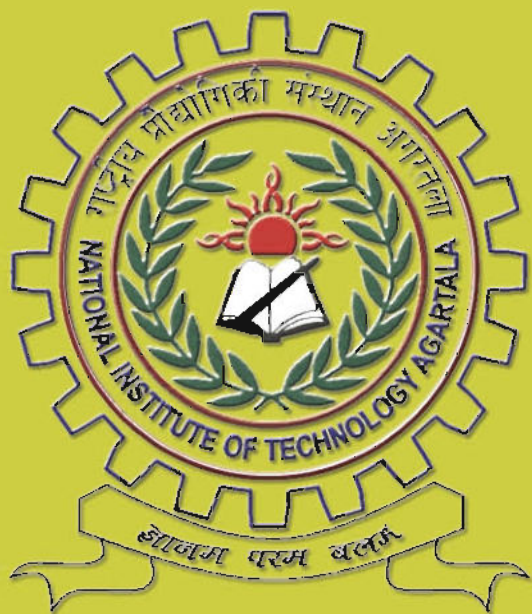


National Institute of Technology Agartala

राष्ट्रीय प्रौद्योगिकी संस्थान अगरतला



ANNUAL REPORT

2020 - 2021

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
2020-2021**

(AUTHENTICATED)

MINISTER OF STATE IN THE
MINISTRY OF HUMAN RESOURCE DEVELOPMENT

NEW DELHI
DATED:



NATIONAL INSTITUTE OF TECHNOLOGY AGARTALA

CONTENTS

SL. NO.	TOPICS	PAGE NO.
1.0	INTRODUCTION	01
1.1	Objectives	03
1.2	Goal	03
1.3	Education System	04
1.4	New Initiatives	04
2.0	AN OVERVIEW	06
2.1	Historical Background	06
2.2	Institute Administration	06
2.3	Location	06
2.4	Campus and Common Facilities	07
2.5	Placements	07
2.6	Games & Sports	07
3.0	ADMINISTRATION	08
3.1	Introduction	08
3.2	Number of Meetings of the Authorities	09
3.3	Staff Position	10
3.3.1	Name of Director, Registrar, Deans & HoDs	10
3.3.2	List of Faculty Members	11
3.3.2.1	Regular Faculty Members	11
3.3.2.2	Contractual Faculty Members	13
3.3.3	List of Employees – other than Faculty Members	15
3.3.3.1	Regular Non-Teaching Staff of the Institute	16
3.3.3.2	List of Contractual Non-Teaching Staff of the Institute	16
3.3.3.3	List of Retired Faculty/ Staff members	20
3.4	RTI and Vigilance Cell	21
4.0	ACADEMIC PROGRAMMES AND AWARD OF DEGREES	22
4.1	Introduction	22
4.2	Admission Procedure	22
4.3	Admission 2020-21	23
4.4	Course-wise Enrollment with Sex and Caste Break-up	24
4.5	Students/ Scholars Enrollment	32
4.6	Examination & Evaluation	36
4.7	Course Offered	36
4.8	Convocation	37
5.0	BIO-ENGINEERING DEPARTMENT	42
5.1	Introduction	42
5.2	Academic Programmes	42
5.3	Faculty and their Activities	42
5.4	Design and Development Activities	45

	5.5	Research and Consultancy	45
	5.6	Industrial Consultancy and Sponsored Research	47
	5.7	Other Activities	47
6.0		CIVIL ENGINEERING DEPARTMENT	48
	6.1	Introduction	48
	6.2	Academic Programme	48
	6.3	Faculty and other Activities	49
	6.4	Design and Development Activities	51
	6.5	Research and Consultancy	51
	6.6	Institute-Industry Collaboration	56
	6.7	Industrial Consultancy and Sponsored Research	56
	6.8	Other Activities	56
7.0		CHEMICAL ENGINEERING DEPARTMENT	57
	7.1	Introduction	57
	7.2	Academic Programme	57
	7.3	Faculty and their activities	58
	7.4	Research and Consultancy	58
	7.5	Institute-Industry Collaboration	61
	7.6	Other Activities	61
	7.7	Placement Data	61
8.0		CHEMISTRY DEPARTMENT	62
	8.1	Introduction	62
	8.2	Academic Programme	63
	8.3	Faculty and their Activities	63
	8.4	Research and Consultancy	63
9.0		COMPUTER SC. & ENGINEERING DEPARTMENT	67
	9.1	Introduction	67
	9.2	Academic Programme	67
	9.3	Faculty and their Activities	67
	9.4	Research & Consultancy	68
	9.5	Institute-Industry Collaboration	71
	9.6	Industrial Consultancy and Sponsored Research	71
	9.7	Other Activities	71
10.0		ELECTRICAL ENGINEERING DEPARTMENT	72
	10.1	Introduction	72
	10.2	Academic Programme	72
	10.3	Faculty and their Activities	73
	10.4	Research and Consultancy	74
11.0		ELECTRONICS AND COMMUNICATION ENGINEERING DEPARTMENT	81
	11.1	Introduction	81
	11.2	Academic Programme	81
	11.3	Faculty and their Activities	81
	11.4	Design and Development activities	82
	11.5	Research and Consultancy	83

12.0		ELECTRONICS & INSTRUMENTATION ENGINEERING DEPARTMENT	87
	12.1	Introduction	87
	12.2	Academic Programme	87
	12.3	Research and Consultancy	88
13.0		DEPARTMENT OF MANAGEMENT, HUMANITIES & SOCIAL SCIENCES	90
	13.1	Introduction	90
	13.2	Academic Programme	91
	13.3	Faculty and their Activities	91
	13.4	Research and Consultancy	93
	13.5	Other Activities	94
14.0		MECHANICAL ENGINEERING DEPARTMENT	95
	14.1	Introduction	95
	14.2	Faculty and their Activities	98
	14.3	Research and Consultancy	100
	14.4	Institute Industry Collaboration	108
15.0		MATHEMATICS DEPARTMENT	109
	15.1	Introduction	109
	15.2	Academic Programme	109
	15.3	Faculty and their Activities	109
	15.4	Research and Consultancy	110
	15.5	Other Activities	114
16.0		PHYSICS DEPARTMENT	115
	16.1	Introduction	115
	16.2	Academic Programme	116
	16.3	Research and Consultancy	116
17.0		PRODUCTION ENGINEERING DEPARTMENT	119
	17.1	Introduction	119
	17.2	Academic Programme	121
	17.3	Faculty and their Activities	121
	17.4	Design & Development Activities	122
	17.5	Research and Consultancy	122
	17.6	Other Activities	124
18.0		CENTRAL LIBRARY	125
	18.1	Introduction	125
	18.2	Library Information Services Statistics	125
	18.3	Binding Facilities	126
	18.4	New Facilities/ Equipments added	126
	18.5	Future Plan	127
19.0		STUDENT AMENITIES AND ACTIVITIES	128
	19.1	Hostels	128
	19.2	Medical Facilities	128
	19.3	NCC	128
	19.4	Gymkhana	128

	19.5	Activity of Sports, Cultural, Technical and NSS	128
	19.6	Other Activities	129
20.0		CENTER FOR CAREER DEVELOPMENT	130
	20.1	Introduction	130
	20.2	Others	136
21.0		CAMPUS AMENITIES AND INFRASTRUCTURE DEVELOPMENT INITIATIVES	137
	21.1	Introduction	137
	21.2	Major Works	137
	21.3	Housing Facilities	138
	21.4	Guest House	138
	21.5	Hostel	138
22.0		CENTRE FOR INDUSTRIAL CONSULTANCY AND SPONSORED RESEARCH	139
	22.1	Introduction	139
	22.2	Sponsored Research	139
	22.3	Consultancy Programmes	141
	22.4	Industrial Associateship scheme	141
	22.5	MoUs Agreements signed	142
	22.6	Patents	142
	22.7	Other Information	143
23.0		TEQIP – III	144
24.0		FINANCE AND ACCOUNTS	145
	24.1	Grants from MoE	145
	24.1.1	Expenditure Statement	145
	24.1.2	Details Expenditure Statement	145
		<i>Audit Report & Annual Accounts 2020-21</i>	147-210

ANNUAL REPORT

2020 – 2021



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 programmes 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 Centre 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 modem 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, IEST (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 are:

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 Cental 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 6⁰ C 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.

