national level were organized by various departments of our Institute. Apart from academic activities our faculty members are also engaged with various consultancy works.

Our Institute has signed MOUs with industries and Institutions in and abroad to promote collaborative research and consultancies. Our faculty members have obtained major project funded by DST, DBT, FIST, ICSSR, ICMR, CSIR, Tribal Research and Cultural Institute, MGNREGA works for Tripura, Deen Dayal Upadhyaya Grameen Kaushal Yojana (DDU-GKY), Unnat Bharat Abhiyan and ISRO.

Faculties and students are actively involved in various research activities. Our Institute received Rs. 149.44 Lakhs in the financial year 2017-18, Rs.171.83 Lakhs in the financial year of 2018-19 and Rs.150.67 Lakhs in the financial year 2019-20 from the Sponsored Research Project. The faculty members of our Institute also published 96 numbers of SCOPUS and 198 numbers of SCI research articles in reputed journals in the year of 2019-20 (as on 26.12.2019).

22.2 Sponsored Research:

Sl No.	Sponsor -ing Agency	Project Title	Name of the PI & Co-PI	Sanctioned Value (Rs. In Lakh)
1	DBT	Sustainable production of algal biomass for production of biofuels :A holistic approval with bioremediation & economical harvesting technique .	PI: Prof. Umesh Mishra, Civil Engg. Dept. Co-PI: Dr. Muthusivaramadian Asst. Prof. Of Bio Engg ,Dr.BiswanathBhunia , Asst. Prof. Of Bio Engg , Dr Selvaraju N, Asst. Prof of Bio Engg IIT Guwahati .	15.916 Lakhs 29 th April 2019
2	ICSSR	Developing a methodology for Self-cleansing of urban strom water drainage system a scientific approach for greening smart city.	PI: Dr. Ratul Das, Associate Prof. Of Civil Engg. Dept.	4.00 Lakhs 11 th July 2019

3	DBT	Removal of methylene blue dye from aqueous medium by biochar adsorbent prepared from bio-sludge of Indian Standard Natural Rubber plant in Tripura.	PI: Dr. Ajay Kumar Manna, Assistant Prof. of Chemical Engg Dept.	9.45875 Lakhs 29 th April 2019
4	SERB	Development of a Low Cost Highly Sensitive and Selective Nitric Oxide (NO) Sensor for Asthma Diagnosis .	PI: Dr. Suvra Prakash Mondal Assistant Prof. Of Physics Dept.	55.18832 Lakhs 14 th May 2019
5	ICSSR	Skill Development in Tripura: Analysis on problems , challenges and opportunities .	PI: Dr. Anirban Dutta , Assistant Prof. SOM & H&SS Dept. Co-PI : Dr. Mili Kar , Assistant Prof. SOM & H&S Dept.	04.5 Lakhs 8 th July 2019
6	CSIR	Nonlinear plasma wave dynamics in unbounded planar or bounded nonplanar geometry.	PI: Dr. Debjit Dutta, Assistant Prof. of Mathematics Dept. NIT Arunachal Pradesh. Co-PI:Dr. Uttam Kumar Bera, Associate Prof. Of Mathematics Dept. Dr. Biswanath Sahu, Dept. Of Mathematics West Bengal State University.	4.785 Lakhs 5 th August 2019
7	Tribal Research and Cultural Institute	Demographic Profile of Scheduled tribes of Tripura(1901-2018)	PI: Dr. Debdulal Tripura, Associate Professor CE Dept.	5.00 Lakhs 5 th August 2019
8	ISRO	Flood Risk Assessment of Barak Basin in Assam State - A geospatial approach	PI: Dr. S.K. Biswal, Assistant Prof. of CE Dept. Co-PI: Dr. Mrinmoy Majumder, Associate Professor CE Dept.	3.00 Lakhs 3 rd Oct 2019
9	ISRO	Knowledge Guided GIS based Hydro-geochemical modeling to understand the sources & control	PI: Dr. Umesh Mishra, Professor of CE Dept. Co- PI: Dr. S.K. Biswal, Assistant Prof. of CE Dept.	21.041 Lakhs 3 rd Oct 2019

		of Arsenic (As) contamination in Groundwater of Tripura.	Dr. Priyanka Choudhury, Assistant Prof. of ECE Dept.	
10	ISRO	Long Term Trend in Weather Parameters and Atmospheric Chemistry and its Effect on Tea Cultivation over North-East India.	PI: Dr. Paritosh Bhattacharya, Associate Prof of Mathematics Dept. Co- PI: Dr. Umesh Mishra, Professor of CE Dept	19.804 Lakhs 3 rd Oct 2019
11	ISRO	Optimal resource planning in the jurisdiction of Agartala Municipal Corporation (AMC) using Geo Spatial techniques.	PI: Dr. Mrinmoy Majumder, Associate Professor CE Dept. Co-PI: Dr. Manish Pal, Professor of CE Dept.	16.36 Lakhs 3 rd Oct 2019
12	ISRO	Design and Development of High Data Rate Demodulator.	PI: Dr. SambhuNathPradhan, Associate Professor ECE Dept. CO-PI: Dr. TamasiMoyra (Panua), Assistant Prof. of ECE Dept. Mr.AnirbanBhattacharjee, Assistant Prof. of ECE Dept., Dr. Abhishek Nag, Assistant Prof. of ECE Dept.	13.00 Lakhs 3 rd Oct 2019
13	ISRO	Applicability of Electromagnetic Metamaterials in Antennas and Microwave Circuits for use in space applications. .	PI: Dr.Tamasi Moyra (Panua), Assistant Prof. of ECE Dept. CO-PI: Mr. Anirban Bhattacharjee, Assistant Prof. of ECE Dept	24.0352 Lakhs 3 rd Oct 2019
14	ISRO	Development of an Integrated, Miniature and Portable Air Pollution Monitoring System.	PI: Dr. Mitra Barun Sarkar, Assistant Prof. of ECE Dept. CO-PI: Dr. Sambhu Nath Pradhan, Assistant Prof. of ECE Dept. Dr. ApurbaChakraborty, Assistant Prof. of ECE Dept., Dr. Paritosh Bhattacharya,	24.0352 Lakhs 3 rd Oct 2019

			Assistant Prof. of Mathematics Dept. Mr. Biman Debbarma, Assistant Prof. of ECE Dept	
15	ISRO	Finding suitable precursors for Earthquakes for North Eastern Region.	PI: Dr. Jayanta Kumar Rakshit, Assistant Prof. of EIE Dept. CO-PI: Dr. Paritosh Bhattacharya, Associate Prof. of Mathematics Department.	10.184 Lakhs 3 rd Oct 2019

22.3 Consultancy Programmes:

Institute is actively engaged in performing various consultancies and testing works. Academic departments are performing testing & consultancy job in association with IRCON, MGNREGA works for Tripura, Deen Dayal Upadhyaya Grameen Kaushal Yojana (DDU-GKY), Department of Agriculture, Govt. of Tripura, ERM India Private Ltd. and PWD etc. Institute received Rs.60,44,851 Lakhs Rupees from different testing & consultancy activities in the year of 2019-20.

22.4 Industrial Associateship Scheme:

An Industrial Advisory Committee (IAC) is constituted with leading experts from the Industry associations to provide professional and technical input into curriculum and activities of the students. Experienced person from Industry frequently visit to the institute as examiner, resource persons in seminars/workshops, for syllabus review meeting etc.

22.5 MoUs Agreements signed:

NIT Agartala signed MOUs with industries and various institutions to promote collaborative research and consultancies. Our Institute has signed MOUs with Sonoma State University (SSU), California, USA on 12.08.2019, extended MOU with VNIT Nagpur on 29.12.2019 and IIT Delhi on 27.02.2020 in the year of 2019-2020.

22.6 Patents:

Sl. No	Title of the Invention	Inventor(s)	Department	Patent version no.	Date of filling of application
1.	SMART AGRONOMY MONITORING AND ENHANCING AN IRRIGATION EFFICIENCY	Dr. Mitra Barun Sarkar, Assistant Prof. ECE Dept. Ankit Rupam, Abriti Roy	Electronics And Communication Engineering	201931 029993	25.07.2019

2	SMART GARBAGE MONITORING DEVICES	Dr. Mitra Barun Sarkar, Assistant Prof. ECE Dept. Mr. Sabyasachi Mukhopadhyay , Dr. Paritosh Bhattacharya, Associate Prof. of Mathematics Dept.	Electronics And Communication Engineering	201931 040157	04.10.2019
3	NOVEL POLYMERIC BLEND FOR MAKING BIOLOGICAL JOINT PROSTHESIS AND METHOD OF MAKING THE SAME	Dr. Prasun Chakraborti, Prof. of ME Dept. Shankar Swarup Das	Mechanical Engineering	201931 042737	22.10.2019
4	AN ELECTRONICS SYSTEM FOR WRITING USING CONVENTIONAL ACCESSORIES	Dr. Ashim Saha, Assistant Prof. of CSE Dept.	Computer Science and Engineering	TEMP/E-1/60/20 20-KOL	04.01.2020

22.7 Other Information :

As a part of innovation and startup activity, the Institute has participated in IIC Innovation Contest 2020. We have received 21 ideas, 2 Proof of concept and 24 Prototypes for evaluation. The cell has been encouraged both students and faculty members for participating in innovation and related activities.

23.0. TEQIP - III

23.1 Introduction:

The Technical Education Quality Improvement Programme (TEQIP) was launched by the Government of India with the World Bank assistance to scale-up and support ongoing efforts to improve quality of Technical Education and enhance existing capacities of the Institution to become dynamic, demand-driven, quality conscious, efficient and forward looking, responsive to rapid economic and technological developments occurring both at National and International levels. TEQIP is a long term Programme of 10-12 years duration planned to be implemented in 2-3 phases. The first phase of the TEQIP commenced in March 2003 and ended in March 2009. TEQIP phase two has been introduced in National Institute of Technology Agartala on 3rd August 2011 and closed in 2017 and now NIT Agartala got TEQIP-III. Rs. 1500.00 lakh has been sanctioned for NIT Agartala under TEQIP-III. Total expenditure of NIT Agartala under TEQIP-III for the F.Y. 2019-20 is Rs. 766.04 lakh. From TEQIP-III, fund has been provided for procurement of equipments/software/furniture, Research Assistantships for PhD Scholars and for attending & conducting workshop, conference, training etc.

- Student Induction Programme for the 1st Year UG students for the A.Y. 2019-20 was conducted at NIT Agartala under TEQIP-III.
- GATE training for final year B.Tech students for the A.Y. 2019-20 was conducted under TEQIP-III.
- Total 15 (fifteen) nos. of workshops, conferences etc. were conducted at NIT Agartala by the various departments under TEQIP-III.
- Financial assistance has been given from TEQIP-III for filling 5 (five) numbers of Patents during A.Y. 2019-20.

Conference, workshop etc. attended by Faculties :

Report of attended workshop, conference and training etc. by the Faculties under TEQIP-III from 01.04.2019 to 31.03.2020.

Total	Conference	Workshop	Other Training	GIAN
44	30	4	7	3

Conference, workshop etc. attended by Students :

Report of attended workshop, conference and training etc. by the students under TEQIP-III from 01-04-2019 to 31.03.2020.

Total	Conference	Workshop	Experimental Work	GIAN	MITACS
106	92	3	5	2	4

Report of attended workshop, conference and training etc. by the Staffs under TEQIP-III from.

TOTAL	Conference	Training
4	-	4

24.0. FINANCE & ACCOUNTS

24.1 Grants from MHRD:

(Rs. in Lakhs)

Head	2019-20	2018-19
Income		
Grant from Ministry of Education, Govt. of India		
Object Head-31	4073.20	3748.00
Object Head-36	500.00	4043.00
Object Head-35	----	1023.00
Total	4573.20	8814.00
<u>Expenditure</u>		
Object Head-31	3931.21	3845.49
Object Head-36	3693.21	3307.11
Object Head-35	352.16	1575.47
Total	7976.58	8728.07

24.1.1 Expenditure Statement:

(Rs. in Lakhs)

Particulars	OH-31	OH-36	OH-35	Total
Opening Balance	281.29	3232.18	2576.53	6090.00
Grant received from Ministry of Education	4073.20	500.00	---	4573.20
Total Available	4354.49	3732.18	2576.53	10663.20
Total Utilized	3931.21	3693.21	352.16	7976.58
Unspent Balance as on 31.03.20	423.28	38.97	2224.37	2686.62
Income from Other Sources	2750.45			

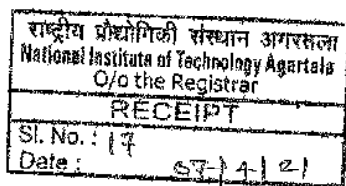
24.1.2 Details Expenditure Statement:

(Rs. in Lakhs)

Particulars	2019-20	2018-19
<u>Object Head-31</u>		
31-1- Retirement Benefit	----	----
31-2- Scholarships/Fellowships	971.93	867.25
31-3- Foreign/Domestic Travels	8.29	11.52
31-4- Security/Housekeeping	921.10	802.64
31-5- Exp. on Contractual Employees (Teaching & Non-Teaching)	1433.98	1514.44
31-6- Other Expenses	595.91	649.64
Total- OH-31	3931.21	3845.49

<u>Object Head-36</u>		
36-1- Expenditure on Salary of Regular Faculty	2237.67	1942.37
36-2- Expenditure on Salary of Regular Non-Faculty	243.22	268.51
36-3- Medical Expenses	5.43	5.81
36-4- Leave Encashment	4.84	8.43
36-5- LTC	18.85	34.72
36-6- CPDA	6.34	1.45
36-7- Retirement Benefits	1000.00	900.00
36-8- Other Expenses	176.86	145.82
Total- OH-36	3693.21	3307.11
<u>Object Head-35</u>		
35-1- Buildings	137.31	1278.59
35-2- Equipments	197.76	239.25
35-3- Library	---	4.19
35-4- Furniture	17.09	53.44
Total- OH-35	352.16	1575.47
Grand Total (31+36+35)	7976.58	8728.07

Audit Report & Annual Accounts 2019 -2020



AMG-II-A/SAR/NIIT/2019-20/895
Dated: 31-03-2021



भारतीय लेखा परीक्षा और लेखा विभाग
INDIAN AUDIT AND ACCOUNTS DEPARTMENT
प्रधान महालेखाकार) लेखा परीक्षा (का कार्यालय, त्रिपुरा, अगरतला
OFFICE OF THE PRINCIPAL ACCOUNTANT GENERAL (AUDIT),
TRIPURA, AGARTALA
पिन/ PIN – 799006 फेक्स/ Fax – 0381-2350158
ईमेल/ email: agautripura@icag.gov.in

To
The Registrar,
National Institute of Technology, Agartala,
Barjala, Jirania, Tripura (W),
Pin: 799046.