3.1 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. D. Bhattacharya, Professor, Mathematics Department, NIT Agartala.
7	Dr. Soma Nag (Nandi), Assistant Professor, Department of Chemical 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. D. Bhattacharya, Professor, Mathematics Department, NIT Agartala.
5	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. K. Pal, Professor, Civil 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. Uday Shanker Dixit, IIT Guwahati, Assam.
3	Prof. Minati Baral, NIT Kurukshetra, Haryana.
4	Prof. Kapil Deo Mishra, Vice Chancellor, Rani Durgavati Vishwavidyalaya.
5	Prof. Umesh Mishra, Professor, NIT Agartala.
6	Prof. R. P. Sharma, Civil Engineering Department, NIT Agartala (Tripura).
7	Prof. Manish Pal, Civil Engineering Department, NIT Agartala (Tripura).
8	Prof. Ratul Das, Civil Engineering Department, NIT Agartala (Tripura).
9	Prof. Sujit Kumar Pal, Civil Engineering Department, NIT Agartala (Tripura).
10	Prof. Ajoy Kr. Chakraborty, Electrical Engineering Department, NIT Agartala (Tripura).
11	Prof. Ardhendu Saha, Electrical Engineering Department, NIT Agartala (Tripura).
12	Prof. Priyanath Das, Electrical Engineering Department, NIT Agartala (Tripura).
13	Prof. Debasish Bhattacharya, Mathematics Department, NIT Agartala (Tripura).
14	Prof. Ajoy Kr. Das, Mechanical Engineering Department, NIT Agartala (Tripura).
15	Prof. Prasun Chakraborti, Mechanical Engineering Department, NIT Agartala (Tripura).
16	Prof. Swapan Bhaumik, Mechanical Engineering Department, NIT Agartala (Tripura).
17	Prof. Debasis Neogi, MHSS, NIT Agartala (Tripura).
18	Prof. Ram Naresh Rai, Production Engineering Department, NIT Agartala (Tripura).
19	Prof. Aparna Nath, Physics Department, NIT Agartala (Tripura).
20	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	: 7 Nos.
B.	Finance Committee Meeting	: 4 Nos.
C.	Building & Works Committee Meeting	: 2 Nos.
D.	Senate	: 3 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:**Name of the Deans**

1) Dean (Academic)	:	Dr. Ajoy Kumar Das
2) Dean (Faculty Welfare)	:	Dr. Sujit Kumar Pal
3) Dean (R & C)	:	Dr. Ardhendu Saha
4) Chairman (Alumni)	:	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

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

1) Civil Engineering	:	Dr. Sima Ghosh
2) Electrical Engineering	:	Dr. Subhadeep Bhattacharjee
3) Mechanical Engineering	:	Dr. Pritam Das
4) Computer Science & Engineering	:	Dr. Mrinal Kanti Debbarma
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. Dr. T. K. Bandopadhyay

Head of Central Services, Facilities and Sections:

Chairman (AA & IR)	:	Dr. Prasun Chakrabarti
Medical Officer	:	(i) Dr. Supriti Tripura (ii) Dr. Pankaj Kr. Deb
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	Position	Branch	Date of joining at NITA
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	15-07-2010
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
16	Dr.Vipin Kr. Tripathi	Professor	M.E.	29-07-2020
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	25-06-2010
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	09-04-2012
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. Munesh Chandra	Associate Prof.	CSE	01-04-2019
23	Dr. Manish Bhargava	Associate Prof.	M.E.	03-04-2019
24	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)	SoM	06-11-2012
31	Dr. Mrinmoy Majumder	Asstt. Prof. (Gr-I)	C.E.	17-11-2012
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 Abaniswar 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	Dr. 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	Mrs. 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	Dr. 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	Dr. Prasenjit Datta	Asstt. Prof. (Gr.II)	PE	01-04-2006
20	Dr. Abhik Majumder	Asstt. Prof. (Gr.II)	M.E.	01-04-2006
21	Dr. 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 Haldar	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	Dr. 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.	Dr. Moumita Majumder	Asstt. Prof.	Comp. Sc. & Engg.	18-08-2010
2.	Ms. Priyanka Sarkar	Asstt. Prof.	Comp. Sc. & Engg.	01-04-2013
3.	Sri Dhruvajyoti Bhowmik	Asstt. Prof.	Comp. Sc. & Engg.	01-04-2013
4.	Dr. 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.	Dr. 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.	Dr. 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. Biswajit Paul	Asstt. Prof.	Physics Dept.	20-07-2015
38.	Dr. Santanu Chakraborty	Asstt. Prof.	Physics Dept.	13-07-2015
39.	Dr. Chakradhar Behra	Asstt. Prof.	Physics Dept.	16-08-2016
40.	Dr. Saswati Roy	Teaching Asstt.	Physics Dept.	16-08-2016
41.	Dr. Debanjan Bhattacharjee	Teaching Asstt.	Physics Deptt.	14-03-2017
42.	Dr. Saroj Kumar Parida	Asstt. Prof.	Physics Deptt.	13-02-2017
43.	Sri Durbadal Debroy	Asstt. Prof.	Mech. Engg.	03-08-2011
44.	Dr. Ashis Acharjee	Asstt. Prof.	Mech. Engg.	11-07-2014
45.	Sri Arindam Sinha	Asstt. Prof.	Mech. Engg.	14-07-2014
46.	Ms. Moutoshi Singha Roy	Asstt. Prof.	Mech. Engg.	29-07-2015
47.	Dr. Sagnik Pal	Asstt. Prof.	Mech. Engg.	30-07-2015
48.	Sri Dipak Ch. Das	Asstt. Prof.	Mech. Engg.	30-07-2015
49.	Dr. Joydeep Roy	Asstt. Prof.	Mech. Engg.	07-03-2016
50.	Dr. Pinku Debnath	Asstt. Prof.	Mech. Engg.	14-09-2016
51.	Dr. Sharmistha Sharma	Asstt. Prof.	Elect. Engg.	12-08-2009
52.	Dr. Diptanu Das	Asstt. Prof.	Elect. Engg.	08-08-2011
53.	Dr. Nivedita Laskar	Asstt. Prof.	Elect. Engg.	15-11-2012
54.	Sri Diptanu Dey	Asstt. Prof.	Elect. Engg.	14-07-2014
55.	Dr. Arup Ratan Bhowmik	Asstt. Prof.	Elect. Engg.	11-07-2014
56.	Dr. Nabamita Goswami	Asstt. Prof.	Elect. Engg.	11-07-2014
57.	Dr. Bishop Debbarma	Asstt. Prof.	Prod. Engg.	24-08-2010
58.	Dr. Sujay Chakraborty	Asstt. Prof.	Prod. Engg.	01-08-2011
59.	Ms. Pushparenu Bhattacharjee	Asstt. Prof.	Prod. Engg.	08-08-2013
60.	Dr. Nabarun Biswas	Asstt. Prof.	Prod. Engg.	11-07-2014
61.	Sri Debashis Podder	Asstt. Prof.	Prod. Engg.	18-07-2014
62.	Sri Shiladitya Chakraborty	Teaching Asstt.	Electronics & Comm. Engg.	25-07-2008
63.	Dr. Priyanka Chowdhury	Asstt. Prof.	Electronics & Comm. Engg.	13-08-2014
64.	Dr. Apangshu Das	Asstt. Prof.	Electronics & Comm. Engg.	10-08-2012
65.	Dr. Abhishek Nag	Asstt. Prof.	Electronics & Comm.	13-07-2015

			Engg.	
66.	Sri Partha Kr. Deb	Asstt. Prof.	Electronics & Comm. Engg.	02-07-2015
67.	Dr. Smita Banik	Asstt. Prof.	Electronics & Comm. Engg.	22-08-2016
68.	Dr. Subhojit Das	Asstt. Prof.	Chemistry Dept.	24-07-2014
69.	Dr. Manojit Roy	Asstt. Prof.	Chemistry Dept.	07-08-2014
70.	Dr. Jhinuk De	Teaching Asstt.	Chemistry Dept.	12-01-2015
71.	Dr. Chitrani Datta	Asstt. Prof.	Chemistry Dept.	03-08-2015
72.	Dr. Sajal Kundu	Asstt. Prof.	Chemistry Dept.	29-07-2015
73.	Dr. Manas Roy	Asstt. Prof.	Chemistry Dept.	26-08-2016
74.	Dr. Susanta Ghanta	Asstt. Prof.	Chemistry Dept.	22-08-2016
75.	Dr. Chanchal Bhowmik	Asstt. Prof.	Chemistry Dept.	22-08-2016
76.	Sri Bidhyasagar Debnath	Teaching Asstt.	Hum. & So. Sc.	04-08-2008
77.	Dr. Kaju Nath	Asstt. Prof.	Hum. & So. Sc.	24-07-2014
78.	Sri Nabendu Debnath	Teaching Asstt.	Hum. & So. Sc.	01-09-2014
79.	Dr. Anuradha Nongmaithem	Asstt. Prof.	Hum. & So. Sc.	25-07-2014
80.	Dr. Amit Bikram Chowdhury	Asstt. Prof.	Hum. & So. Sc.	22.08.2016
81.	Mr. Jayasree Tripura	Teaching Asstt.	Hum. & So. Sc.	07-07-2017
82.	Dr. Priyanka Dey	Asstt. Prof.	Electronics & Instrumentation Engg.	13-08-2012
83.	Ms. Priyanka Roy Goswami	Asstt. Prof.	Electronics & Instrumentation Engg.	06-02-2012
84.	Sri Rupam Gupta Roy	Asstt. Prof.	Electronics & Instrumentation Engg.	11-07-2014
85.	Dr. Aparupa Kar	Asstt. Prof.	Electronics & Instrumentation Engg.	11-07-2014
86.	Dr. Biswanath Bhunia	Asstt. Prof.	Bio-Engg.	04-03-2013
87.	Dr. Tridib Kr. Bhowmik	Asstt. Prof.	Bio-Engg.	13-06-2013
88.	Dr. Deeplina Das	Asstt. Prof.	Bio-Engg.	21-07-2014
89.	Dr. Abhijit Chatterjee	Asstt. Prof.	Bio-Engg.	14-07-2015
90.	Ms. Hrijuta Datta	Asstt. Prof.	Bio-Engg.	10-07-2015
91.	Dr. Muthusivaram Pandian M	Asstt. Prof.	Bio-Engg.	10-07-2015
92.	Dr. Dwijendra Nath Roy	Asstt. Prof.	Bio.	28-01-2013
93.	Dr. Rajib Mallik	Asstt. Prof.	School of Management	22-05-2013
94.	Dr. Sonit Dutta	Asstt. Prof.	School of Management	23-05-2013
95.	Dr. Amlanbrata Chakraborty	Asstt. Prof.	School of Management	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 & Head (Finance & Accounts)	Estt. & Accounts & Finance	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 Dhruamani 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	Office Assistant	O/o the Registrar	11-11-2011
7.	Sri Parimal Mahajan	Legal Advisor	Legal Cell	11-02-2019
8.	Sri Rajesh Kr. Majumder	Accountant	Accounts Section	21-11-2007