Subject:- Separate Audit Report (SAR) on the accounts of National Institute of Technology, Agartala for the year 2019-20.

Sir,

I am to send herewith the Separate Audit Report (SAR) of the accounts of National Institute of Technology, Agartala for the Financial Year 2019-20 along with a management letter for further action at your end.

Hindi version of SAR will follow.

Thanking you.

Yours faithfully,

Encl: As stated.

Senior Audit Officer/HQ-II

Head (F&A)
for n. a. p.
Sen. R. Majumdar
ARUT



SEPARATE AUDIT REPORT OF THE COMPTROLLER AND AUDITOR GENERAL OF INDIA ON THE ANNUAL ACCOUNTS OF THE NATIONAL INSTITUTE OF TECHNOLOGY, AGARTALA FOR THE YEAR ENDED 31 MARCH 2020

We have audited the attached Balance Sheet of the National Institute of Technology, Agartala as on 31 March 2020, the Income and Expenditure Account and Receipts and Payments Account for the year ended on that date under Section 19(2) of the Comptroller and Auditor General's (Duties, Powers & Conditions of Service) Act, 1971. These financial statements are the responsibility of the management of the National Institute of Technology Agartala, Tripura. 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 (C&AG) of India on the accounting treatment only with regard to classification, conformity with the best accounting practices, accounting standards and disclosure norms, etc. Audit observations on financial transactions with regard to compliance with the Law, Rules and Regulations (Propriety and Regularity) and efficiency-cum-performance aspects etc., if any, are reported through Inspection Reports/C&AG's Audit Reports separately.

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

4. Based on our audit, we report that:

i) We have obtained all the information and explanations, which, to the best of our knowledge and belief were necessary for the purpose of our audit.

ii) The Balance Sheet, Income and Expenditure Account/ Receipt and Payment Account dealt with by this report have been drawn up in the format prescribed by the Ministry of Human Resources Development (MHRD), Government of India vide order No. 29-4/2012-FD dated 17 April 2015 except as stated in C.1.

iii) In our opinion, proper books of accounts and other relevant records have been maintained by the National Institute of Technology, Agartala as far as it appears from our examination of such books.

iv) We further report that:

A. Balance Sheet



Assets

Loans and Advances – Plan Fund

Details of Advance to Parties (Schedule 2A)- ₹ 500.08 lakh

A.1 The following advances included above are lying unadjusted even though the respective work is complete and the Institution is using these assets:

- i) Adv. to PHF (Iron Removal Plant) - ₹ 15.60 lakh
- ii) Adv. to DWS Dept. (Water Supply)- ₹ 26.95 lakh

The assets of '10,000 GPH capacity DTW scheme' was handed over by the DWS Department to NIT, Agartala on 27.12.2018 for usage. As the assets are ready and handed over to the Institution, necessary steps may be taken for booking the amount of ₹ 42.55 lakh under Tangible Assets and charge depreciation. This resulted in understatement of assets and overstatement of loans and advances by ₹ 42.55 lakh.

C. General

C.1 Format of Accounts

Schedule 23 . Significant accounting policies Sl.No.1 para 3 states that the Institute has prepared the Annual Accounts 2018-19 as per the format provided by the Ministry of HRD with the approval of the Comptroller and Auditor General of India. However, the following instances were noticed where the Institute did not follow the prescribed format.

Sl.No.	Name of Schedule	Nature of non-compliance
1	Balance Sheet	i) As per the prescribed format, the "Sources of funds" and "Application of funds" were not mentioned on the face of the Balance Sheet. ii) The "Fixed assets" were not classified as "Tangible assets", "Intangible assets" and "Capital works in progress" on the face of the Balance Sheet.
2	Schedule 3 Current Liabilities and provision	A. Current Liabilities (Sl No 3) Sundry creditors have not been bifurcated into "for goods and services" and "others"
3	Schedule 9 Academic Receipts	As per format requirements, any items under the head miscellaneous income which exceeds 1 per cent of the total turnover/gross income of entity or ₹ 50,000/- whichever is higher shall be shown under an appropriate account head. The Institute has shown an amount of ₹88,26,000 as 'All other Fees' under Academic Collection which should be bifurcated as per the MHRD format requirement.
4	Schedules 15	As per format, staff payments and benefits should be classified separately for teaching and non-teaching staff. However, this classification was not followed in the schedule for items (c) New Pension Scheme fund-Tier-I.



		(h) LTC Facility, (i) Medical Facility, (j) Children Education Allowance, (k) Others
--	--	-----------------------------------------------------------------------------------------

C.2

1 The Institute during its formation had taken over net assets of ₹ 16.08 crore from erstwhile Tripura Engineering College. However, the Institute is yet to incorporate these assets and liabilities into its accounts even though it is in possession of the same.

2. The Institute has not adopted actuarial valuation for determining retirement benefit obligations of its employees as required by AS-15.

3 The Institute has accounted for interest on fixed deposits on actual basis and have not computed the accrued interest on fixed deposits as on 31.03.2020 (Schedule 8).

4 As per the format and instructions of MHRD, the interest income should be shown at gross figures (Schedule 12) and tax deducted at source on interest income is to be stated separately as Receivables in the Balance Sheet, as the income of the Institute is exempt from Income Tax. The Institute has not shown the TDS of ₹ 79.54 lakh, as Receivables, deducted by the banks on interest income during the year 2019-20 (ICB ₹ 11, 32, 580; Canara Bank: ₹ 9, 23, 280, SBI ₹ 58, 98, 579). This has resulted to understatement of Income and corresponding overstatement of Deficit of Income over expenditure and understatement of current assets by the same amount.

C.3 The user charge in hostel/ hostel fee collected from the students availing of the hostel facilities in NIT Agartala's hostels is deposited in a dedicated 'NITA HOSTEL FUND' account at Canara Bank, NIT Jirania Branch A/c No. 4121132000005, as per the bank statement of this account, ₹ 12.77 crore were deposited in this account in 2019-20. However, the annual accounts of NIT, Agartala do not feature the fees and other charges deposited in this account or the balance maintained in this account. As per the MHRD approved format, Academic Receipts (Schedule 9) must feature 'Hostel Fee' collected from the students under the head 'Other fees'.

Furthermore, 'Income from land and buildings' in Other Income (Schedule 13) has been shown as nil during 2019-20. However, as per MHRD format the aforementioned head includes 'Hostel room rent', 'Electricity charges recovered' and 'Water charges recovered' which were collected from the students of NIT Agartala availing hostel facilities during 2019-20.

C.4 Loans, Advances & Deposits (Schedule 8) has been undervalued by ₹ 10.87 lakh since the 'Temporary Advances to Sundry Parties' has been shown to have nil value, however, upon scrutiny of the Register of Advances it was revealed that advances amounting to ₹ 10.87.428 were still unadjusted.

C.5 The electromechanical work in the swimming pool of sports complex at NIT, Agartala is unfinished as on 31.03.2020. In 43rd Building and Works Committee Meeting dated 21.06.2019, it has been decided to invite Expression of Interest (EOI) for the balance work at an estimated cost of ₹ 4.47 crore. Accordingly, the asset value of swimming pool (aquatic centre) included in the capitalised value of ₹ 64.40 crore under Sport Complex in 2019-20 should be reversed to C.WIP until the swimming pool is ready for use.

D. Grant-in-aid

During the financial year 2019-20, the Institute received ₹ 45.73 crore as grant-in-aid from Government of India (₹ 40.73 cr. for recurring and ₹ 5.00 cr. for salary). Opening unspent grant balance as on 01.04.2019 was ₹ 60.90 cr. (₹ 25.77 cr. under capital asset, ₹ 2.81 cr. under recurring and ₹ 32.32 cr. under salary). The internal income of the Institute for the year 2019-20 was ₹ 28.94 cr. against the total available fund of ₹ 135.57 cr, the institute could utilize ₹ 108.70 cr. leaving an unspent balance of ₹ 26.87 cr as on 31.03.2020.

Further the unspent balance of ₹ 26.87 cr is not tallying with the unutilized grants shown in Schedule 3. The same needs reconciliation.

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


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

a. In so far it relates to the Balance Sheet of the state of affairs of the National Institute of Technology, Agartala as on 31.03.2019,

b. In so far as it relates to Income and Expenditure Account of the deficit for the year ended on that date.

Date

Place: Agartala



(B.R. Mondal)

Principal Accountant General (Audit), Tripura



Annexure

INTERNAL CONTROL AND INTERNAL AUDIT

Audit evaluation of internal control and internal audit system is summarised as under.

1. Adequacy of Internal Control System:

- (i) The Institute does not have an accounting manual.
- (ii) The Institute does not have a purchase and procurement manual. However, provisions of GFR, 2017 and its amendment and relevant orders issued by Govt. of India from time to time are being followed in respect of purchase of goods and services.

2. Adequacy of Internal Audit System:

Due to shortage of manpower, Internal Audit wing is not functioning. However, two Audit Officers have been engaged who are entrusted with the work of pre-audit of all payments, scrutiny of purchase related issues, etc.

3. Physical Verification of fixed assets

Physical verification of Fixed Assets had been duly completed by the institute for the financial year 2019-20.

4. Physical Verification of Inventories

Physical verification of Inventories had been duly completed by the institute for the financial year 2019-20.

5. Regularity in payment of statutory dues

The institute has been regular in payment of all its statutory dues.

No. AMG-IIA/SAR/NITA/2019-20/886

Date: 31-03-2021



भारतीयलेखापरीक्षाऔरलेखाविभाग,
INDIAN AUDIT AND ACCOUNTS DEPARTMENT
प्रधान महालेखाकार (लेखापरीक्षा) का कार्यालय, त्रिपुरा, अगरतला
OFFICE OF THE PRINCIPAL ACCOUNTANT
GENERAL (AUDIT),
TRIPURA, AGARTALA

पिन/ PIN – 799006 फ़ैक्स/ Fax – 0381-2350158

ईमेल/ email: agautripura@cag.gov.in

To
The Registrar,
National Institute of Technology, Agartala
Barjala, Jirania, West Tripura
PIN – 799046

Sub: Management Letter on the Annual Accounts of the NIT, Agartala for the year ended
31 March, 2020.

Sir,

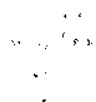
Certification audit on the annual accounts of National Institute of Technology, Agartala for the year ended 31 March 2020 was taken up by this office under Section 19 (2) of the Comptroller and Auditor General's (Duties, Power & Conditions of Service) Act, 1971. A Separate Audit Report (SAR) incorporating final comments of the C&AG is issued along with this letter. Apart from the audit of comments issued in SAR, audit has noticed eight points which required management's action to ensure compliance to the instructions of Ministry of Education with respect to preparation of annual accounts.

Yours faithfully,

Encls: As stated.

(M. Nageswara Reddy)

Deputy Accountant General (AMG-II)

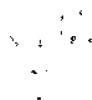


Annexure to Management Letter

1. As per the Significant Accounting Policies (Schedule 23, Sl No 7), the Institute has provided depreciation on fixed assets on straight line method as per the rates specified in the guidelines and format of Ministry of Education.

During the Finance Audit of NIT Agartala for the year 2018-19, observation was made regarding deviations from the application of rates and method of depreciation specified as per the Ministry of Education format. In its reply to the observation NIT Agartala had assured that 'necessary corrections as pointed out by Audit shall be carried out in the Annual Accounts 2019-20'. However, the same has not been complied in the following cases.

1. **Sports Equipments (Plan)** valuing ₹11.57 lakh (gross block) the depreciation rate has been rectified to 7.5 per cent from 5 per cent. However, the resulting understatement of depreciation and deficit of income over expenditure for the year 2018-19 by ₹28,930 has not been reversed by passing a prior period correction entry. This has also resulted in the overstatement of the value of Fixed assets (net block) by ₹28,930.
2. **Iron Removal Plant (Plan)** valuing ₹5.50 lakh (gross block) the depreciation rate has been rectified to 5 per cent from 7.5 per cent, also the depreciation has been provided on the gross value this year. However, the resulting overstatement of depreciation and deficit of income over expenditure for the year 2018-19 by ₹9,225 has not been reversed by passing a prior period correction entry. This has also resulted in the understatement of the value of Fixed assets (net block) by ₹9,225 in the current year.
3. **500 KVA Substation (Plan)** valuing ₹58.68 lakh (gross block) the depreciation rate has been rectified to 5 per cent from 2 per cent as stipulated for electrical installations. However, the resulting understatement of depreciation and deficit of income over expenditure for the year 2018-19 by ₹1.76 lakh has not been reversed by passing a prior period correction entry. This has also resulted in the overstatement of the value of Fixed assets (net block) by ₹1.76 lakh in the current year.
4. **Water purifier (Non-plan)** valuing ₹1.26 lakh (gross block) the depreciation rate has been rectified to 7.5 per cent from 5 per cent as stipulated for office equipment. However, the resulting understatement of depreciation and deficit of income over expenditure for the year 2018-19 by ₹1,413 has not been reversed by passing a prior period correction entry. This has also resulted in the overstatement of the value of Fixed assets (net block) by ₹1,413 in the current year.
5. **Sports goods and Equipments (Non-plan)** valuing ₹16.10 lakh (gross block) the depreciation rate has been rectified to 7.5 per cent from 5 per cent stipulated for equipments. However, the resulting understatement of depreciation 2018-19 by ₹23,868 has not been reversed by passing a prior period correction entry. This has also resulted in the overstatement of the value of Fixed assets (net block) by ₹23,868 in the current year.



In addition to this, in the current year, the following deviations from the application of rates and method of depreciation specified as per the Ministry of Education format has been observed

Workshop (Non-plan) valuing ₹ 3.88 lakh (gross block). The asset purchased in 2016-17 has been depreciated on WDV method instead of SLM. Considering SLM, the yearly depreciation on the asset comes to ₹ 7753. The net asset value as on 31.03.2020 comes to ₹ 356621 instead of 3,61,189. Thus, due to deviation in depreciation method, the asset value as on 31.03.2020 is overstated by ₹ 4568 and this has also resulted in understatement of depreciation and deficit of income over expenditure for the year by ₹ 4568.

Thus, due to the above, depreciation was understated by ₹ 2.26 lakh with a corresponding understatement of deficit of income over expenditure by an equal amount for the year. The value of Fixed assets (net block) has also been overstated by total of ₹ 2.26 lakh.

2. The Ministry of Education format states that “where an asset is fully depreciated, it will be carried at a residual value of Re. 1 in the Balance Sheet and will not be further depreciated”. However, it was seen that the Institute had depreciated certain fixed assets fully (machinery and equipments, library books, generator, etc.) and were showing those assets at “nil” value in the Balance Sheet.

3. The Institute is having a current account with Canara Bank (A/c no-2348201000876) with balance of Rs. 448955 as on 31.03.2019. The account had same balance as on 31.03.2017. The need to keep the dormant account may please be assessed.

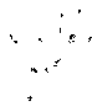
4. The following dormant balances were noted in Schedule 3 (Current Liabilities and Provisions) in the accounts of the Institute.

- a) The balance of Sundry creditors (for Plan Fund) of Rs. 16,75,461 has been stagnant at the same amount for the past three years which may be scrutinised further for reconciliation, if any.
- b) The balance of Counselling fees-payable to students under Provisions has been stagnant at the same amount of Rs. 1,00,000 since the past three years which may be scrutinised for reconciliation, if any.

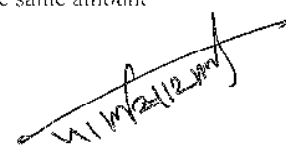
The balance under Statutory Liabilities (Others) for Staff Development fund (Rs. 1,20,379), NSS Unit Prog. (Rs. 13,182), Fund from ST Welfare Deptt. (Books) (Rs. 8,17,500), Fund from SC Welfare Deptt. (Books) (Rs. 27,817), Fund for Rubber Processing (Rs. 1,56,250) and Fund for Virtual Class Room (Plan Fund) (Rs. 11,95,524) has been stagnant at the same amount for the past three years which may be scrutinised further for reconciliation, if any.

5. Other Income (Sch-13) has been understated by Rs. 81,910 due to the following

1. Erroneous deduction of Rs. 33,724 on account of expenditure made for AMC (annual maintenance cost) of water purification system from other income (Misc Income), resulting in the corresponding understatement of Expenditure on Repairs and maintenance (Schedule 19);



2. Income of Rs 24,093 on account of house rent received from SBI (Rs. 24,093 per month) has been wrongly credited to the Academic Receipts (Schedule 9) in place of other income (Misc Income), resulting in the corresponding overstatement of Academic Receipts by the same amount.
3. House rent from SBI for the month of March 2020 has not been reflected in the accounts for 2019-20, resulting in omission of Rs 24,093 from the Income and Expenditure account for the current year.
6. Total of expense head 'Honorarium to visiting Examiner & others expense' is shown as ₹ 21.08 lakh in Income & Expenditure Statement [Schedule 16, Sl.No.(b)]. However, the actual expenditure booked in the ledger account with the same heading is ₹ 20.58 lakh. All the transactions are payments made through bank and no liability as on 31.03.2020. Moreover, trial balance as on 31.03.2020 has tallied. Management was unable to clearly explain the overstated expenditure of ₹ 0.5 lakh.
7. Four numbers of Fixed Deposit (03 numbers of Tripura Gramin Bank & 01 number of State Bank Of India) valuing ₹ 94,03,468 was booked with a value of ₹ 94,03,351. This has resulted in the understatement/overstatement of FD Account with TGB NITA Br-SIDP Fund (overstated by ₹40482), TGB NITA Br-NITA Corpus Fund (understated by ₹40597) and SBI Agt Br- Moutoshi Kar Memorial (understated by ₹ 02).
8. Expenditure incurred on purchase of 22 Nos. Desktops with accessories has been overcapitalised by ₹ 3,540.00 as Cheque book issue charges (MCC charges) debited by the bank was included in the Desktop cost.
9. Expenses incurred on creation/ acquisition of physical assets have been wrongly accounted as expenditure on Repairs and Maintenance (Schedule 19), amounting to ₹ 41.62 lakh. This has resulted in overstatement of expenditure on Repairs and Maintenance (Schedule 19) and understatement of Fixed Assets by the same amount. Furthermore, non-capitalisation of the assets has led to understatement of Depreciation by ₹ 95,195 and overstatement of Deficit of Income over expenditure overstatement of assets for the year by the same amount.


Sr. Audit Officer/HQ-II



NATIONAL INSTITUTE OF TECHNOLOGY AGARTALA

ANNUAL ACCOUNTS 2019-20



M/s A. K. Pal & ASSOCIATES
Chartered Accountants

Office: Near Roy & Sarada Medical hall
40-A.K. Road, RMS Chowmuhani
Agartala- 799001

NATIONAL INSTITUTE OF TECHNOLOGY, AGARTALA
Internal Audit Report for the period from 01.04.2019 to 31.03.2020

With reference to the letter No. NITA.4 (10-Accounts)/2007/Vol-3/13934 dated 12th June 2020, we have conducted the Internal Audit of NIT Agartala for the period from 01.04.2019 to 31.03.2020 and our observations in this respect are as follows:

1. GRANT-IN-AID:

- Grant received by NIT Agartala from MHRD, New Delhi during the financial year 2019-20 as follows:

For Object Head - 31:

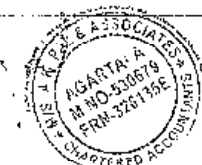
Sl. No	Sanction Memo	Date of sanction	Amount in lakhs
1	F.36-3/2019-TS-III	06.08.2019	1112.00
2	F.36-3/2019-TS-III	04.09.2019	555.00
3	F.36-3/2019-TS-III	25.09.2019	471.00
4	F.36-3/2019-TS-III	27.11.2019	500.00
5	F.36-3/2019-TS-III	21.02.2020	1135.20
6	F.36-3/2019-TS-III	23.03.2020	300.00
		Total	4073.20

For Object Head - 36:

Sl. No	Sanction Memo	Date of sanction	Amount in lakhs
1	F.36-3/2019-TS-III	25.09.2019	220.00
2	F.36-3/2019-TS-III	21.02.2020	280.00
		Total	500.00

For Object Head - 35:

Sl. No	Sanction Memo	Date of sanction	Amount in lakhs
	N I L		





M/s A. K. Pal & ASSOCIATES
Chartered Accountants

Office: Near Roy & Sarada Medical hall
40-A.K. Road, RMS Chowmuhani
Agartala- 799001

- The status of Grant-in-aid during the financial year 2019-20 is as follows:

(Rupees in lakhs)

Object Head	Unspent balance as on 01.04.19	Grant-in-aid	Total Fund	Utilized	Unspent balance as on 31.03.2020
OH-31	281.29	4073.20	4354.49	3931.21	423.28
OH-36	3232.18	500.00	3732.18	3693.21	38.97
OH-35	2576.53	---	2576.53	352.16	2224.37
Total	6090.00	4573.20	10663.20	7976.58	2686.62

2. CASH BOOK:

OBSERVATIONS:

- Cash Books have been properly maintained and closed on daily basis.
- We made test check of the Cash Book, Bank vouchers related to the Month of April 2019, October 2019, January 2020, February 2020 and March 2020 and found to be in order.
- Bank statements have been obtained from SBI, NIT, Agartala Branch on monthly basis and monthly balance is confirmed through reconciliation. Closing Bank Balance as on 31.03.2020 are as follows:

Sl. No	Name of Bank, Branch	A/c No	Balance as on 31.03.2020 (Rs)
1	SBI, NIT Agartala Br	30358199684	14,70,61,815/-
2	Canara Bank, NIT Agartala Br	4121101001663	12,11,775/-
3	SBI, NIT Agartala Br	30369892838	2,93,72,037/-
4	Canara Bank, NIT Agartala Br	876	4,48,955/-

- NIT Agartala maintained separate bank accounts for projects. The details are as follows:

Sl. No	Name of Project	A/c No	Balance as on 31.03.2020 (Rs)
1	NPS Tier I	30471674447	21,17,829/-
2	Project Fund	30533908751	82,17,930/-
3	Retirement Benefit Fund	30693303036	14,29,56,460/-
4	Student Welfare Fund	30534089717	17,09,149/-
5	NITA Corpus Fund	30534091012	28,42,87,713/-
6	EMD & Security Fund	30936141729	1,75,70,273/-
7	Sponsored Project Fund	30773081908	2,06,09,476/-
8	Staff Welfare Fund	30534092027	3,06,761/-
9	Deptt. Promotional Fund	30534090278	40,27,212/-





M/s A. K. Pal & ASSOCIATES
Chartered Accountants

Office: Near Roy & Sarada Medical hall
40-A.K. Road, RMS Chowmahani
Agartala- 799001.

10	Staff Benefir Trust Fund	31509918149	6,59,243/-
11	Guest House Fund	31664487420	83,21,523/-
12	NIT Transit House Fund	31092166195	3,33,137/-
13	Infra. Development Fund	8026010030064	32,26,174/-

COMMENTS:

- Maintenance of Cash Books and other related books and records is satisfactory

3. ADVANCES:

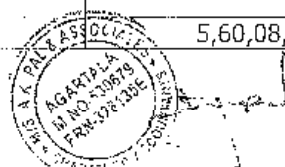
OBSERVATIONS:

- NIT Agartala has maintained Advance Register seperately.
- LTC advances lying unadjusted as on 31.03.2020 is as follows:

Sl. No	Name of Employees	Amount of Advance as on 31.03.2020 (Rs)	Remarks
1	Biman Debbarma	1,33,000/-	
2	Prof. Swapan Bhowmik	92,000/-	
3	Prof. Debasis Neogi	65,000/-	
4	Dr. Rajib Saha	1,57,000/-	
	Total	4,47,000/-	

- Unadjusted advances given to third parties as on 31.03.2020 under Non-Recurring items are as follows:

Sl. No	Name of Party/Agency	Amount of Advance as on 31.03.2020 (Rs)	Remarks
1	BSNL-Agartala	1,72,764/-	
2	PHE-Agartala	15,60,100/-	
3	THB-Agartala	76,40,420/-	
4	DWS Deptt-Agartala	26,95,300/-	
5	EPIL	1,02,00,000/-	
6	CPWD-Agartala	3,37,39,471/-	
	Total	5,60,08,055/-	





M/s A. K. Pal & ASSOCIATES
Chartered Accountants

Office: Near Roy & Sarada Medical hall
40-A.K. Road, RMS Chowmuhani
Agartala- 799001.

4. FIXED ASSETS:

- Computerized Fixed Assets Register has been maintained by NIT Agartala.
- Depreciation has been charged in Straight Line Method as per rates specified in the guidelines and format of Ministry of HRD, Government of India.
- No insurance coverage for any Fixed Assets is taken.

5. FIXED DEPOSITS:

- Fixed Deposit Register has been maintained by NIT Agartala.
- Fixed Deposit was made with State bank of India, Canara Bank and Tripura Gramin Bank.

6. TENDER ALLOTMENT:

The Control system related to tender allotment seemed to be appropriate. Our review to the system of tender allotment revealed that the system comprised of the following:

1. Advertisement in newspaper and website of the Institute.
2. Distribution of tender forms from NIT Agartala and also displayed Institute Website.
3. Submission of Tender Bids by the bidders in Tender Box within the specific time and date.
4. Opening of the tenders in front of the Committee formed by the Institute.
5. Preparation of comparative statement.
6. Selection of the lowest bid.

COMMENTS:

- The tender processing is found to be satisfactory.

7. STATUTORY DUES REGISTER:

- Statutory Dues Register has been maintained by NIT Agartala.
- No dues is outstanding during the financial year 2019-20.

We thankfully acknowledge the Co-operation extended by the Officers/officials of NIT Agartala in conducting the Internal Audit.