9.	Ms Aparna Nath	Accountant	Accounts Section	18-08-2010
10.	Sri Akhil Debbarma	Accountant	Accounts Section	03-10-2016
11.	Sri Karna Kr. Sarkar	Office Asstt.	Accounts Section	18-08-2016
12.	Sri Manish Dey	Accountant	Accounts Section	03-02-2014
13.	Smt. Sumitra Roy	Jr. Assistant	Accounts Section	12-12-2008
14.	Sri Parimal Paul	Accountant	Accounts Section	20-06-2018
15.	Sri Ashim Banik	Accountant	Accounts Section	20-06-2018
16.	Sri Haradhan Roy	Sr. Assistant	Accounts Section	20-06-2018
17.	Sri Shyamal Purakayastha	Audit Officer	Audit Section	07-01-2014
18.	Sri Subrata Chakraborty	Audit officer	Accounts Section	05-12-2011
19.	Sri Kritisundar Saha	Office Assistant	Estt. Section	01-08-2013
20.	Sri kajal Bhattacharjee	Section Officer	Estt. Section	18-08-2016
21.	Sri Pradip Datta	Office Asstt.	Estt. Section	18-08-2016
22.	Mr. Kusum Debnath	Sr. Asstt.	Estt. Sec.	20-06-2018
23.	Sri Kabir Deb	Jr. Assistant	Academic Sec.	04-06-2007
24.	Ms. Krishna Rani Deb	Jr. Assistant	Academic Sec.	21-06-2011
25.	Ms. Trishita Choudhury	P.R. Asstt.	Academic Sec.	26-10-2016
26.	Ms. Payel Sarkar	Sr. Assistant	Exam. Sec.	05-07-2011
27.	Sri Sourav Mahajan	Jr. Assistant	Exam. Sec.	12-12-2008
28.	Sri Himangshu Paul	Section Officer(Pur)	Purchase Sec.	26-09-2011
29.	Sri Nabin Chandra Kundu	Lib. Asstt.	Purchase Sec.	01-04-2010
30.	Sri Partha Biswas	Estate Manager	Estate Section	12-12-2008
31.	Sri Jitendra Debnath	Sr. Assistant	Estate Section	03-03-2015
32.	Sri Rajesh Kr. Modak	Jr. Engineer	Estate Section	16-09-2011
33.	Sri Nakul Ch. Debnath	Plumber	Estate Section	01-05-2008
34.	Sri Sankar Debbarma	Work Asstt.	Estate Section	11-07-2009
35.	Sri Sanjib Chakraborty	Opt (Auditorium)	Estate Section	27-06-2011
36.	Sri Rakesh Tripura	Mason	Estate Section	10-12-2012
37.	Sri Pradip Sutradhar	Carpenter	Estate Section	10-12-2012
38.	Sri Biswajit Das	Helper	Estate Section	10-12-2012
39.	Sri Sanjib Sarkar	Helper	Estate Section	10-12-2012
40.	Sri Milan Karmakar	Helper	Estate Section	10-12-2012
41.	Sri Manik Bhowmik	J.E.	Estate Section	23-06-2014
42.	Sri Bapan Debroy	A.E.E.	Estate Section	20-06-2014
43.	Sri Debu Debnath	Work Assistant	Estate Section	13-06-2014
44.	Sri Rajesh Sarkar	J.E.	Estate Section	16-12-2014
45.	Sri Bimal Krishna Debnath	A.E.E.	Estate Section	02-09-2010
46.	Sri Sumit Debnath	J.E.	Estate Section	05-09-2014
47.	Sri Ranjit Sharma	Helper	Estate Section	09-11-2010
48.	Sri Rajib Chakraborty	Helper	Estate Section	09-11-2010
49.	Sri Chanki Paul	Helper	Estate Section	09-11-2010
50.	Sri Pradip Das	Electrician	Estate Section	01-12-2011
51.	Sri Arabinda Das	Electrician	Estate Section	01-12-2011
52.	Sri Sujit Debnath	Lineman	Estate Section	01-12-2011
53.	Sri Subir Namasudra	Helper	Estate Section	01-12-2011
54.	Sri Pabitra Shil	Electrician	Estate Section	08-08-2012
55.	Sri Krishan Debnath	Lineman	Estate Section	02-08-2012
56.	Sri Krishna Ch. Saha	Lineman	Estate Section	03-08-2012
57.	Sri Uttam Kr. Debnath	Lineman	Estate Section	07-08-2012
58.	Sri Parimal Debnath	Helper	Estate Section	03-08-2012
59.	Sri Biswajit Debbarma	Helper	Estate Section	03-08-2012

60.	Sri Rajib Deb	Helper	Estate Section	16-06-2014
61.	Sri Matilal Tanti	Operator	Estate Section	16-06-2014
62.	Sri Manitosh Sarkar	Operator	Estate Section	16-06-2014
63.	Sri Sadhan Debnath	Operator	Estate Section	31-08-2016
64.	Sri Amit Debbarma	Electrician	Estate Section	01-09-2016
65.	Sri Litan Sarkar	Jr. Assistant	TPO	16-07-2010
66.	Sri Dyanojyoti Kar	Accountant	TPO	15-09-2015
67.	Sri Sukanta Goswami	Jr. Assistant	Dean (FW)	19-12-2008
68.	Sri Anirban Sharma Roy	Lib. Asstt.	Library	30-01-2012
69.	Sri Dipankar Das	Jr. Assistant	Library	18-12-2008
70.	Sri Bidyut Choudhuri	Library Asstt.	Library	14-09-2015
71.	Ms. Purnima Singha	Library Asstt.	Library	14-09-2015
72.	Sri Kshitish Chakraborty	Office Asstt.	Library	16-08-2016
73.	Ms. Rupa Debnath	Library Asstt.	Library	24-09-2015
74.	Mrs. Tulshi Singha	P.R. Asstt.	Library	21-02-2017
75.	Sri Anupam Pal	Sports Officer	Dean (SW)	16-08-2007
76.	Sri Sukanta Ghoswami	Phy. Edu. Off.	Dean (SW)	16-08-2007
77.	Ms. Rumita Saha	Hostel Supervisor	Dean (SW)	01-08-2012
78.	Ms. Mahuya Biswas	Hostel Supervisor	Dean (SW)	10-02-2010
79.	Sri Ajoy Bhowmik	Hostel Supervisor	Dean (SW)	16-02-2010
80.	Sri Rabindra Das	Hostel Supervisor	Dean (SW)	10-02-2010
81.	Sri Sukrit Prasad Dutta	Hostel Supervisor	Dean (SW)	30-07-2012
82.	Sri Satyajit Das	Hostel Supervisor	Dean (SW)	30-07-2012
83.	Sri Prasanta Rn. Deb	Hostel Supervisor	Dean (SW)	08-07-2015
84.	Sri Mrinmoy Chakraborty,	Jr. Asstt.	Dean (SW)	07-03-2019
85.	Sri Litan Bhowmik,	Counsellor	Dean (SW)	02-03-2020
86.	Sri Debashish Biswas	Foreman	Workshop	04-08-2008
87.	Sri Manojit Das	Foreman/ Instructor	Workshop	18-09-2008
88.	Sri Koushik Debroy	Foreman	Workshop	01-01-2009
89.	Sri Arup taru Roy	Instructor	Workshop	19-08-2009
90.	Sri Ranju Kr. Singh	Instructor	Workshop	19-08-2009
91.	Sri Biswajit Debnath	Instructor	Workshop	19-08-2009
92.	Sri Basudeb Banik	Tech.	Workshop	22-12-2008
93.	Sri Sujit Kumar Bhowmik	Skilled Asstt.	Workshop	18-09-2008
94.	Sri Shubendu Debbarma	Jr. Tech.	Workshop	19-08-2009
95.	Sri Kishore Das	Lab. Asstt.	Mech. Engg.	25-08-2010
96.	Sri Pinku Saha	Lab. Asstt.	Mech. Engg.	26-08-2010
97.	Sri Bishnupada Das	Driver	Workshop	19-11-2008
98.	Sri Babul Ch. Deb	Driver	Workshop	16-07-2009
99.	Sri Gopal Ch. Das	Driver	Workshop	16-07-2009
100.	Sri Sajal Saha	Driver	Workshop	01-02-2011
101.	Sri Gautam Acharjee	Technician	Mech. Engg.	28-07-2015
102.	Sri Subrajit Sen	Technical Asstt.	Mech. Engg.	27-07-2015
103.	Sri Prasenjit Majumder	Technical Asstt.	Mech. Engg.	28-07-2015
104.	Sri Pabitra Acharjee	Technician	Mech. Engg.	08-09-2016
105.	Sri Sudip Debnath	Technical Asstt.	Mech. Engg.	26-08-2016
106.	Sri Hillol Mutsuddy	Technical Asstt.	Mech. Engg.	26-08-2016
107.	Sri Pulak Kr. De	Office Asstt.	Mech. Engg.	18-08-2016
108.	Sri Abhijit Giri	Technical Asstt	Civil Engg.	13-08-2010
109.	Sri Suman Nandi	Lab. Asstt.	Civil Engg.	10-08-2010
110.	Ms Manisha Deb	Lab. Asstt.	Civil Engg.	13-08-2010