UDIN:20530679AAAAEF2353

Date: 25.06.2020
Place: Agartala

For,

M/s A.K. Pal & ASSOCIATES
(Chartered Accountants)



(CA. Ajoy Kanti Pal)
Chartered Accountant

FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)
Name of Entity: NATIONAL INSTITUTE OF TECHNOLOGY, AGARTALA
BALANCE SHEET AS AT 31.03.2020

CORPUS / CAPITAL FUND AND LIABILITIES	Schedule	Amount Rs	
		Current year 2019-2020	Previous year 2018-2019
CORPUS / CAPITAL FUND DESIGNATED / EARMARKED / ENDOWMENT FUNDS	1	7660159062	8126328544
CURRENT LIABILITIES & PROVISION	2	1298972586	896991708
	3	174371521	194529376
TOTAL		9133503169	9217849628
ASSETS			
FIXED ASSETS	4	7445590593	7635418292
INVESTMENTS - FROM EARMARKED / ENDOWMENT FUNDS	5	0	0
INVESTMENTS OTHERS	6	0	0
CURRENT ASSETS	7	1631457521	1519355738
LOANS, ADVANCES & DEPOSITS	8	56455055	63075598
TOTAL		9133503169	9217849628
SIGNIFICANT ACCOUNTING POLICIES	23		
CONTINGENT LIABILITIES AND NOTES ON ACCOUNTS	24		
Asstt. Registrar (Finance) (Jagatiyoti Roy) Asstt. Registrar (Finance) National Institute of Technology, Agartala. For KOUSHIK DEBNATH & ASSOCIATES (Chartered Accountants) CA Koushik Debnath Chartered Accountant	Registrar (DR. GOVIND BHARGAVA) Registrar, NIT, Agartala.	Director (Prof. Harish Kr. Sharma) Director, NIT Agartala	



FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)
Name of Entity: NATIONAL INSTITUTE OF TECHNOLOGY, AGARTALA
INCOME AND EXPENDITURE ACCOUNT FOR THE PERIOD / YEAR ENDED ON 31.03.2020

Particulars	Schedule	Current year 2019-2020	Previous year 2018-2019
INCOME			
Academic Receipts	9	263925884	205199475
Grants & Donations			
Grants from MHRD	10	485564706	779100000
Income from Investments	11	0	0
Interest Earned	12	24862478	46879805
Other Income	13	646075	8649341
Prior Period Income	14	0	0
TOTAL (A)		774999143	1039828621
EXPENDITURE			
Staff Payment & Benefits	15	400199182	365518360
Academic Expenses	16	87572483	96615261
Administrative & General Expenses	17	132093127	122311772
Transportation Expenses	18	1232683	1689952
Repairs & Maintenance	19	22711400	12535388
Finance Cost	20	9845	14934
Other Expenses	21	0	0
Prior Period Expenses	22	0	0
Expenses of Plan Fund	2(iii) 4	212347405	255393184
Depreciation		2500	2500
Exp on Moutoshi Kar Memorial Scholarship		15000000	12000000
Grant to KV, NIT Agartala			
Contribution to		100000000	900000000
Retirement Benefit Fund		270000000	300000000
Corpus Fund			
TOTAL (B)		1241168625	1256081351
Balance being Excess/Deficit of Income over Expenditure (A - B)		(466169482)	(216252730)
Transferred to Capital Fund			
Significant Accounting policies	23		
Contingent liabilities and notes on Accounts	24		
Asstt. Registrar (Finance)			
For			
Registrar (DR. GOVIND BHARGAVA)			
Registrar, NIT, Agartala.			
For			
KOUSHIK DEBNATH & ASSOCIATES			
(Chartered Accountants)			
(CA Koushik Debnath)			
Chartered Accountant			



Signature: _____

FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)		
Name of Entity: NATIONAL INSTITUTE OF TECHNOLOGY, AGARTALA		
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.03.2020		
	(Amount - Rs.)	
	Current Year 2019-2020	Previous Year 2018-2019
SCHEDULE 1- CORPUS / CAPITAL FUND :		
Balance as at the beginning of the year	8126328544	7925222642
Add Contributions towards Earmarked/Endowment Fund	0	417358632
Add (Deduct) balance of Net Income/ Expenditure) transferred from the Income and Expenditure Account.	(466169482)	(216252730)
Add: DonER Fund (Creation of Capital Assets)	0	0
Add: Other Additions		
BALANCE AS AT THE YEAR - END	7660159062	8126328544
(Jagajyoti Roy) Asstt. Registrar (Finance) National Institute of Technology, Agartala.	DR. GOVIND BHARGAVA Registrar, NIT, Agartala.	Prof. Harish Kr. Sharma) Director, NIT Agartala



FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)
Name of Entity: NATIONAL INSTITUTE OF TECHNOLOGY, AGARTALA
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.03.2020

SCHEDULE 2- DESIGNATED / EARMARKED FUNDS	FUND- WISE BREAK UP					(Amount - Rs.)	
	Corpus Fund	Retirement Benefit Fund	Staff Development Fund	Infra. Dev. Fund	Endowment Fund	General Fund- Subsidiary (Appexure "A")	TOTAL
A.							
a) Opening Balance	403480330	296209164	0	10949454	0	186352760	896991708
b) Additions during year	270444956	100060000				34634211	405139167
c) Income from Investments made of the Funds						0	0
d) Interest on Investments/advances	24923345	16711849		20676		8030780	49686650
e) Interest on Savings A/c	430576	1819613		96555		2153776	4500520
f) Others (Specify nature)						0	0
TOTAL (A)	699279207	414800626	0	11066685	0	231171527	1356318045
B.							
Utilisation/Expenditure towards objectives of funds							
i) Capital Expenditure	0			0		0	0
ii) Revenue Expenditure	0	18747775		0		38597684	57345459
TOTAL (B)	0	18747775	0	0	0	38597684	57345459
Closing Balance at the end of the year (A-B)	699279207	396052851	0	11066685	0	192573843	1298972586
Balance in FDs	414991494	253096391		7840511		131478382	807406778
Balance in Bank (Savings A/c)	284287713	142956460		3226174		61095461	491565808
Total	699279207	396052851	0	11066685	0	192573843	1298972586
							896991708

(Authorized Sign)
 Asstt Registrar (Fin./Acc)
 National Institute of Technology Agartala

(Authorized Sign)
 Registrar
 National Institute of Technology Agartala

(Authorized Sign)
 (Prof. Harish K. Sharma)
 Director, NIT Agartala



Annexure "A" of Schedule- 2

General Fund-Subsidiary											TOTAL	
SCHEDULE 2- DESIGNATED / EARMARKED FUNDS	Project Fund	EMD & Security	Student Welfare Fund	Staff Welfare Fund	Sponsored Project Fund	Deptt Promotional Fund	Guest House Fund	NIT Transit House Fund	Current Year	Previous Year		
A.												
a) Opening Balance	4906987	35622736	1822179	271414	133811018	3471384	6125599	321413	186352760	140470378		
b) Additions during year	6041851	11187273	342538	38810	14428594	446491	2144354	1300	34634211	74067632		
c) Income from Investments made of the Funds									0			
d) Interest on Investments/advances		1372410			6658370				8030780	9368937		
e) Interest on Savings A/c	241793	525381	53539	8802	977128	109337	227402	10394	2153776	2284302		
f) Others (Specify nature)									0			
TOTAL (A)	11193631	48707800	2218256	319026	155875110	4027212	8497355	333137	231171527	226191249		
B.												
Utilisation/Expenditure towards objectives of funds												
i) Capital Expenditure	0								0			
ii) Revenue Expenditure	2975701	7887037	509107	12265	27037742	0	175832		38597684	39838489		
TOTAL (B)	2975701	7887037	509107	12265	27037742	0	175832	0	38597684	39838489		
Closing Balance at the end of the year (A-B)	8217930	40820763	1709149	306761	128837368	4027212	8321523	333137	192573843	186352760		
Balance in FDs	0	23250490		0	108227892	0			131478382			
Balance in Bank (Savings A/c)	8217930	17570273	1709149	306761	20609476	4027212	8321523	333137	61095461			
Total	8217930	40820763	1709149	306761	128837368	4027212	8321523	333137	192573843	0		

(Jagatiyoti Roy)
Asstt. Registrar (Finance)
National Institute of Technology, Agartala.

(Dr. Govind Bhargava)
Registrar,
NIT, Agartala.

Prof. Harish Kr. Sharma
Director, NIT Agartala.



FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)
Name of Entity: NATIONAL INSTITUTE OF TECHNOLOGY, AGARTALA
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.03.2020

	(Amount - Rs.)	
	Current Year	Previous Year
	2019-2020	2018-19
SCHEDULE 3- CURRENT LIABILITIES AND PROVISIONS		
A) CURRENT LIABILITIES		
1) Acceptances	0	
2) Sundry Creditors		
For Plan Fund	1675461	1675461
For Non-Plan Fund	0	0
Outstanding Liabilities:		
a) Repair & Maintenance-Computer	822932	0
b) Gardening Expenses	1194047	0
c) Salaries & Wages	33018649	28553272
d) Electricity & Power	1132173	1648090
TOTAL (3A)	37843262	31876823
PROVISIONS:		
a) Statutory Audit Fees-AG	300000	300000
b) CCB, CMT & Other Fees	4216434	4347253
c) Counselling Fees-Payable to Students	100000	100000
TOTAL (3B)	4616434	4747253
3) Advances Received	0	0
4) Interest accrued but not due on:	0	0
a) Secured Loans/borrowings	0	0
b) Unsecured Loans/borrowings	0	0
TOTAL (3C)	0	0
5) Statutory Liabilities:		
a) Overdue		
b) Others		
Staff Development Fund	120379	120379
NSS Unit Prog.	13182	13182
Fund from ST Welfare Deptt(Books)	817500	817500
Fund from SC Welfare Deptt(Books)	27817	27817
Fund for Rubber Processing	156250	156250
Fund for Virtual Class Room (Plan Fund)	1195524	1195524
TOTAL (3D)	2330652	2330652
(Jagadhyoti Roy)		
Asstt. Registrar (Finance)	(Dr. Govind Khatunava)	Prof. Harish Kr Sharma
National Institute of Technology, Agartala	NIT, Agartala	Director, NIT Agartala



(Jagajyoti Roy)	(Dr. Govind Bhargava)	(Prof. Harish K. Sharma)
Asstt. Registrar (Finance)	Registrar,	Director, NIT Agartala
State Institute of Technology, Agartala	NIT, Agartala.	

OTHER CURRENT LIABILITIES- UNUTILISED GRANTS (PLAN GRANTS) - OH-35			(Annexure "A" of Schedule- 3)
PARTICULARS	Current Year 2019-2020	(Amount - Rs.) Previous Year 2018-19	
GRANTS FROM MHRD, GOVT. OF INDIA			
A			
a) Opening Balance	127311624	442370256	
b) Grants received during the year	0	102300000	
c) Others (Specify)			
Total (A)	127311624	544670256	
B.			
Utilisation/Expenditure towards objectives of funds			
i) Capital Expenditure	22244706	417358632	
ii) Revenue Expenditure	6000000		
iii) Advances			
TOTAL (B)	28244706	417358632	
Un-Utilised Grants	99066918	127311624	
OTHER CURRENT LIABILITIES- LIBRARY CAUTION MONEY			(Annexure "B" of Schedule- 3)
PARTICULARS	Current Year 2019-2020	(Amount - Rs.) Previous Year 2018-19	
Library Caution Money			
A.			
a) Opening Balance	22489199	21572399	
b) Received during the year	5915000	5428000	
c) Others (Specify)			
Total (A)	28404199	27000399	
B.			
Utilisation/Expenditure towards objectives of funds			
i) Capital Expenditure	0	0	
ii) Revenue Expenditure	6680000	4511200	
TOTAL (B)	6680000	4511200	
Un-Utilised	21724199	22489199	
Registrar, Director, NIT Agartala			(Prof. Harish K. Sharma)



OTHER CURRENT LIABILITIES- STIPEND		Annexure "C" of Schedule- 3	
PARTICULARS	Current Year 2019-2020	(Amount - Rs.) Previous Year 2018-19	
Stipend			
A.			
a) Opening Balance	131255	927205	
b) Received during the year-Other State	7184867	12295429	
c) Others (Specify)			
Total (A)	7316122	13222634	
B.			
Utilisation/Expenditure towards objectives of funds			
i) Stipend release during the year	4168636	13091379	
TOTAL (B)	4168636	13091379	
Un-Utilised	3147486	131255	



(Signature)
(Prof. Harish Kr. Sharma)
Director, NIT Agartala

(Signature)
(DR. GOVIND BHARGAVA)
Registrar,
NIT Agartala.

(Signature)
(Jagajyoti Roy)
Asstt. Registrar (Finance)
National Institute of Technology, Agartala.

FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)
Name of Entity: NATIONAL INSTITUTE OF TECHNOLOGY, AGARTALA
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.03.2020

(Prof. Harish K. Sharma)

Asstt. Registrar (Finance)


Sports Complex	2.0%	644029061	644029061	38645743	12880581	5152324	392506737	605387318
Central Library	2.0%	424408526	424408526	33952683	8488171	42440854	381967672	390455843
Duplex Building	2.0%	213282817	213282817	6796969	2265556	9062625	104220192	105483848
Central Plaza	2.0%	22800000	22800000	3368030	436000	1824000	20976009	21432000
HAB Building	2.0%	276576301	276576301	16584578	5531526	22126104	251450137	259981723
1500 Capacity Boys Hostel	2.0%	1447040285	1447040285	0	28910306	28910306	1418099479	1418099479
TOTAL (i)		7216518595	1469284991	0	8685803586	1123073033	206866084	0
NON-PLAN FUND								
FURNITURE & FIXTURES	7.5%	1348623	1348623	666722	82536	740258	593365	681901
COMPUTER/PERIPHERALS	20%	1891925	1891925	1735985	76420	1812005	79920	156340
ELECTRIC INSTALLATIONS	5%	55991915	55991915	23618097	2797242	26415339	29576576	32373818
EPBX Machine	5%	421438	421438	421438	0	421438	0	0
Water Purifier	7.5%	126406	126406	116633	2241	120774	5332	9873
Fax Machine	5%	9000	9000	9000	0	9000	0	0
INTERNET / V SET	5%	123291	123291	80145	6165	86310	36981	43146
Hostel building, quarters etc	2%	19500000	19500000	8625000	390000	9715000	10285000	10675000
Sports Goods & Equipments	7.5%	1609509	1609509	1073359	69489	1140648	668661	537150
Machinery & Equipments	5%	9820738	10095738	6059940	501858	6561798	3533940	3760798
Office Equipments	7.5%	707432	707432	479348	53055	532403	175029	228084
Musical Instruments	7.5%	155771	155771	118125	12431	130556	35215	47046
Medical Equipments	5%	38749	38749	38745	4	38749	0	4
Podium	7.5%	34000	34000	28050	2550	30600	3400	5950
Library Books	10%	17761577	17761577	15859836	321563	15181389	1580188	1901751
Type IV Quarters (Buildings)	2%	34380269	34380269	1055712	687605	11243317	23136952	23924557
Networking (Equipments)	7.5%	2242620	2242620	1513771	168197	1681968	560652	728849
Auditorium Building	2%	14838699	14838699	5872862	296774	5149636	8669063	8965837
Boundary Wall	2%	251005	251005	75302	5020	80322	170683	275703
Workshop	2%	387633	387633	19073	7371	26444	361189	368564
TOTAL (ii)		161650600	275000	0	161925600	77165633	5481321	0
TOTAL (i + ii)		7378169195	1469559991	0	8687729186	1230238666	212347405	0
INTANGIBLE ASSETS								
NON-PLAN FUND								
Computer Software	40%	159233515	159233515	159233515	0	159233515	0	0
Books & Journals								
Patents								
TOTAL		159233515	0	0	159233515	159233515	0	0
CAPITAL WORK-IN-PROGRESS								
Cost/valuation As at beginning of the year								
Additions during the year								
Deductions during the year								
PLAN FUND								
Const of Sewerage Treatment Plant (STP)		10447478	10447478	0	0	0	10447478	10447478
Const of 1500 cap. Boys Hostel		1447040285	1447040285	0	0	1447040285	0	1447040285
TOTAL (i)		1457487763	1457487763	0	0	1447040285	10447478	1457487763


(DR. GOVIND BHARSAVA)

(Prof. Harish Kr. Sharma)

NON-PLAN FUND									
TOTAL (ii)		0							0
TOTAL (i + ii)		1457487763		0	0	1457487763	0	0	1457487763
GRAND TOTAL	8994890473	1469559991	0	0	1046450464	1329422181	1639367890	0	7635418292

To be given as to cost of assets on his purchase basis included above)


 (Jagajyoti Roy)
 Asstt. Registrar (Finance)
 National Institute of Technology, Agartala.


 (DR. GOVIND BHARGAVA)
 Registrar,
 NIT, Agartala.


 (Prof. Harish Kr. Sharma)
 Director, NIT Agartala



FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)
Name of Entity: NATIONAL INSTITUTE OF TECHNOLOGY, AGARTALA
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.03.2020

(Amount - Rs.)		
	Current Year 2019-2020	Previous Year 2018-2019
SCHEDULE 5- INVESTMENTS FROM EARMARKED / ENDOWMENT FUNDS:		
1) In Govt securities	0	0
2) Other approved Securities	0	0
3) Shares	0	0
4) Deventures & Bonds	0	0
5) Subsidiaries & Joint Ventures	0	0
6) Others (to be specified)	0	0
TOTAL:	0	0

(Amount - Rs.)		
	Current Year 2019-2020	Previous Year 2018-2019
SCHEDULE 6- INVESTMENTS - OTHERS		
1) In Govt securities	0	0
a) F.D. with Canara Bank, Agartala Br.	0	0
b) F.D. with S.B.I., NIT Agartala Br.	0	0
2) Other approved Securities	0	0
3) Shares	0	0
4) Deventures & Bonds	0	0
5) Subsidiaries & Joint Ventures	0	0
6) Others (to be specified)	0	0
TOTAL:	0	0



(Prof. Harish K. Sharma)
 Director, NIT Agartala

(MR. GURUDEV ANANDAKUMAR)
 Registrar,
 National Institute of Technology, Agartala.

(Jagajyoti Roy)
 Asstt. Registrar (Finance)
 National Institute of Technology, Agartala.

SCHEDULE 7 CURRENT ASSETS		Current Year 2019-2020	Previous Year 2018-2019
FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS) Name of Entity: NATIONAL INSTITUTE OF TECHNOLOGY, AGARTALA SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.03.2020			
Current Assets:			
1) Inventories:			
a) Stores and Spares			
Stock in Transit			
NON-PLAN FUND			
PLAN FUND			
Machinery & Equipments			
b) Loose Tools			
c) Stock in Trade			
Firmish Goods			
Work in progress			
Raw materials			
2) Sundry Debtors:			
a) Debts Outstanding for a period exceeding six months			
b) Others			
Security Deposit with TSECL			
3) Cash balance in hand (including cheques / Drafts and Imprest			
Closing Cash Balance- Non Plan			
Closing Cash Balance- Plan			
4) Bank Balances:			
a) With Scheduled Banks			
On Savings Account			
Canara Bank- Non Plan A/c No- 876			
On Savings Accounts			
SBI, NITA Br.-Non Plan (A/c-30369892838)			
SBI, NITA Br.-Plan (A/c-30358199684)			
Canara Bank, Agt Br.- Plan (A/c-4121101001663)			
b) With Other Banks			
On Savings Account			
Canara Bank- Non Plan A/c No- 876			
On Savings Accounts			
SBI, NITA Br.-Non Plan (A/c-30369892838)			
SBI, NITA Br.-Plan (A/c-30358199684)			
Canara Bank, Agt Br.- Plan (A/c-4121101001663)			
b) With Other Banks			
On Savings Account			
Canara Bank- Non Plan A/c No- 876			
On Savings Accounts			
SBI, NITA Br.-Non Plan (A/c-30369892838)			
SBI, NITA Br.-Plan (A/c-30358199684)			
Canara Bank, Agt Br.- Plan (A/c-4121101001663)			
b) With Other Banks			
On Savings Account			
Canara Bank- Non Plan A/c No- 876			
On Savings Accounts			
SBI, NITA Br.-Non Plan (A/c-30369892838)			
SBI, NITA Br.-Plan (A/c-30358199684)			
Canara Bank, Agt Br.- Plan (A/c-4121101001663)			
b) With Other Banks			
On Savings Account			
Canara Bank- Non Plan A/c No- 876			
On Savings Accounts			
SBI, NITA Br.-Non Plan (A/c-30369892838)			
SBI, NITA Br.-Plan (A/c-30358199684)			
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On Savings Account			
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SBI, NITA Br.-Non Plan (A/c-30369892838)			
SBI, NITA Br.-Plan (A/c-30358199684)			
Canara Bank, Agt Br.- Plan (A/c-4121101001663)			
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On Savings Account			
Canara Bank- Non Plan A/c No- 876			
On Savings Accounts			
SBI, NITA Br.-Non Plan (A/c-30369892838)			
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On Savings Account			
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SBI, NITA Br.-Plan (A/c-30358199684)			
Canara Bank, Agt Br.- Plan (A/c-4121101001663)			
b) With Other Banks			
On Savings Account			
Canara Bank- Non Plan A/c No- 876			
On Savings Accounts			
SBI, NITA Br.-Non Plan (A/c-30369892838)			
SBI, NITA Br.-Plan (A/c-30358199684)			
Canara Bank, Agt Br.- Plan (A/c-4121101001663)			
b) With Other Banks			
On Savings Account			
Canara Bank- Non Plan A/c No- 876			
On Savings Accounts			
SBI, NITA Br.-Non Plan (A/c-30369892838)			
SBI, NITA Br.-Plan (A/c-30358199684)			
Canara Bank, Agt Br.- Plan (A/c-4121101001663)			
b) With Other Banks			
On Savings Account			
Canara Bank- Non Plan A/c No- 876			
On Savings Accounts			
SBI, NITA Br.-Non Plan (A/c-30369892838)			
SBI, NITA Br.-Plan (A/c-30358199684)			
Canara Bank, Agt Br.- Plan (A/c-4121101001663)			
b) With Other Banks			
On Savings Account			
Canara Bank- Non Plan A/c No- 876			
On Savings Accounts			
SBI, NITA Br.-Non Plan (A/c-30369892838)			
SBI, NITA Br.-Plan (A/c-30358199684)			
Canara Bank, Agt Br.- Plan (A/c-4121101001663)			
b) With Other Banks			
On Savings Account			
Canara Bank- Non Plan A/c No- 876			
On Savings Accounts			
SBI, NITA Br.-Non Plan (A/c-30369892838)			
SBI, NITA Br.-Plan (A/c-30358199684)			
Canara Bank, Agt Br.- Plan (A/c-4121101001663)			
b) With Other Banks			
On Savings Account			
Canara Bank- Non Plan A/c No- 876			
On Savings Accounts			
SBI, NITA Br.-Non Plan (A/c-30369892838)			
SBI, NITA Br.-Plan (A/c-30358199684)			
Canara Bank, Agt Br.- Plan (A/c-4121101001663)			
b) With Other Banks			
On Savings Account			
Canara Bank- Non Plan A/c No- 876			
On Savings Accounts			
SBI, NITA Br.-Non Plan (A/c-30369892838)			
SBI, NITA Br.-Plan (A/c-30358199684)			
Canara Bank, Agt Br.- Plan (A/c-4121101001663)			
b) With Other Banks			
On Savings Account			
Canara Bank- Non Plan A/c No- 876			
On Savings Accounts			
SBI, NITA Br.-Non Plan (A/c-30369892838)			
SBI, NITA Br.-Plan (A/c-30358199684)			
Canara Bank, Agt Br.- Plan (A/c-4121101001663)			
b) With Other Banks			
On Savings Account			
Canara Bank- Non Plan A/c No- 876			
On Savings Accounts			
SBI, NITA Br.-Non Plan (A/c-30369892838)			
SBI, NITA Br.-Plan (A/c-3035819968			

DR. GOVIND DHANAWAJ
Registrar,
MET, Aomala.

Prof. Harish K. Sharma)
Director, NIT Agartala

Registrar,
M.T. Aarital.

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FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)
Name of Entity: NATIONAL INSTITUTE OF TECHNOLOGY, AGARTALA

SCHEDULE 7A: DETAILS OF FIXED DEPOSIT ACCOUNTS							
Sl. No.	Date of Deposit	Certificate /Account No	Amount (Rs)	Maturity date	Maturity Value(Rs)	Name of Bank	
i) General Accounts							
1	30.05.2019	30268531331	4123723	30.05.2020	4420050	SBI Agt Br	
2	30.05.2019	30772128735	55746	30.05.2020	59752	SBI Agt Br	
3	15.03.2020	2348401000663/5	1108772	15.03.2022	12490294	Canara Bank, Agt Br	
4	31.03.2020	3248401000647/5	6206700	31.03.2021	6597306	Canara Bank, Agt Br	
5	31.03.2020	3248401000647/6	6290538	31.03.2021	6686420	Canara Bank, Agt Br	
6	26.03.2020	3248401000648/1	10822807	26.03.2022	12191813	Canara Bank, Agt Br	
7	01.10.2019	4121401000103/73	9833678	01.04.2020	10069855	Canara Bank, NIT Agt Br	
8	01.10.2019	4121401000103/74	9833678	01.04.2020	10069855	Canara Bank, NIT Agt Br	
9	01.10.2019	4121401000103/75	9833678	01.04.2020	10069855	Canara Bank, NIT Agt Br	
10	01.10.2019	4121401000103/76	9833678	01.04.2020	10069855	Canara Bank, NIT Agt Br	
11	01.10.2019	4121401000103/77	9833664	01.04.2020	10069833	Canara Bank, NIT Agt Br	
12	01.10.2019	4121401000103/78	9833664	03.04.2020	10069833	Canara Bank, NIT Agt Br	
13	01.10.2019	4121401000103/79	9833664	03.04.2020	10069833	Canara Bank, NIT Agt Br	
14	01.10.2019	4121401000103/80	9833664	03.04.2020	10069833	Canara Bank, NIT Agt Br	
15	01.10.2019	4121401000103/81	9833664	03.04.2020	10069833	Canara Bank, NIT Agt Br	
16	01.10.2019	4121401000103/82	9833664	03.04.2020	10069833	Canara Bank, NIT Agt Br	
17	01.10.2019	4121401000103/83	9833664	03.04.2020	10069833	Canara Bank, NIT Agt Br	
18	01.10.2019	4121401000103/84	7519861	03.04.2020	7700459	Canara Bank, NIT Agt Br	
TOTAL			154277521		160914367		
ii) Retirement Benefit Fund							
1	02.04.2020	30359168928	2898324	02.04.2023	3434687	SBI, NITA Br	
2	21.01.2020	8026141600503	4861907	21.01.2021	5203601	TGB NITA Br	
3	21.01.2020	8026141600504	4861905	21.01.2021	5203599	TGB NITA Br	
4	21.01.2020	8026141600505	3889521	21.01.2021	4162876	TGB NITA Br	
5	21.01.2020	8026141600506	2917145	21.01.2021	3122161	TGB NITA Br	
6	21.01.2020	8026141600507	1941760	21.01.2021	2081437	TGB NITA Br	
7	21.01.2020	8026141600508	972424	21.01.2021	1040766	TGB NITA Br	
8	06.02.2020	33642380099	3875085	06.02.2021	4116928	SBI, NITA Br	
9	06.02.2020	33642380191	2325049	06.02.2021	2470154	SBI, NITA Br	
10	06.02.2020	33642380351	2325049	06.02.2021	2470154	SBI, NITA Br	
11	06.02.2020	33642380500	2325049	06.02.2020	2470154	SBI, NITA Br	
12	06.02.2020	33642380634	2325049	06.02.2020	2470154	SBI, NITA Br	
13	06.02.2020	33642380736	2325049	06.02.2020	2470154	SBI, NITA Br	
14	06.02.2020	33642380872	2325049	06.02.2020	2470154	SBI, NITA Br	
15	06.02.2020	33642381004	2325049	06.02.2021	2470154	SBI, NITA Br	
16	06.02.2020	33642379708	2325049	06.02.2021	2470154	SBI, NITA Br	
			2898324				
			(Jagatiyoti Roy)			Prof. Harish Kr. Sharma	
			Asstt. Registrar (Revenue)				
			(Dr. GOWIND BHARGAVA)				