111.	Sri Prasenjit Dutta	Technical Asstt	Civil Engg.	06-12-2012
112.	Sri Sankar Paul	Technical Asstt	Civil Engg.	13-12-2012
113.	Sri Uddhab Ch.Nath	Technical Asstt	Civil Engg.	28-07-2015
114.	Sri Sukumar Sarkar	Office Asstt.	Civil Engg.	18-08-2016
115.	Sri Pramod Pal	Instructor	Production Engg.	04-09-2009
116.	Sri Biswanath Karmakar	Jr. Tech	Production Engg.	04-09-2009
117.	Sri Sukanta Das	Technical Asstt.	Production Engg.	08-09-2014
118.	Sri Prasenjit Debnath	Technician	Production Engg.	08-09-2014
119.	Ms. Puspoham Hrangkhawl	P.R. Asstt.	Production Engg.	21-02-2017
120.	Smt. Sima Das	Sr. Ins.	Elect. Engg.	19-08-2009
121.	Smt. Tapa Saha	Tech.Supp. Staff	Elect. Engg.	25-07-2008
122.	Sri Kabir Bhowmik	Sr. Ins.	Elect. Engg.	19-08-2009
123.	Sri Ajit Deb	Lab. Tech	Elect. Engg.	19-08-2009
124.	Sri Debabrata Bhattacharya	Technical Asstt	Elect. Engg.	09-08-2010
125.	Sri Jayanta Chowdhury	Technical Asstt	Elect. Engg.	10-07-2012
126.	Sri Pranab Majumder	Technical Asstt	Elect. Engg.	16-07-2012
127.	Ms. Sudipa Aine	Technical Asstt.	Elect. Engg.	30-07-2015
128.	Sri Subal Das	Technical Asstt.	Elect. Engg.	31-07-2015
129.	Sri Balaram Das	Technical Asstt.	Elect. Engg.	30-07-2015
130.	Sri Rajkishore Ghosh	Attendant	Elect. Engg.	01-08-2016
131.	Ms. Ankita Pal	P.R. Asstt	Elect. Engg.	23-12-2016
132.	Sri Kamal Kn. Pal	System Admin.	CSE Deptt.	15-12-2008
133.	Sri Partha Sarathi Bhattacharjee	Network Admin.	CSE Deptt.	15-09-2011
134.	Mr. Rajib Debnath	Technician (N/W)	Networking	28-09-2016
135.	Mr. Pramatha Acharjee	Technician (N/W)	Networking	28-09-2016
136.	Sri Suman Saha	Lab / Tech Assistant	CSE Deptt..	09-08-2010
137.	Sri Viki Datta	Lab / Tech Assistant	CSE Deptt.	14-09-2011
138.	Sri Malay Paul	Lab / Tech Assistant	CSE Deptt.	13-03-2012
139.	Sri Saikat Bhattacharjee	Lab / Tech Asstt	CSE Deptt.	29-07-2015
140.	Sri Dhurjati Chakraborty	Lab / Tech Asstt	CSE Deptt.	29-07-2015
141.	Sri Joydip Deb	Lab / Tech Asstt	CSE Deptt.	29-07-2015
142.	Sri Ardhendu Gupta	Technical Asstt	CSE Deptt.	23-08-2016
143.	Sri Susanta Pal	Technical Asstt	CSE Deptt.	23-08-2016
144.	Ms. Mandira Bhowmik	Technical Asstt	CSE Deptt..	22-09-2016
145.	Sri Dhruba Narayan Das	Technical Asstt	Chemical Engg.	09-08-2010
146.	Sri Dipankar Goswami	Technical Asstt	Chemical Engg.	06-09-2011
147.	Sri Kaushik Das	Technical Asstt.	Chemical Engg.	28-07-2015
148.	Sri Mrinmoy Sarma	Technical Asstt.	Chemical Engg.	28-07-2015
149.	Mr. Samir Debbarma	Technician	Chemical Engg.	28-07-2015
150.	Mr. Biswajit Debbarma	Lab. Technician	Chemical Engg.	11-10-2017
151.	Mr. Khorshed Aalam	Lab. Technician	Chemical Engg.	17-10-2017
152.	Ms. Sangita Patari	Lab. Asstt	Physics	22-09-2011
153.	Mrs. Madhuri Debnath	Lab. Asstt.	Physics	17-07-2013
154.	Mr. Krishna Deb	Lab. Asstt.	Physics	17-07-2013
155.	Sri Sarit Chakraborty	Lab. Asstt	Physics	29-07-2015
156.	Sri Satyajit Ghosh	Lab,Asstt.	Chemistry	07-09-2012
157.	Sri Sudip Paul	Lab,Asstt.	Chemistry	31-07-2015
158.	Sri Himadri Paul	Lab,Asstt.	Chemistry	29-07-2015

159.	Sri Nitish Ranjan Nath	Lab. Asstt.	Chemistry	22-08-2016
160.	Mrs. Sarbani Das (Bhattacharjee)	Lab. Asstt.	Math.	20-07-2017
161.	Ms. Poulami Ghosh	Tech. Asstt.	ECE	09-12-2011
162.	Sri Dipesh Debnath	Technician	ECE	02-01-2012
163.	Sri Abhijit Chakraborty	Tech. Asstt.	ECE	10-08-2010
164.	Mrs. Poulomi Dey	Technical Asstt,	ECE	27-07-2015
165.	Sri Raju Majumder	Technical Asstt,	ECE	27-07-2015
166.	Sri Sanjib Das	Technician,	ECE	27-07-2015
167.	Sri Nirmal Sarkar	Technician	ECE	27-07-2015
168.	Sri Alvin Debbarma	Technical Asstt.	ECE	27-07-2015
169.	Sri Hriday Ranjan Lodh	Technical Asstt.	ECE	22-08-2016
170.	Sri Susovan Ghosh	Technical Asstt	ECE	23-08-2016
171.	Sri Prasenjit Paul	Technician	ECE	22-08-2016
172.	Sri Anjan Das	Technical Asstt.	EIE	06-02-2012
173.	Sri Samir Rajuyar	Technician	EIE	28-07-2015
174.	Sri Dilip Biswasarma	Technical Asstt.	EIE	22-08-2016
175.	Sri Suraj Das	Technical Asstt.	EIE	03-07-2017
176.	Sri Kailash Pratim Phukan	Technical Asstt.	EIE	04-07-2017
177.	Dr. Supriti Tripura	Medical Officer	Medical Unit	23-01-2018
178.	Dr. Pankaj Kr. Deb	Medical Officer	Medical Unit	07-09-2020
179.	Sri Rajesh Karmakar	Pharmacist	Medical Unit	17-04-2008
180.	Ms. Supriya Das	Pharmacist	Medical Unit	27-09-2012
181.	Sri Dipen Majumder	Technician	Medical Unit	22-12-2008
182.	Mr. Rajat Saha	GDA cum Dresser	Medical Unit	04-03-2015
183.	Ms. Chayanika Das	Lab. Technician	Medical Unit	06-01-2014
184.	Sri Subrata Das	Staff Nurse (M)	Medical Unit	07-12-2016
185.	Smt. Mousami Das	Staff Nurse	Medical Unit	08-03-2019
186.	Sri Sanjit Debbarma	Helper	Guest House	15-07-2009
187.	Sri Sanjoy Ghosh	Supervisor	Guest House	05-09-2014
188.	Smt. Sulekha Sarkar	Cook	Transit House	06-05-2011
189.	Mrs. Sanju Debnath	Draftsman	Dean (P&D)	12-12-2008
190.	Sri Suman Rudra Pal	Off. Asstt.	Dean (P&D)	19-08-2008
191.	Sri Bappi Das	Helper/Cook	Transit camp	01-02-2011
192.	Ms. Subhra Chowdhury	Technical Asstt.	Bio-Engg.	24-12-2012
193.	Ms. Malabika Sarkar	Technical Asstt.	Bio Engg.	17-10-2017
194.	Sri Anojit Debbarma	Technician	Bio-Engg.	23-08-016
195.	Sri V.C. Mathai	Technical Asst.	MHRD	12-11-2009
196.	Sri Sourabh Roy	Tech. Asstt.	Virtual Class Room	14-03-2014
197.	Sri Pramathesh Banik	Asst. Programmer (Technician)	MIS Section	03-11-2014
198.	Sri Sandanlal Saha	Cook-cum-Caretaker	Director's resi.	15-03-2016
199.	Sri Nirmal Debbarma	Security Guard	Director's office	02-02-2017