(Prof. Karish Kr. Sharma)
 Registrar

(Dr. Govind Bhargava)
 Registrar

(Jagatiyoti Roy)
 Asstt. Registrar (Finance)

17	06.02.2020	33642379822	2325049	06.02.2021	2470154 SBI, NITA Br.
18	06.02.2020	33642379866	2325049	06.02.2021	2470154 SBI, NITA Br.
19	06.02.2020	33642379968	2325049	06.02.2021	2470154 SBI, NITA Br.
20	12.03.2020	34783448095	1378205	12.03.2021	1461336 SBI NITA Br.
21	12.03.2020	34783447976	1378205	12.03.2021	1461336 SBI NITA Br.
22	12.03.2020	34788447885	1378205	12.03.2021	1461336 SBI NITA Br.
23	12.03.2020	34783447772	1378205	12.03.2021	1461336 SBI NITA Br.
24	12.03.2020	34783447705	1378205	12.03.2021	1461336 SBI NITA Br.
25	12.03.2020	34783447568	1378205	12.03.2021	1461336 SBI NITA Br.
26	12.03.2020	34783447477	1378205	12.03.2021	1461336 SBI NITA Br.
27	12.03.2020	34783447400	1378205	12.03.2021	1461336 SBI NITA Br.
28	12.03.2020	34783447295	1378205	12.03.2021	1461336 SBI NITA Br.
29	25.02.2020	8026142103587	710678	25.02.2021	758756 TGB NITA Br.
30	31.03.2020	35665978111	6386841	31.03.2021	6758747 SBI NITA Br.
31	31.03.2020	35665977821	6386861	31.03.2021	6758768 SBI NITA Br.
32	31.03.2020	35665977355	6386861	31.03.2021	6758768 SBI NITA Br.
33	31.03.2020	35665976930	6386861	31.03.2021	6758768 SBI NITA Br.
34	31.03.2020	35665976500	6386861	31.03.2021	6758768 SBI NITA Br.
35	31.03.2020	35665976124	6386861	31.03.2021	6758768 SBI NITA Br.
36	31.03.2020	35665975868	6386861	31.03.2021	6758768 SBI NITA Br.
37	03.04.2020	36734493697	5986002	03.04.2021	6334567 SBI NITA Br.
38	03.04.2020	36734493711	5986002	03.04.2021	6334567 SBI NITA Br.
39	03.04.2020	36734493788	5986002	03.04.2021	6334567 SBI NITA Br.
40	03.04.2020	36734493857	5986002	03.04.2021	6334567 SBI NITA Br.
41	03.04.2020	36734493971	5986002	03.04.2021	6334567 SBI NITA Br.
42	03.04.2020	36734523883	5986002	03.04.2021	6334567 SBI NITA Br.
43	03.04.2020	36734523883	5986002	03.04.2021	6334567 SBI NITA Br.
44	30.03.2020	38361800540	53091517	30.03.2021	55083327 SBI NITA Br.
45	30.03.2020	38361788604	53091517	30.03.2021	55083327 SBI NITA Br.
		TOTAL	253096391		266395276
iii) Sponsored Project Fund					
1	21.01.2020	8026141600459	3139902	21.01.2021	3360574 TGB NITA Br.
2	21.01.2020	8026141600460	4187342	21.01.2021	4481627 TGB NITA Br.
3	21.01.2020	8026141600461	6281015	21.01.2021	6722443 TGB NITA Br.
4	21.01.2020	8026141600462	5234179	21.01.2021	5602036 TGB NITA Br.
5	21.01.2020	8026141600463	2093669	21.01.2021	2240812 TGB NITA Br.
6	21.01.2020	8026141600476	3140988	22.01.2021	3361736 TGB NITA Br.
7	22.01.2020	8026141600477	2931590	22.01.2021	3137621 TGB NITA Br.
8	22.01.2020	8026141600478	2722186	22.01.2021	2913503 TGB NITA Br.
9	22.01.2020	8026141600479	2512789	22.01.2021	2699387 TGB NITA Br.
10	22.01.2020	8026141600480	2303389	22.01.2021	2465271 TGB NITA Br.
11	22.01.2020	8026141600481	2303389	22.01.2021	2465271 TGB NITA Br.
		(Jagadivoti Roy)	(Dr. Jyoti Prakash)		
		Asstt. Registrar (Finance)	(Dr. Jyoti Prakash)		
		National Institute of Technology Agartala	Signature		
					Prof. Harish Kr. Sharma
					Director, NIT Agartala



12	22.01.2020	8026141600482	2303389	22.01.2021	2465271	TGB NITA Br.
13	22.01.2020	8026141600483	2303389	22.01.2021	2465271	TGB NITA Br.
14	22.01.2020	8026141600484	2303389	22.01.2021	2465271	TGB NITA Br.
15	22.01.2020	8026141600485	2303389	22.01.2021	2241156	TGB NITA Br.
16	22.01.2020	8026141600486	2093991	22.01.2021	1792927	TGB NITA Br.
17	22.01.2020	8026141600487	1675195	22.01.2021	1344721	TGB NITA Br.
18	22.01.2020	8026141600488	1256420	22.01.2021	895504	TGB NITA Br.
19	22.01.2020	8026141600489	895504	22.01.2021	448252	TGB NITA Br.
20	22.01.2020	8026141600490	418818	22.01.2021	9372300	TGB NITA Br.
21	22.01.2020	8026142100058	8756869	22.01.2021	9509114	TGB NITA Br.
22	22.01.2020	8026142100067	8884721	22.01.2021	9509119	TGB NITA Br.
23	22.01.2020	8026142100075	8884707	22.01.2021	9509122	TGB NITA Br.
24	22.01.2020	8026142100085	8884707	22.01.2021	7607295	TGB NITA Br.
25	22.01.2020	8026142100094	7107763	22.01.2021	5705473	TGB NITA Br.
26	22.01.2020	8026142100100	5330824	22.01.2021	3803645	TGB NITA Br.
27	22.01.2020	8026142100119	3553879	22.01.2021	1901823	TGB NITA Br.
28	22.01.2020	8026142100128	1776939	22.01.2021	2827035	TGB NITA Br.
29	25.02.2020	8026142103578	7642562	26.05.2021		
		TOTAL	108227892		115769851	
iv) Infrastructural Development Fund						
1	31.03.2015	466	1506539	08.06.2020	2294150	TGB NITA Br.
2	31.03.2015	467	1506539	08.06.2020	2294150	TGB NITA Br.
3	31.03.2015	468	753269	08.06.2020	1147074	TGB NITA Br.
4	31.03.2015	469	753269	08.06.2020	1147074	TGB NITA Br.
5	31.03.2015	470	753269	08.06.2020	1147074	TGB NITA Br.
6	31.03.2015	471	753269	08.06.2020	1147074	TGB NITA Br.
7	31.03.2015	472	602660	08.06.2020	917728	TGB NITA Br.
8	31.03.2015	473	452012	08.06.2020	688322	TGB NITA Br.
9	31.03.2015	474	301342	08.06.2020	458882	TGB NITA Br.
10	31.03.2015	475	152036	08.06.2020	231520	TGB NITA Br.
11	25.02.2020	8026142103602	306307	25.02.2021	327029	TGB NITA Br.
		TOTAL	7840511		11800077	
v) NITA Corpus Fund (Institute Development Fund)						
1	21.01.2020	8026141600509	5834285	26.05.2021	6258825	TGB NITA Br.
2	21.01.2020	8026141600510	4861905	21.01.2021	5203539	TGB NITA Br.
3	21.01.2020	8026141600511	4862370	21.01.2021	5204096	TGB NITA Br.
4	21.01.2020	8026141600512	3889521	21.01.2021	4162876	TGB NITA Br.
5	21.01.2020	8026141600513	2947145	21.01.2021	3127161	TGB NITA Br.
6	21.01.2020	8026141600514	1944760	21.01.2021	2081457	TGB NITA Br.
7	21.01.2020	8026141600515	970803	21.01.2021	1039031	TGB NITA Br.
8	06.02.2020	33642377597	2322990	06.02.2021	2467967	SBI NITA Br.
		(Jagatiyoti Roy)	(DR. GOWDAR SHARMA)			
		Asstt. Registrar (Finance)	Registrar,			
		National Institute of Technology Agartala				
		(Prof. Harish Kr. Sharma)				
		Director, NIT Agartala				

9	06.02.2020	33042378738	2325049	06.02.2021	2470154 SBI NITA Br.
10	12.03.2020	34783371607	6891041	12.03.2021	7306697 SBI, NITA Br.
11	12.03.2020	34783371562	6891041	12.03.2021	7306697 SBI, NITA Br.
12	12.03.2020	34783371459	6891041	12.03.2021	7306697 SBI, NITA Br.
13	12.03.2020	34783371051	6891041	12.03.2021	7306697 SBI, NITA Br.
14	12.03.2020	34783369621	6891041	12.03.2021	7306697 SBI, NITA Br.
15	25.02.2019	8026142103596	925770	25.02.2020	988400 TGR NITA Br.
16	31.03.2020	35665970393	6386861	31.03.2021	6758768 SBI, NITA Br.
17	31.03.2020	35665969151	6386861	31.03.2021	6758768 SBI, NITA Br.
18	31.03.2020	35665968884	6386861	31.03.2021	6758768 SBI, NITA Br.
19	03.04.2020	36734495631	5986002	03.04.2021	6334567 SBI, NITA Br.
20	03.04.2020	36734493653	5986002	03.04.2021	6334567 SBI, NITA Br.
21	30.03.2020	38361787890	79637276	30.03.2021	82624992 SBI, NITA Br.
22	30.03.2020	38361786537	79637276	30.03.2021	82624992 SBI, NITA Br.
23	30.03.2020	38361785292	79637276	30.03.2021	82624992 SBI, NITA Br.
24	30.03.2020	38361753598	79637276	30.03.2021	82624992 SBI, NITA Br.
		TOTAL	414991494		432977397
vi) EMD & Security Deposit Fund					
1	06.02.2020	33642378772	2325049	06.02.2021	2470154 SBI NITA Br.
2	06.02.2020	33642378909	2325049	06.02.2021	2470154 SBI NITA Br.
3	06.02.2020	33642378976	2325049	06.02.2021	2470154 SBI NITA Br.
4	06.02.2020	33642379038	2325049	06.02.2021	2470154 SBI NITA Br.
5	06.02.2020	33642379107	2325049	06.02.2021	2470154 SBI NITA Br.
6	06.02.2020	33642379232	2325049	06.02.2021	2470154 SBI NITA Br.
7	06.02.2020	33642379301	2325049	06.02.2021	2470154 SBI NITA Br.
8	06.02.2020	33642379436	2325049	06.02.2021	2470154 SBI NITA Br.
9	06.02.2020	33642379538	2325049	06.02.2021	2470154 SBI NITA Br.
10	06.02.2020	33642379606	2325049	06.02.2021	2470154 SBI NITA Br.
		TOTAL	23250490		24701540
vii) Moutoshi Kar Memorial					
1	31.03.2020	34732977775	30000	11.02.2021	31303 SBI NITA Br.
		GRAND TOTAL	961714299		1012589811



(Prof. Harish Kr. Sharma)
Director, NIT Agartala

(DR. GOVIND BHARGAVA)
Registrar,
NIT, Agartala.

(Jagatiyoti Roy)
Asstt. Registrar (Finance)
National Institute of Technology, Agartala.

FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS) Name of Entity: NATIONAL INSTITUTE OF TECHNOLOGY, AGARTALA SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.03.2020			
SCHEDULE 8 LOAN, ADVANCES & DEPOSITS	Current Year 2019-2020	Previous Year 2018-2019	
1. Advance to employees (Non-interest bearing)			
a) Salary	0		
b) Festival	0		
c) Medical Advance	0		
d) Other (to be specified)	0		
2. Long Term Advances to employees: (Interest bearing)			
a) Vehicle loan			
b) Home loan			
c) Other (to be specified)			
i) Loan to Startup Project			735000
ii) Loan to TEQIP III Fund			8835607
3) Advances and other amounts recoverable in cash or in kind or for value to be received.			
a) On Capital account.			
Advance to:			
RD Deptt Hostel Repair & Maints)		2000000	
Advance to Parties (OH-35)- Corresponding Schedule "8A"	56008055	50008055	52008055
b) Prepaid Expenses			
Loan to NIMCET Fund	0		0
c) Others			
Temporary Advance to Sundry Parties			646936
LTC Advance to Employees	447000		350000
Medical Advances	0		500000
4) INCOME ACCRUED			
a) On Investment - Others.			
i) Interest on Fixed Deposit-General A/c	0		0
ii) Interest on Fixed Deposit-SDP Fund	0		0
5) CLAIMS RECEIVABLE			
TOTAL	56455055		63075598


Prof. Harish Kr. Sharma
Director, NIT Agartala

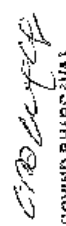
Registrar,
NIT, Agartala.


Asstt. Registrar (Finance)
National Institute of Technology, Agartala.