3.3.3.3 List of Retired Faculty/ Staff Members during 2020-2021

Sl. No.	Name of Retired employees	Designation	Place of posting	Date of retirement/expired
1	Sri Dhanu Rn. Saha	Attendant	NITA	30-06-2020
2	Sri Manik Chakraborty	Attendant	NITA	31-01-2021

3	Sri RatanModi	Attendant	NITA	31-01-2021
4	Sri Pradip Majumder	Attendant	NITA	31-03-2021

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 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, 23 M.Tech. programmes, MBA programme, MCA programme, 3 BS-MS & 1 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-2020 for admission to under-graduate 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-2020, 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 and/or interview 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-2020, based on the performance of the candidates in the NIMCET-2020 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-2020, 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-2020, based on a test and/or interview 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 2020-2021:

Table 1 – Fresh Admission (2020-21)

Sl. No.	Department	B. Tech.	BSMS	BTMT	M. Tech.	MCA	MBA	M. Sc.	Ph. D.	Total
1.	Civil Engineering(CE)	115			71				11	
2.	Mechanical Engineering(ME)	124			23				08	
3.	Electrical Engineering(EI)	124			39				04	
	Computer Sc. & Engineering(CSE)	149			21				05	
4.	Electronics & Communication Engineering(ECE)	127			25				01	
5.	Production Engineering(PE)	107			00				03	
6.	Electronics & Instrumentation Engineering(EIE)	71			00				01	
7.	Chemical Engineering(CHE)	70			03				01	
9.	Bio Engineering (Biotechnology and Biochemical Engineering (BT & BC))	44			02				00	
10	BS-MS(Physics, Chemistry, Mathematics)	--	67							
11	BT-MT(Engg. Physic)	--		24						
12	Management, Humanities & Social Science	00					35		01	
14	Physics	00						12	02	
15	Chemistry	00						12	01	
16	Mathematics	00						11	04	
17	MCA					14				
Total		931	67	24	184	14	35	35	42	

Total No. of students admitted during the year includes the following (2020-21):

Scheduled Castes	167(UG), 44(PG), 4(Ph.D)	Q.I.P.	M. Tech.	00
Scheduled Tribes	200(UG), 11(PG), 2(Ph.D)		Ph. D.	00
Physically Handicapped	13(UG), 01(PG)	Sponsored	M. Tech.	01
Women	266(UG), 72(PG), 8(Ph.D)	Project	Ph. D.	00
EWS	79(UG), 10(PG), 2(Ph.D)	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 (2020-21)

		CE	ME	EE	CSE	ECE	PE	EIE	CHE	BT & BC	Total
From the State of Tripura:											
OP	Boys	17	21	19	23	20	18	11	10	5	144
	Girls	6	5	8	6	6	12	5	8	7	63
	Total	23	26	27	29	26	30	16	18	12	207
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	1	4	1	6	6	0	0	0	0	18
	Girls	0	1	3	2	1	0	2	1	0	10
	Total	1	5	4	8	7	0	2	1	0	28
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	5	8	7	8	6	6	5	3	3	51
	Girls	6	3	4	5	5	2	3	3	2	33
	Total	11	11	11	13	11	8	8	6	5	84
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	16	9	11	14	12	0	1	1	2	66
	Girls	7	4	8	9	5	0	2	2	2	39
	Total	23	13	19	23	17	0	3	3	4	105
STPH	Boys	0	0	0	1	0	0	0	0	0	1
	Girls	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	1	0	0	0	0	0	1
OP	Boys	13	16	19	21	15	7	9	9	3	112
	Girls	5	6	6	7	5	3	1	2	1	36
	Total	18	22	25	28	20	10	10	11	4	148
OPPH	Boys	1	1	0	1	1	0	2	0	0	6
	Girls	0	0	0	0	0	0	0	0	0	0
	Total	1	1	0	1	1	0	2	0	0	6
EWS	Boys	4	6	4	5	5	5	2	3	1	35
	Girls	1	1	1	1	1	1	1	1	0	8
	Total	5	7	5	6	6	6	3	4	1	43
EWS-PH	Boys	0	0	0	1	1	0	0	0	0	2
	Girls	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	1	1	0	0	0	0	2
OBC	Boys	18	15	15	17	14	21	11	9	7	127
	Girls	4	3	3	4	4	4	2	3	2	29
	Total	22	18	18	21	18	25	13	12	9	156
OBCPH	Boys	0	0	1	1	2	0	0	0	0	4
	Girls	0	0	0	0	0	0	0	0	0	0
	Total	0	0	1	1	2	0	0	0	0	4
	Boys	7	8	7	9	8	6	4	4	3	56

SC	Girls	0	2	2	2	2	2	1	1	1	13
	Total	7	10	9	11	10	8	5	5	4	69
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	10	4	5	7	16	8	9	5	67
	Girls	1	1	1	1	1	4	1	1	0	11
	Total	4	11	5	6	8	20	9	10	5	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
Total intake capacity		118	125	125	150	128	113	75	75	50	959
Total admitted		115	124	124	149	127	107	71	70	44	931
Total vacant		3	1	1	1	1	6	4	5	6	28

Table 3 – Admitted students in M. Tech 1st Semester (2020-21)

		CE	ME	EE	CSE	EC	PE	CH	BE
OP	Boys	25	11	07	07	09	00	01	00
	Girls	04	02	05	01	03	00	02	00
	Total	29	13	12	08	12	00	03	00
OPPH	Boys	00	00	00	00	00	00	00	00
	Girls	00	00	01	00	00	00	00	00
	Total	00	00	01	00	00	00	00	00
OPEWS	Boys	00	00	02	00	01	00	00	00
	Girls	00	00	00	00	01	00	00	00
	Total	00	00	02	00	02	00	00	00
EWS PH	Boys	00	00	00	00	00	00	00	00
	Girls	00	00	00	00	00	00	00	00
	Total	00	00	00	00	00	00	00	00
OBC	Boys	20	07	10	03	04	00	00	01

	Girls	05	00	04	06	01	00	00	01
	Total	25	07	14	09	05	00	00	02
OBCPH	Boys	00	00	00	00	00	00	00	00
	Girls	00	00	00	00	00	00	00	00
	Total	00	00	00	00	00	00	00	00
SC	Boys	12	02	07	02	05	00	00	00
	Girls	01	00	00	02	01	00	00	00
	Total	13	02	07	04	06	00	00	00
SCPH	Boys	00	00	00	00	00	00	00	00
	Girls	00	00	00	00	00	00	00	00
	Total	00	00	00	00	00	00	00	00
ST	Boys	03	01	01	00	00	00	00	00
	Girls	01	00	02	00	00	00	00	00
	Total	04	01	03	00	00	00	00	00
STPH	Boys	00	00	00	00	00	00	00	00
	Girls	00	00	00	00	00	00	00	00
	Total	00	00	00	00	00	00	00	00
Total intake capacity		80	50	45	25	34	10	09	07
Total admitted		71	23	39	21	25	00	03	02
Total vacant		09	27	06	04	09	10	06	05

Table 4 – Admitted students in BSMS, BTMT 1st Semester (2020-21)

		BSMS	BTMT
From the State of Tripura:			
OP	Boys	7	3
	Girls	8	1
	Total	15	4
OPPH	Boys	0	0
	Girls	0	0

	Total	0	0
EWS	Boys	1	0
	Girls	2	1
	Total	3	1
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	2	1
	Girls	4	1
	Total	6	2
SCPH	Boys	0	0
	Girls	0	0
	Total	0	0
ST	Boys	4	2
	Girls	5	0
	Total	9	2
STPH	Boys	0	0
	Girls	0	0
	Total	0	0
From various part of the country except the State of Tripura			
OP	Boys	11	7
	Girls	2	0

	Total	13	7
OPPH	Boys	0	0
	Girls	0	0
	Total	0	0
EWS	Boys	3	1
	Girls	0	0
	Total	3	1
EWS- PH	Boys	0	0
	Girls	0	0
	Total	0	0
OBC	Boys	10	3
	Girls	0	0
	Total	10	3
OBCPH	Boys	0	0
	Girls	0	0
	Total	0	0
SC	Boys	5	1
	Girls	0	0
	Total	5	1
SCPH	Boys	0	0
	Girls	0	0
	Total	0	0
ST	Boys	3	3
	Girls	0	0
	Total	3	3
STPH	Boys	0	0
	Girls	0	0
	Total	0	0

Total intake capacity	75	25
Total admitted	67	24
Total vacant	8	1

Table 4A - Admitted students in M. Sc, MCA and MBA 1st Semester (2020-21)

		M. Sc. (Phy.)	M. Sc. (Chem.)	M. Sc. (Math.)	MCA	MBA
OP	Boys	03	06	01	02	06
	Girls	01	00	03	04	08
	Total	04	06	04	06	14
OPPH	Boys	00	00	00	00	00
	Girls	00	00	00	00	00
	Total	00	00	00	00	00
EWS	Boys	01	01	00	01	02
	Girls	00	00	00	01	00
	Total	01	01	00	02	02
EWS PH	Boys	00	00	00	00	00
	Girls	00	00	00	00	00
	Total	00	00	00	00	00
OBC	Boys	05	03	04	03	09
	Girls	00	00	01	03	01
	Total	05	03	05	06	10
OBCPH	Boys	00	00	00	00	00
	Girls	00	00	00	00	00
	Total	00	00	00	00	00
SC	Boys	01	02	02	00	03
	Girls	01	00	00	00	03
	Total	02	02	02	00	06
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	00
	Girls	00	00	00	00	03
	Total	00	00	00	00	03
STPH	Boys	00	00	00	00	00
	Girls	00	00	00	00	00
	Total	00	00	00	00	00
Total intake capacity		13	13	13	30	38
Total admitted		12	12	11	14	35
Total vacant		01	01	02	16	03

Table 5 – Admission statistics: UG Programme: Course-wise (2020-21)

Sl. No.	Name of the state	CE	ME	EE	CSE	ECE	EIE	CHE	PE	BIO	BS-MS (CHEM)	BS-MS (PHY)	BS-MS (MATH & COMPT .)	BT-MT (PHY)	TOTAL
1	AP	11	18	10	26	34	6	7	10	0	2	2	0	3	129
2	ARP	1	0	0	0	0	0	0	0	0	0	0	0	0	1
3	AS	0	2	1	0	1	0	1	1	1	0	0	0	0	7
4	BH	22	12	18	9	10	10	4	15	11	1	0	2	2	116
5	CG	0	0	0	0	0	0	1	0	0	0	0	0	0	1
6	DL	1	1	0	0	0	0	0	0	0	0	0	0	0	2
7	GJ	0	1	0	1	0	0	1	0	0	0	0	0	0	3
8	HR	0	0	1	0	0	0	0	0	0	0	0	0	0	1
9	HP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	JR	1	0	1	1	1	2	1	2	0	0	0	0	1	10
11	J&K	0	0	0	0	0	0	1	0	0	0	0	0	0	1
12	KT	0	0	0	0	1	0	0	1	1	0	0	1	0	4
13	KL	1	0	0	0	2	0	0	2	1	1	0	0	1	8
14	MP	0	2	1	1	3	0	1	2	0	0	1	0	0	11
15	MH	1	2	1	3	0	3	4	3	0	0	0	0	2	19
16	NG	1	0	0	0	0	0	0	0	0	0	0	0	0	1
17	OD	0	0	1	0	0	2	0	0	0	0	0	0	0	3
18	PON	0	0	0	1	0	0	0	0	0	0	0	0	0	1

19	PNB	0	0	0	0	0	0	0	0	0	0	1	0	0	1
20	RJ	10	10	13	4	2	7	7	5	2	2	1	1	2	66
21	TN	0	0	0	0	0	0	0	2	0	0	0	0	0	2
22	TE	2	5	6	13	8	9	5	12	5	2	2	2	1	72
23	TR	58	55	61	74	61	29	28	38	21	10	11	12	9	467
24	UP	6	12	7	13	2	2	9	13	1	4	2	5	1	77
25	UR	0	2	1	1	0	0	0	0	0	0	0	0	0	4
26	WB	0	2	2	2	2	1	0	1	1	0	2	0	2	15
Grand Total		115	124	124	149	127	71	70	107	44	22	22	23	24	1022
AP=ANDHRAPRADESH, ARP=ARUNACHAL PRADESH, AS=ASSAM, BH=BIHAR, 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, NG=NAGALAND, OD=ODISHA, PON= PONDECHERRY, PNB=PUNJAB, 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 2020-21 are given below:

TABLE 6 – Students on roll

Sl. No.	Department	B. Tech	BS-MS	BT-MT	MCA	M. Tech.	M. Sc.	MHS S	Ph. D
1.	Civil Engineering	533	-	-	-	127	-	-	69
2.	Mechanical Engineering	419	-	-	-	43	-	-	60
3.	Electrical Engineering	379	-	-	-	57	-	-	30
4.	Computer Sc. & Engineering	467	-	-	38	31	-	-	37
	Electronics & Communication Engineering	417				39			34
5.	Production Engineering	303	-	-		03	-	-	22
6.	Electronics & Instrumentation Engineering	228	-	-	-	00	-	-	04
7.	Chemical Engineering	213	-	-		06			14
9	Bio Engineering (Biotechnology & Biochemical Engineering)	105	-	-	-	05	-	-	04
10	BS-MS(Physics, Chemistry,	-	212	-	-	-	-	-	

	Mathematics)								
11	BT-MT	-	-	76	-	-	-	-	
12	Management, Humanities & Social Science	-	-	-	-	-	-	62	13
13	Physics	-	-	-	-	-	15	-	15
14	Chemistry	-	-	-	-	-	15	-	10
15	Mathematics	-		-	-	-	17	-	21
Total-		3064	212	76	38	311	47	62	333

The above total includes the following

DASA (Indian origin)	1(UG)	QIP	M. Tech.	
Scheduled Castes	581(UG), 69 (PG), 45(Ph.D)		Ph. D.	01
Scheduled Tribes	593(UG), 20 (PG), 22(Ph.D)	Sponsored	M. Tech.	02
Physically Handicapped	34(UG), 01 (PG), 02(Ph.D)	Project	Ph. D.	02
Women Students	726(UG), 118 (PG), 99(Ph.D)	External Registration	Ph. D.	00
EWS	185(UG), 10(PG), 02(Ph.D)	Registration Kept Alive		
		Part Time Programme (Ph.D)		20

SC/ ST/ OBC/ OPPH Students on roll as on 31-03-2021:

Sl. No.	Programme	SC	ST	OBC	OPPH	EWS
1.	B. Tech.	529	551	802	15	177
2.	BS-MS	41	33	56	02	07
3.	BT-MT	12	10	23	00	03
4.	MCA	05	0	14	00	1
5.	M. Tech.	18	14	101	01	07
6.	M. Sc.	06	00	21	00	00
7.	MBA	10	06	14	00	02
8.	Ph. D.	45	22	84	02	02

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	2020	2019	2018	2017	2016	others
1	Civil Engineering	533	566	644	635	649	00
2	Mechanical Engineering	419	377	363	349	353	00
3	Electrical Engineering	379	333	307	327	325	00
4	Computer Sc. & Engg.	467	399	367	347	336	00
5	Electronics & Comm. Engineering	417	366	325	339	329	00
6	Production Engineering	303	262	225	224	219	00
7	Electronics & Inst. Engg.	228	195	177	164	169	00
8	Chemical Engineering	213	200	184	174	166	00
9	Bio Engineering	105	84	68	63	63	00
10	Physics(BS-MS)	67	64	47	42	30	00
11	Chemistry(BS-MS)	67	58	40	52	34	00
12	Math(BS-MS)	39	46	47	65	43	00
13	Mathematics And Computing(BS-MS)	39	20	00	00	00	00
14	Engineering Physics(BT-MT)	76	66	50	59	44	00
Total		3352	3036	2844	2840	2760	00

TABLE 8 – Students on roll at Masters Degree level

Sl. No.	Department	Specialization	2020	2019	2018	2017	Total
01.	Civil Engineering Department	Geotechnical Engineering	25	28	27	26	53
		Structural Engineering	29	27	26	29	55
		Environmental Engineering	23	24	30	27	57
		Transportation Engineering	29	30	25	27	52
		Water Resources Engineering	06	09	10	10	20
		Seismic Science & Engineering	07	09	15	11	26
		Hydro Informatics Engineering	08	15	20	18	38