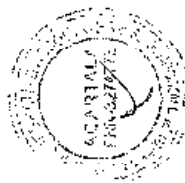
FORM OF FINANCIAL STATEMENTS (NON- PROFIT ORGANISATIONS)
Name of Entity: NATIONAL INSTITUTE OF TECHNOLOGY, AGARTALA
SCHEDULES FORMING PART OF SCHEDULE 8 AS AT 31.03.2020

SCHEDULE 8 A- DETAILS OF ADVANCE TO PARTIES	Current Year	Previous Year	Adjustment	TOTAL
	2019-2020		tr to Fixed Assets	
	(1)	(2)	(3)	(1+2-3)
Advance to:				
B.S.N.I.L.(Call User Group-CUG)		172764		172764
P.H E(Iron Removal Plant)		1560100		1560100
Tripura Housing Board(Academic Building, Library)		7640420		7640420
DWS Deptt (Water Supply)		2695300		2695300
EPIL(Const of Workshop)		10200000		10200000
CPWD	6000000	27739471		33739471
TOTAL	6000000	50080555	0	56080555


(Jagadip Roy)
 Asstt. Registrar (Finance)
 National Institute of Technology, Agartala.


DR. GOVIND BHARGAVA
 Registrar,
 NIT, Agartala.


(Prof. Harish Kr. Sharma)
 Director, NIT Agartala



FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)		
Name of Entity: NATIONAL INSTITUTE OF TECHNOLOGY, AGARTALA		
SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE PERIOD / YEAR ENDED 31.03.2020		
SCHEDULE 9 - ACADEMIC RECEIPTS	Current Year 2019-2020	(Amount - Rs.) Previous Year 2018-2019
	1) Academic Collection	
Admission Fees	1227000	
Institute Development Fees	9850000	
Tuition Fees	221191667	
All other Fees	8826000	
Student Activity Fees	7094000	
Comm Skill Dev. Fees	5660000	
T & P Fees	2220000	
Alumni Fees	796000	
Medical Fees	2336800	205199475
Prospectus Fees	262800	
Identity Card Fees	227000	
Grade Card Fees	3476000	
Degree Certificates	253800	
Lab Fees	407600	
Exam Fees	23500	
2) Others (Specify):		
Misc. Collection from Students	73717	
TOTAL	263925884	205199475
(Jagadish Chandra) Asstt. Registrar (Finance) National Institute of Technology, Agartala.		(Prof. Harish Kr. Sharma) Director, NIT Agartala



FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)		
Name of Entity: NATIONAL INSTITUTE OF TECHNOLOGY, AGARTALA		
SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE PERIOD / YEAR ENDED 31.03.2020		
SCHEDULE 10 - GRANTS / SUBSIDIES	Current Year 2019-2020	Previous Year 2018-2019
(Irrevocable Grants & Subsidies received)		
1) Central Govt.		
a) From MHRD- Non Plan		
i) Object Head-31	407320000	374800000
ii) Object Head-36	500000000	404300000
b) From AICTE	0	0
c) Utilised Grant- OH-35	28244706	0
2) State Govt.		
3) Govt. Agencies		
4) Institution / Welfare bodies		
5) International Organisations		
6) others (Specify)		
TOTAL	485564706	779100000

FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)		
Name of Entity: NATIONAL INSTITUTE OF TECHNOLOGY, AGARTALA		
SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE PERIOD / YEAR ENDED 31.03.2020		
SCHEDULE 11 - INCOME FROM INVESTMENTS	Current Year 2019-2020	Previous Year 2018-2019
1) On Term Deposits:		
a) With scheduled Banks- Non-Plan Fund		
State Bank of India, NIT Agartala Br.	0	0
Canara Bank, Agartala Br.	0	0
b) With Non scheduled Banks		
c) With Institutions		
d) Others		
2) On Loans:		
a) Employees / Staff		
b) Others		
3) Interest on Debtors and Other Receivables		
TOTAL	0	0

(Prof. Harish K. Sharma)
Director, NIT Agartala

(DR. GOVIND BHARGAVA)
Registrar,
NIT, Agartala.

(Jagadish Roy)
Asstt. Registrar (Finance)
National Institute of Technology, Agartala.





FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS) Name of Entity: NATIONAL INSTITUTE OF TECHNOLOGY, AGARTALA SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE PERIOD/ YEAR ENDED 31.03.2020		
SCHEDULE 12 - INTEREST EARNED	Current Year 2019-2020	(Amount - Rs.) Previous Year 2018-2019
1) On Term Deposits:		
a) With scheduled Banks- Non-Plan Fund		
State Bank of India, NIT Agartala Br.		264163
Canara Bank, Agartala Br.	6837563	6849615
b) With Non scheduled Banks		
c) With Institutions		
d) Others		
2) On Savings Accounts:		
a) With scheduled Banks		
Non-Plan Fund:		
Canara Bank, Agartala Br.		0
State Bank of India, NIT Agartala Br.		8667204
Plan Fund:		
Canara Bank, Agartala Br.		0
State Bank of India, NIT Agartala Br.	18024915	3109823
b) With Non scheduled Banks		0
c) Post office savings Accounts		
d) Others		
3) On Loans:		
a) Employees / Staff		
b) Others	0	0
i) Intt on Mobilization Advance(NCCL)		0
4) Interest on Debtors and Other Receivables	24862478	46879805
TOTAL		
(Jagajyoti Roy) Asstt. Registrar (Finance) National Institute of Technology, Agartala.	(Dr. GOWIND BHARGAVA) Registrar NIT, Agartala.	(Prof. Karish K. Sharma) Director, NIT Agartala

FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)		
Name of Entity: NATIONAL INSTITUTE OF TECHNOLOGY, AGARTALA		
SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE PERIOD/ YEAR ENDED 31.03.2020		
	Current Year 2019-2020	(Amount - Rs.) Previous Year 2018-2019
SCHEDULE 13 - OTHER INCOME		
A. Income from Land & Building	0	
B. Sale of Institute's Publications		
C. Income from holding events		
D. Others (Specify)-		
a) Misc Income	646075	8649341
b) Misc. Income -Plan Fund	0	0
c) Sale of Tender Form	0	0
TOTAL	646075	8649341
SCHEDULE 14 - PRIOR PERIOD INCOME		
1. Academic Receipts	0	0
2. Income from Investments		
3. Interest earned		
4. Others (Specify)-		
TOTAL	0	0



Prof. Harish Kr. Sharma
(Prof. Harish Kr. Sharma)
Director, NIT Agartala

Dr. Govind Bhargava
(DR. GOVIND BHARGAVA)
Registrar,
NIT, Agartala.

Jagatiyoti Roy
(Jagatiyoti Roy)
Asstt. Registrar (Finance)
National Institute of Technology, Agartala.

FORM OF FINANCIAL STATEMENTS (NON- PROFIT ORGANISATIONS)
Name of Entity: NATIONAL INSTITUTE OF TECHNOLOGY, AGARTALA
SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE PERIOD/ YEAR ENDED 31.03.2020

SCHEDULE 15 - STAFF PAYMENT & BENEFIT	(Amount - Rs.)	
	Current Year 2019-2020	Previous Year 2018-2019
a) Salaries and Wages		
i) Regular Faculty & Staffs	3355425	214254394
1) Salaries & Allowance- Director	210334037	
2) Salaries & Allowance- Faculty	24052016	
3) Salaries & Allowance- Non- Teaching Staff		
ii) Contractual Faculty & Staffs		
1) Salaries & Wages- Contractual Faculty	69592735	136418540
2) Salaries & Wages- Contractual Non-Teaching Staffs	66047774	
3) EPF- Contractual Faculty & Non-Teaching Staffs	6740605	0
b) Allowances and Bonus		
c) Contribution to Provident fund		
d) Contribution to other funds (Specify)	14210113	7975872
e) New Pension Scheme Fund-Tier-I		
f) Staff Welfare Expenses		
g) Expenses on Employees Retirement and Terminal benefits		
h) LTC Facility	1788073	3338553
i) Medical Facility	1045160	367633
j) Children Education Allowance	2475000	2824895
k) Other (Specify)		
1) Telephone Re-imbursement	62736	58236
2) CPDA	495508	280237
TOTAL	400199182	365518360



Prof. Harish Kr. Sharma
 Prof. Harish Kr. Sharma
 Director, NIT Agartala

DR. GOVIND BHARGAVA
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 Registrar,
 NIT, Agartala.

Asst. Registrar (Accounts)
 Asst. Registrar (Accounts)
 National Institute of Technology, Agartala

FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)
Name of Entity: NATIONAL INSTITUTE OF TECHNOLOGY, AGARTALA
SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE PERIOD/ YEAR ENDED 31.03.2020

SCHEDULE 16 - ACADEMIC EXPENSES		(Amount - Rs.)	
	Current Year	Previous Year	
	2019-2020	2018-2019	
a) Laboratory Expenses	2573014	4133852	
b) Honorarium to Visiting Examiner & others	2108240	3329411	
c) Expenses on Workshop	497283	513919	
d) Convocation Expenses	1803508	2282370	
e) Scholarship-Institute	80565438	86355709	
f) Others (specify)		0	
1) Contingency to PhD/M.Tech		0	
2) Expenses for Research Affairs	25070		
3) Expenses for NBA			
TOTAL	87572483	96615261	

(Signature)
(Jagatiyoti Roy)
 Asstt. Registrar (Finance)
 National Institute of Technology, Agartala.

(Signature)
(DR. GOVIND BHARGAVA)
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 NIT, Agartala.

(Signature)
Prof. Harish Kr. Sharma
 Director, NIT Agartala



FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)
Name of Entity: NATIONAL INSTITUTE OF TECHNOLOGY, AGARTALA
SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE PERIOD/ YEAR ENDED 31.03.2020

(Amount - Rs.)		
SCHEDULE 17 - ADMINISTRATIVE & GENERAL EXPENSES		
	Current Year 2019-2020	Previous Year 2018-2019
A. Infrastructure:		
a) Electricity and Power	21301657	24481354
b) Water Charges		250000
c) Rent to NIT Transit House, Delhi	350000	
d) Rent to PWD-Agartala Transit House	136590	
B. Communication		
a) Postage	61580	100000
b) Telephone & Communication	257232	279022
C. Others		
1) Printing & Stationery	1333978	2866318
2) Travelling & Conveyance Expenses	800455	1273242
3) Hospitality Expenses	554158	593210
4) Advertisement and publicity	2175928	1516388
5) Newspaper & Periodical	16268	27048
6) Miscellaneous Expenses	451547	74900
7) Medicine Expenses	1146688	1416785
8) Training & Placement Exp	76388	
9) Recruitment expenses	1352343	1282382
10) NSS Programme	52690	39200
11) Security Services	53447441	41104621
12) Gardening Expenses	6339777	391706
13) Sweeping & Cleaning	33542170	31054890
14) Legal Fees	2096114	1795319
15) Networking Expenses	388682	8902160
16) Games, Sports & Cultural Activity		
17) Internal Audit Fees & others	5094032	3710337
18) Statutory Audit Fees-A.G.	63260	38940
19) BOG Meeting Expenses		
20) Cable Charges	1054149	1112300
TOTAL	132093127	122311772

(Jagatyoti Roy)
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 Director, NIT Agartala



FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)
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SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE PERIOD/ YEAR ENDED 31.03.2020

SCHEDULE 18 - TRANSPORTATION EXPENSES		(Amount - Rs.)	
	Current Year 2019-2020	Previous Year 2018-2019	
1. Vehicles (Owned by Institution)			
a) Fuel Charges	800368	863371	
b) Repair & Maintenance	263783	413808	
c) Registration, Insurance etc. for Vehicle	130328	201780	
2. Vehicles taken on Rent/Lease			
a) Rent/Lease Expenses	38204	210993	
3. Vehicles hiring Expenses			
TOTAL	1232683	1689952	

SCHEDULE 19 - REPAIRS & MAINTENANCE		(Amount - Rs.)	
	Current Year 2019-2020	Previous Year 2018-2019	
a) Repair & Maintenance	2608459	1250860	
b) Repairs & Maints-Electricals	2391827	2263101	
c) Repair & Maintenance - Building	8547555	4929638	
d) Repair & Maintenance - Computer & Accessories	5286013	4091789	
e) Repair & Maintenance - Internal Road	3877546		
f) Repair & Maintenance - Equipment & Machinery			
g) Others (Specify)			
TOTAL	22711400	12535388	

(Signature)
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SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE PERIOD/ YEAR ENDED 31.03.2020

SCHEDULE 20 - FINANCE COSTS		(Amount - Rs.)	
	Current Year	Previous Year	
	2019-2020	2018-2019	
a) Interest on Fixed Loans	0	0	
b) Interest on Other Loans	0	0	
c) Bank Commission	9845	14934	
d) Others (Specify)	0	0	
TOTAL	9845	14934	

SCHEDULE 21 - OTHER EXPENSES		(Amount - Rs.)	
	Current Year	Previous Year	
	2019-2020	2018-2019	
a) Provision for Bad and Doubtful Debts	0	0	
b) Irrecoverable Balance Written off	0	0	
c) Others (Specify)	0	0	
TOTAL	0	0	

SCHEDULE 22 - PRIOR PERIOD EXPENSES		(Amount - Rs.)	
	Current Year	Previous Year	
	2019-2020	2018-2019	
1. Establishment Expenses	0	0	
2. Academic Expenses	0	0	
3. Administrative Expenses	0	0	
4. Transportation Expenses	0	0	
5. Repairs & Maintenance	0	0	
6. Others (Specify)	0	0	
TOTAL	0	0	

(Jagatiyoti Roy)
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 Director, NIT Agartala



SCHEDULE-23**SIGNIFICANT ACCOUNTING POLICIES****1. INTRODUCTORY:**

The National Institute of Technology, Agartala is one among the Institutions of National Importance setup under the National Institutes of Technology Act, 2007 (No.29 of 2007) and supplemented by the first Statute prepared and declared by Government of India, Ministry of HRD, New Delhi vide Gazette of India Part II Section 3 Sub Section (i) dated 23.04.2009.

The Government of India, Ministry of HRD, New Delhi releases funds to the Institute for both Plan and Non-Plan Expenses.

The Institute has prepared the Annual Accounts 2019-20 as per the format provided by the Ministry of HRD with the approval of the Comptroller and Auditor General of India and communicated to all NITs Vide Letter No. F.29-4/2012-IFD dated 17.04.2015.