02.	Mechanical Engineering Department	Thermal Science & Engineering	14	18	25	29	54
		Manufacturing Technology	11	18	26	27	53
		Machine Design	07	07	10	14	24
		Automotive Engineering	07	12	11	12	23
		Material Science & Engg	04				
03.	Electrical Engineering	Power Electronics & Drives	22	21	21	25	46
		Power System Engineering	21	19	18	22	40
		Instrumentation Engineering	09	16	18	18	36
		Integrated Energy System	05	06	08	08	16
04.	Electronics & Communication Engineering	VLSI Design	27	17	18	24	42
		Communication Engineering	12	09	11	21	32
05.	Computer Sc. & Engineering	Computer Sc. & Engineering	24	23	23	19	42
		Artificial Intelligence	07	00			
06.	Production Engineering	Computer Integrated Manufacturing	03	11	16	15	31
07	Chemical Engineering	Chemical Engineering	06	09	06	02	08
08	Bio Engineering	Biotechnology & Biochemical	05	04	00	00	00
09.	M.Sc	Physics	15	14	16	14	30
		Chemistry	15	19	17	18	35
		Mathematics and Computing	17	14	12	12	24
10.	Management, Humanities & Social Science	MBA	62	44	30	44	74
11.	Master of Computer Application	MCA	38	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 Semester 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	05	01
		Electrical Engineering	04	01
		Electronics & Communication Engineering	02	01
		Computer Sc. & Engineering	02	01
		Production Engineering	01	01
		Chemical Engineering	01	01
		Electronics & Instrumentation Engineering	--	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	NA

4.8 Convocation:-

The National Institute of Technology Agartala organized its 13th Convocation on 14th November 2020 through virtual mode. Shri M. Venkaiah Naidu, Hon'ble Vice President of India, adorned the 13th Convocation Ceremony as a Chief Guest.

In the 13th Convocation, Institute awarded B. Tech. Degree to a total number of 532 students.

Branch wise results are given as under:-

Civil Engineering: 19 students passed with Distinction, 88 passed with First class and 16 with Second class.

Mechanical Engineering: 33 students passed with Distinction; 42 students passed with First class and 01 with Second class.

Electrical Engineering: 18 students passed with Distinction, 41 students passed with First class and 06 students with Second class.

Computer Science & Engineering: 21 students passed with Distinction, 46 students passed with First class and 06 students with second class.

Electronics and Communication Engineering: 12 students passed with Distinction, 46 students passed with First class and 11 students with Second class.

Electronics and Instrumentation Engineering: 03 students passed with Distinction, 25 students passed with First class and 02 students with Second class.

Production Engineering: 12 students passed with Distinction, 35 students passed with First class and 01 student passed with Second class.

Chemical Engineering: 06 students passed with Distinction; 26 students passed with First class 04 students passed with Second class.

Bio Engineering: 02 students passed with Distinction, 08 students passed with First class and 02 students with Second class.

BS & BT Degree was awarded to a total number of 29 students in the 13th convocation.

Branch wise results are given as under: -

BS Physics: 07 Students passed.

BS Chemistry: 03 Students passed

BS Mathematics: 10 students passed

BT Physics: 09 students passed

BS-MS & BT-MT Degree was awarded to a total number of 31 students in the 13th convocation.

BS-MS Physics : 08 student passed

BS-MS Chemistry : 11 students passed

BS-MS Mathematics : 06 students passed

BT-MT Physics : 06 students passed

M. Tech Degree was awarded to a total number of 181 students in the 13th convocation.

Branch wise results are given as under: -

Civil Engineering : 79 students passed.

Mechanical Engineering : 32 students passed.

Electrical Engineering : 38 students passed.

Computer Sc. & Engineering : 11 students passed.

Electronics & Communication Engineering : 10 students passed.

Production Engineering : 08 students passed.

Chemical Engineering : 03 students passed.

M. Sc Degree was awarded to a total number of 24 students in the 13th convocation.

Subject wise results are given as under: -

Physics : 09 students passed.

Chemistry : 09 students passed.

Mathematics : 06 students passed.

MCA Degree was awarded to a total number of 20 students.

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

Institute awarded 25 scholars for Ph.D Degree - 17 in Engineering, 06 in Science and 02 in Humanities and Social Sciences in the 13th 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	123	--	--	--	79	--	--	25
2	MECHANICAL	76	--	--	--	32	--	--	
3	ELECTRICAL	65	--	--	--	38	--	--	
4	COMPUTER SC.	73	--	--	--	11	--	--	
5	ELECTRONICS & COMM.	69	--	--	--	10	--	--	
6	ELECTRONICS & INST.	30	--	--	--	--	--	--	
7	PRODUCTION	48	--	--	--	08	--	--	
8	CHEMICAL	36	--	--	--	03	--	--	
9	BIO	12	--	--	--	--	--	--	
10	CHEMISTRY	--	08	--	--	--	09	--	
11	MATHEMATICS	--	06	--	--	--	09	--	
12	PHYSICS	--	11	--	06	--	06	--	
13	MCA	--	--	20	--	--	--	--	
14	MBA	--	--	--	--	--	--	14	
15	PHD	--	--	--	--	--	--	--	

With this convocation, the total number of degrees awarded so far by the Institute is **827** the details of which are given below:

Sl.No.	Programme	No. of Students
01	Ph.D	25
02	M.Tech	181
03	B.Tech	532
04	BS-MS	31
05	BT-MT	
06	MCA	20
07	M.SC	24
08	MBA	14

4.8.2 Award of Prizes to the students

4.8.3 Convocation Prizes:

The following are the details of Prizes awarded to the students at the 13th Convocation:

Name of the Prize	Name of Student	Branch Name
Gold Medal for Institute Topper (UNDER GRADUATE)	KANGKANA KALITA	CHEMICAL ENGG
	ADITYA ASHUTOSH	MECHANICAL ENGG.
Gold Plated Silver Medal to Branch Toppers (UNDER GRADUATE)	SUBHADWIP DEB	CIVIL ENGG.
	BISWAJEET SAHANI	ELECTRICAL ENGG.
	VIBHOR TYAGI	COMPUTER SC & ENGG
	ARUNAVA DAS	ELECTRONICS & COMMUNICATION ENGG
	ASHUTOSH KUMAR DUBEY	ELECTRONICS & INSTRUMENTATION ENGG
	RISHABH GUPTA	PRODUCTION ENGG
	SAYANTIKA PODDER	BIO ENGG

Name of the Prize	Name of Student	Branch Name
Gold Medal for Institute Topper (DUAL DEGREE) (UNDER GRADUATE)	GOBINDA DEBNATH	BS MS - MATHEMATICS
Gold Plated Silver Medal to Branch Toppers (UNDER GRADUATE)	PIYALI BISWAS	BS MS - PHYSICS
	PRIYANKA NATH	BS MS - CHYMISTRY

	SIDDARTH RASTOGI	BT MT - PHYSICS
--	------------------	-----------------

Programme	Name of the Prize	Name of Students	Branch Name
M.Tech	Gold Medal for Institute Topper(Post-Graduate)	ASHESH RUDRA PAUL	CIVIL ENGG.
	Gold Plated Silver Medal to Branch Toppers (Post-Graduate)	THARRA BHAVANI	MECHANICAL ENGG
		RAKESH MAHARANA	ELECTRICAL ENGG.
		SHRUTI PANDEY	COMPUTER SC & ENGG
		DHEERAJ KUMAR SAHU	ELECTRONICS & COMMUNICATION ENGG
		JAYANT KUMAR	PRODUCTION ENGG
		SUGAM BHOWMIK	CHEMICAL ENGG
MCA	Gold Plated Silver Medal to Branch Topper	NEHA NANHI	MASTER OF COMPUTER APPLICATION
MBA	Gold Plated Silver Medal to Branch Topper	ANTARA BANERJEE	BUSINESS MANAGEMENT
M.Sc	Gold Plated Silver Medal to Branch Topper	SAYANTAN CHANDA	PHYSICS
		NIKITA	CHEMISTRY
		SATADIP DAS	MATHEMATICS

5.0 BIO ENGINEERING DEPARTMENT

5.1 Introduction :

Department of BioEngineering was started in 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 BioEngineering to contribute to the fascinating and emerging area of biological sciences. The course name has been changed from B.Tech in Bioengineering to B.Tech in Biotechnology and Biochemical Engineering from July 2019. In the academic year 2019-20, the total number of sanctioned seats in the Department has been increased to 50. The Department has excellent facilities in terms of classrooms and U.G. laboratories. Within a few years, the Department has set up some required 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 the academic year 2018-2019. The M. Tech programme in the name of “Biotechnology and Biochemical Engineering” has also been approved and started from July 2019. The Department is committed to excellence in teaching, research and service to the Nation. Presently, Dr. Tarun Kanti Bandyopadhyay (Head, BioEngineering) 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 BioEngineering research and education. The Department has framed the course curriculum based on the need of today’s industries. The U.G., and P.G., programmes provide strong fundamental knowledge and practical learning methodology in engineering and life sciences. 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. It imparts training for students to make them competent, motivated engineers and scientists. This course offers vast scope to the next generation students for their better career in India and abroad.