2. ACCOUNTING CONVENTION:

The Financial Statements are prepared on the basis of Historical cost Convention unless otherwise stated and on the Accrual method of Accounting.

3. REVENUE RECOGNITION:

Tuition fee payable by students is accounted for on cash basis. Interest on term deposits is accounted on actual basis. Sale of application/ tender forms and other Misc Income are accounted on cash basis.

4. INVENTORY VALUATION:

The Institute is booking expenditure on spare parts, laboratory chemicals, consumables and other stores on cash basis as and when purchased and hence no closing stock for the same shown in the balance sheet.

(Jagadhyoti Roy)
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(Prof. Harish Kr. Sharma)
Director, NIT Agartala



5. INVESTMENT:

No Investment except Fixed Deposit was made during the year under audit. Investments are valued at cost.

6. FIXED ASSETS:

Fixed Assets like equipment, furniture etc., are stated at cost of acquisition inclusive of inward freight, duties and taxes and incidental and direct expenses related to acquisition. The cost of building is taken on the basis of Completion Report. Cost of purchase of Library books, e-books are treated as fixed assets.

7. DEPRECIATION:

Depreciation is provided on straight line Method as per rates specified in the guidelines and format of Ministry of HRD, Government of India in respect of following Assets:

(i) Building- 2%, (ii) Electrical Installation- 5%, (iii) Plant and Machinery- 5%, (iv) Lab Equipment- 8%, (v) Office Equipment- 7.5%, (vi) Computer & Accessories- 20%, (vii) Furniture & Fittings- 7.5%, (viii) Vehicle- 10%, (ix) Library Books- 10% and (x) e-Books/e-Journal- 40%. However, depreciation has been charged on straight line method.

8. GOVERNMENT GRANT/SUBSIDIES:

- i) Government Capital grants for setting up Projects are treated as Capital Receipts (the said grants are shown under the Head Earmarked/Endowment Fund)
- ii) Fixed Assets acquired out of specific grants are shown at their full value of acquisition.

9. RETIREMENT BENEFIT:

Provision towards Retirement Benefits payable has been made as per accrual basis for the year 2019-20.

(Signature)
Asstt. Registrar (Acad. & Res.)
National Institute of Technology Agartala

(Signature)
DR. GOVIND BHARGAVA
Registrar,
NIT, Agartala.

(Signature)
Prof. Harish Kr. Sharma
Director, NIT Agartala



10. NEW PENSION SCHEME (NPS):

Employees' contribution to NPS along with matching contribution of the Institution has been deposited in a separate Bank Account and the NPS contributions are remitted to CRA (NSDL) on monthly basis regularly.

11. NIT Agartala is maintaining the following fund accounts separately:

Sl. No	Name of Fund	Name of Bank, Branch	Account No
1	New Pension Scheme	SBI, NIT Agartala Br.	30471674447
2	Project Fund	-do-	30533908751
3	Retirement Benefit Fund	-do-	30693303036
4	Student Welfare Fund	-do-	30534089717
5	NITA Corpus Fund	-do-	30534091012
6	EMD & Security Fund	-do-	30936141729
7	Sponsored Project Fund	-do-	30773081908
8	Staff Welfare Fund	-do-	30534092027
9	Departmental Promotional Fund(Civil)	-do-	30534090278
10	Staff Benefit Trust Fund	-do-	31509918149
11	Guest House Fund	-do-	31664487420
12	NIT Transit House Fund	SBI, Kunjaban Br	31092166195
13	Infrastructure Development Fund	TGB, NIT Agartala Br	8026010030064

12. CAPITAL COMMITMENTS:

All major construction works are being executed by CPWD functioning in the campus on deposit work basis. Certain construction works are also executed through process of tender.

(Jagajyoti Roy)
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National Institute of Technology, Agartala.

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(Prof. Harish Kr. Sharma)
Director, NIT Agartala

SCHEDULE -24 CONTINGENT LIABILITIES AND NOTES ON ACCOUNTS**1. CONTINGENT LIABILITIES:**

NIL

2. CURRENT ASSETS, LOANS AND ADVANCES:


In the opinion of the Management, the current assets, loans and advances have a value on realization in the ordinary courses of business, equal at least to the aggregate amount shown in the Balance Sheet.


3. FOREIGN CURRENCY TRANSACTION:


Expenditure is recorded at the prevailing rate on the date of the transaction based on demands raised by State Bank of India, Agartala Branch.

4. Corresponding Figures for the previous year have been regrouped/rearranged wherever necessary.

5. Schedules 1 to 23 are annexed to and form an integral part of the Balance Sheet as at 31.03.2020 and Income and Expenditure and Receipts and Payment Accounts for the year ended on that date.


Jagatjyoti Roy)
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National Institute of Technology, Agartala.


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Prof. Harish Kr. Sharma)
Director, NIT Agartala



FORM OF FINANCIAL STATEMENTS (NON- PROFIT ORGANISATIONS)
Name of Entity: NATIONAL INSTITUTE OF TECHNOLOGY, AGARTALA
CASH FLOW STATEMENT FOR THE PERIOD/ YEAR ENDED 31.03.2020

Particulars	Current Year 2019-20	Previous Year 2018-19
A. CASH FLOW FROM OPERATING ACTIVITIES		
Susplus/(deficit) for the year	(46,61,69,482)	(21,62,52,730)
Less: Expenditure on other Fund (NMEICT)	-	-
<u>Adjustments for the Non-operating Incomes/Expenses</u>		
Depreciation	21,23,47,405	25,53,93,184
Write offs	-	-
Interest expenses on Loans	21,23,47,405	25,53,93,184
(Increase)/Decrease in Current Assets	(2,17,020)	3,91,40,454
Increase/(Decrease) in Current Liabilities	(2,01,57,855)	(1,62,62,775)
	(2,03,74,875)	(1,11,55,454)
Net Cash Flow from Operating Activities	(27,41,96,952)	1,17,22,225
B. CASH FLOW FROM INVESTING ACTIVITIES		
(Purchase)/Sale of Fixed Assets	(2,25,19,706)	(16,47,25,584)
(Purchase)/Sale of Fixed Investments	-	-
Interest received	-	(16,47,25,584)
Net Cash Flow from Investing Activities	(2,25,19,706)	(16,47,25,584)
C. CASH FLOW FROM FINANCING ACTIVITIES		
Additions to General Fund during the year	-	-
Grants/funds in nature of founders/promoters contribution	-	10,23,00,000
Endowment fund(principal sum)	-	-
Interest paid on Loans	-	10,23,00,000
Net Increase in Cash Equivalents (A+B+C)	(29,67,16,658)	(5,07,03,359)
Cash and cash Equivalents as at the beginning of F.Y.	47,48,88,972	52,55,92,331
Cash and Cash Equivalent at the end of the period	17,81,72,314	47,48,88,972

(Jagadipoy Roy)
 Asstt. Registrar (Finance)
 NIT, Agartala

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 Director, NIT Agartala



FORM OF FINANCIAL STATEMENT'S (NON- PROFIT ORGANISATIONS)
Name of Entity: NATIONAL INSTITUTE OF TECHNOLOGY, AGARTALA
BALANCE SHEET AS AT 31.03.2020
STAFF BENEFIT TRUST (GPF)

Liabilities	(Amount - Rs.)	
	Current Year 2019-2020	Previous Year 2018-19
GPF		
Opening Balance	62670471	50233471
Add: Subscription during the year	9735000	7216000
Add: Interest Credited	0	3990771
Less: Advance/withdrawal	72405471	61440242
Closing Balance	2944606	1854470
	69460865	59585772
Interest Reserve:		
Opening Balance	112489	659243
Add: Excess of Income over Expenditure	89661	
Closing Balance	202150	112489
	62670471	3197188
Investment (Opn. Bal)		
Add: Current year		
Add: Interest Accrued		
Less: Withdrawal		
	62670471	69003772
Bank Balance		
Bank (SBI, NIT Agt Br)		
	62670471	659243
TOTAL	69663015	62782960



Prof. Harish Kr. Sharma
 Director
 Director, NIT Agartala

(DR. GOVIND BHARGAVA)
 Registrar
 Registrar,
 NIT, Agartala.

(Jagatiyoti Roy)
 Asstt. Registrar (Finance)
 National Institute of Technology, Agartala.

For
KOUSHIK DEBNATH & ASSOCIATES
 (Chartered Accountants)

(CA Koushik Debnath)
 Chartered Accountant

FORM OF FINANCIAL STATEMENTS (NON- PROFIT ORGANISATIONS)
Name of Entity: NATIONAL INSTITUTE OF TECHNOLOGY, AGARTALA
INCOME & EXPENDITURE FOR THE PERIOD/ YEAR ENDED ON 31.03.2020
STAFF BENEFIT TRUST (GPF)

Expenditure	Current Year 2019-2020	Previous Year 2018-2019	Income	Current Year 2019-2020	Previous Year 2018-2019
Bank Charges	0	0	Interest Earned	89661	77599
Excess of Income over Expenditure	89661	77599	Other Receipts	0	
TOTAL	89661	77599	TOTAL	89661	77599

Asstt. Registrar (Finance)

(Jagadish Roy)

Asstt. Registrar (Finance)
National Institute of Technology, Agartala.

For

KOUSHIK DEBNATH & ASSOCIATES
(Chartered Accountants)

(CA Koushik Debnath)
Chartered Accountant

Registrar

(DR. GOVIND BHARADWAJ)

Registrar
NIT, Agartala.

Director

(Prof. Harish Kr. Sharma)

Director, NIT Agartala

FORM OF FINANCIAL STATEMENTS (NON- PROFIT ORGANISATIONS)
Name of Entity: NATIONAL INSTITUTE OF TECHNOLOGY, AGARTALA
RECEIPTS AND PAYMENTS FOR THE PERIOD/ YEAR ENDED ON 31.03.2020
STAFF BENEFIT TRUST (GPF)

RECEIPTS	(Amount - Rs.)		PAYMENTS	(Amount - Rs.)	
	Current Year 2019-2020	Previous Year 2018-2019		Current Year 2019-2020	Previous Year 2018-2019
I) Opening Balance: In Savings A/c Bank (SBI, NIT Agt Br)	3197188	1547773	I) EXPENSES: Remittance Others Exp GPF Final payment disbursed to employee	9418000 450 2944606	7216000 0 1854470
II) SUBSCRIPTION: Monthly Subscription GPF withdrawal Others	9735000 0 450	8787816 1854470	II) In Savings A/c Bank (SBI, NIT Agt Br)	659243	3197188
III) Interest Received	89661	77599			
TOTAL	13022299	12267658	TOTAL	13022299	12267658

Asstt. Registrar (Finance)
 (Jagatiyoti Roy)
 Asstt. Registrar (Finance)
 National Institute of Technology, Agartala.

For
 Koushik DEBNATH & ASSOCIATES
 (Chartered Accountants)

(CA Koushik Debnath)
 Chartered Accountant

Registrar
 (DR. GOVIND BHARGAVA)
 Registrar,
 NIT, Agartala.

Director
 (Prof. Harish Kr. Sharma)
 Director, NIT Agartala

FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)
Name of Entity: NATIONAL INSTITUTE OF TECHNOLOGY, AGARTALA
BALANCE SHEET AS AT 31.03.2020
NPS Tier I

	Liabilities	Current Year 2019-2020	Previous Year 2018-19	Assets	Current Year 2019-2020	Previous Year 2018-19
NPS Tier I						
Opening Balance	1627784		79024	Investment	0	0
Add: Subscription during the year	26533504		20521374	Add: Interest	0	0
Add: Interest Credited	0		0	Less: Maturity	0	0
Less: Transferred to NSDL	28151288		20600398	Bank Balance		
Closing Balance	26316915	1844373	18972614	Bank (SBI, NIT Agt Br)	2117829	1815568
Interest Reserve:						
Opening Balance	187784		90299			
Add: Excess of Income over Expenditure	85672		97485			
Closing Balance	273456					
TOTAL		2117829	1815568	TOTAL	2117829	1815568

Asstt. Registrar (Finance) (Jagajyoti Roy)
 Asstt. Registrar (Finance)
 National Institute of Technology, Agartala

For
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(CA Koushik Debnath)
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FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)
Name of Entity: NATIONAL INSTITUTE OF TECHNOLOGY, AGARTALA
INCOME & EXPENDITURE FOR THE PERIOD/ YEAR ENDED ON 31.03.2020
NPS TIER I

Expenditure	(Amount - Rs.)	
	Current Year 2019-2020	Previous Year 2018-2019
Intt credited to Subscribers A/c Bank Charges		
Excess of Income over Expenditure	85672	97485
TOTAL	85672	97485

Asstt. Registrar (Finance)

(Jagatiyoti Roy)

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RECEIPTS AND PAYMENTS FOR THE PERIOD/ YEAR ENDED ON 31.03.2020
NPS TIER I

RECEIPTS	(Amount - Rs.)		PAYMENTS		(Amount - Rs.)	
	Current Year	Previous Year	Current Year	Previous Year	Current Year	Previous Year
	2019-2020	2018-2019		2018-2019	2019-2020	2018-2019
I) Opening Balance: In Savings A/c Bank (SBI, NIT Agt Br)	1815568	169323	I) EXPENSES: Fund tr. To NSDL Bank Charges	18972614 0	26316915	18972614 0
II) SUBSCRIPTION: Own Subscription Institute Contribution Fixed Deposit Maturity	12323391 14210113 0	10260687 10260687 0	II) In Savings A/c Bank (SBI, NIT Agt Br)	1815568	2117829	1815568
III) Interest Received Intt on Savings A/c	85672	97485				
TOTAL	28434744	20788182	TOTAL	20788182	28434744	20788182

Asstt. Registrar (Finance) (Jagatiyoti Roy)
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