5.2 Academic Programme:

The Department offers courses in the Under Graduate programme leading to B. Tech degree under Bio Engineering (4 years) from July 2012. The B.Tech course in Bio Engineering has been modified to B.Tech in Biotechnology and Biochemical Engineering (4 - years), which started in 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 BioEngineering from July 2018.

5.3 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
<i>Seminar/ Workshop</i>			
1.	Abhijit Chatterjee	Step Towards Complex Matter	21/10/2020
2.	Mutuhsvaramapandian Muthuraj	Modern Analytical tools for biomedical research and teaching (organized by Teqip, IIT Guwahati)- Workshop	22 to 26 th Feb 2021

3.	Hrijuta Datta	Scope, Opputunities And Challenges Of E -Vehicle In India, IFERP	12 th sep 2020
4	Hrijuta Datta	Modelling Of Biomedical Applicatio Using Neural Networks, IFERP	16 th sep 2020
5	Hrijuta Datta	Learning Path To Data Science, IFERP	26 th sep 2020
6	Hrijuta Datta	General Awareness To The Educators & Institutions, IFERP	13 th oct 2020
7	Hrijuta Datta	Recent Development In Nano Structured Metals, IFERP	25 th oct 2020
8	Hrijuta Datta	Computing And Signal Processing In Iot Applications, IFERP	9 th oct 2020
9	Hrijuta Datta	Renewable Energy System And Sustainability, IFERP	16 th oct 2020
10	Hrijuta Datta	Immunisation, Ministry Of Women And Child Development	E Learning Certificate
11	Hrijuta Datta	Non Communicable Diseases, Ministry Of Women And Child Development	E Learning Certificate
12	Hrijuta Datta	Basic Nutrition, ICMR	E Learning Certificate
13	Hrijuta Datta	Food Fortification, ICMR	E Learning Certificate
14	Hrijuta Datta	Artificial And Machine Learning, IFERP	10 th Oct 2020
15	Hrijuta Datta	Optical Wireless Communication Challenges & Oppurtunities, IFERP	3 rd Oct 2020
16	Hrijuta Datta	Cognitive Radio Wireless Sensor Networks, IFERP	19 th Sep 2020
17	Hrijuta Datta	Personality Development And Winnig Attitude, IFERP	18 th Sep 2020
18	Hrijuta Datta	Composite Materials - Metal Matrix Composite, IFERP	26 th Sep 2020
19	Hrijuta Datta	National Education Policy, IFERP	13 th Sep 2020
20	Hrijuta Datta	Pursuit of Excellence : Institute Building, SRM University	12 th Dec 2020
21	Hrijuta Datta	Nep 2020- Its Implications On Higher Education	25 th Aug 2020
22	Hrijuta Datta	Optical Coatings For Gravitational Wave Interferometers	22 th Sep 2020
23	Hrijuta Datta	Steps Towards Comple Matter : Chemistry	21 th Sep 2020
24	Hrijuta Datta	Granular Mining , Uncertainty Modelling And Data Science	26 th Sep 2020
25	Hrijuta Datta	Organic Electronics	30 th Sep 2020
26	Hrijuta Datta	A Voyage Through Time : Dynamics At Molecular Length And Time Scale	8 th Oct 2020
27	Hrijuta Datta	Routes To Clean Sources Of Energy-Mitigating Our Dependency On Non Renewable	3 rd March 2021
28	Hrijuta Datta	Studying Epigenomics To	28-Feb-21

		Understand Plant Environmentinteraction	
Conference:			
1.	Abhijit Chatterjee	Interventions for improving the livelihood of rural people from Tripura, NIT Agartala	29-30/08/2020
2.	Hrijuta Datta	Interventions for improving the livelihood of rural people from Tripura, NIT Agartala	29-30/08/2020
3.	Biswanath Bhunia	Interventions for improving the livelihood of rural people from Tripura, NIT Agartala	29-30/08/2020
4.	Deeplina Das	Women's Right and Safety	3-8-2020
Training:			
1.	Abhijit Chatterjee	Laboratory management in food and beverage industry: GLP, ISO17025 (NABL) guidelines and chemical & microbiological quality control, COTECNA INSPECTION	10/10/2020
Short term Course:			
1.	Abhijit Chatterjee	Recent advances in food engineering in north east India, FDP, IITG	17/12/20-19/12/20
2.	Hrijuta Datta	Recent advances of 3D printing and its Biomedical Engineering Applications. Organized by Royal Global University, Guwahti & NEHU, Shillong	12/10/2020 to 16/10/2020

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 (IChE)	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:

The purchase of equipment and furniture by utilizing the funds from TEQIP-III was completed during the period. No instruments, softwares were designed and developed.

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	29 th April 2019 to Sep 2021	DBT-NECBH Twining Project	Rs. 11.44 lakhs	Dr. Muthusivaramapandian (Co-PI) and Dr. Biswanath Bhunia (Co-PI)

	harvesting technique				
6.	Multi-drug delivery with nano-sized carrier particles for combination therapy in tuberculosis	April 2019 to March 2021	Department of Health Research Govt. of India	15.24 Lakhs	Dr. Tridib Kumar Bhowmick (PI)
7.	Technology development for the production of natural colorant (chlorophyll) from isolated microalgae	April 2019 to March 2022	SCIENCE & ENGINEERING RESEARCH BOARD (SERB), Department of Science and Technology, Govt. of India.	32.2 Lakhs	Dr. Tridib Kumar Bhowmick (Co-PI)
8.	Identification of Adverse Outcome Pathway for the ovarian cancer under exposure of Clomiphene and submission to the AOP-wiki	April 2021 to March 2022	Humane Society International India (HSI: India)	7 Lakhs	Dr. Tridib Kumar Bhowmick (Co-PI)

Research Publications:

Total No. of papers published in Refereed National Journals	:	01
Total No. of papers published in Refereed International Journals	:	15
Total No. of patents	:	01

In Refereed National Journals:

1. Abhijit Chatterjee; "The Indian Journal of Nutrition and Dietetics", Volume 57, Issue 3, July-September 2020, page 362, 01 July 2020

In Refereed International Journals:

1. U. Mahapatra, A. Chatterjee, C. Das, A. Manna; "Environmental Technology & Innovation"; Volume 22, May 2021, 101427, Available online 12 February 2021.
2. ON Tiwari, Muthusivaramapandian M, Biswanath Bhunia, Tarun Kanti Bandyopadhyay, K Annapurna, Minakshi Sahu, Th Indrama; "Polymer Testing"; Volume 89, September 2020, 106592, 18th May 2020.
3. Tania Paul, Tarun Kanti Bandyopadhyay, Abhijit Mondal, Onkar Nath Tiwari, Muthusivaramapandian Muthuraj & Biswanath Bhunia; "Biomass Conversion and Biorefinery", 10.1007/s13399-020-00928-2, 01 August 2020.
4. Rai, Vineeta, Patel, Sandip Kumar, Muthuraj, Muthusivaramapandian, Gandhi, Mayuri, Das, Debasish, Srivastava, Sanjeeva; "Biofuel Research Journal"; volume 8, Issue 1 - Serial Number 1; 1st March 2021.

5. Payel Choudhury, Rup Narayan Ray, Tarun Kanti Bandyopadhyay, Bikram Basak, Muthusivaramapandian Muthuraj, Biswanath Bhunia; "International Journal of Hydrogen Energy"; Volume 46, Issue 4, 14 January 2021, 7th August 2020.
6. Payel Choudhury, Rup Narayan Ray, Tarun Kanti Bandyopadhyay, ON Tiwari, Muthusivaramapandian Muthuraj, Biswanath Bhunia; "Fuel"; Volume 288, 15 March 2021, 119653; 25/11/2020.
7. Rachel L. Manthe, Maximilian Loeck, Tridib Bhowmick, Melani Solomon, Silvia Muro; "Journal of Controlled Release"; 324/ 181-193, May, 2020.
8. Sambit Sarkar, Mriganka Sekhar Manna, Tridib Kumar Bhowmick, and Kalyan Gayen; "Critical Reviews in Biotechnology"; 40/5/590-607, May, 2020.
9. Sambit Sarkar, Mriganka Sekhar Manna, Tridib Kumar Bhowmick, and Kalyan Gayen; "Process Biochemistry"; 96/58-72, Sept, 2020.
10. Satyajit Bhattacharjee, Dibyajyoti Halder, Mriganka Sekhar Manna, Kalyan Gayen, Tridib Kumar Bhowmick; "Journal of Applied Polymer Science"; 138 /15/ e50388, Dec, 2020.
11. Mriganka Sekhar Manna, Saikat Biswas, Tridib Kumar Bhowmick, Kalyan Gayen; "Journal of Environmental Chemical Engineering"; 8/5/104345, May, 2020.
12. P Choudhury, B Bhunia, R.N Ray, TK Bandyopadhyay; "Journal of Electrochemical Science and Technology"; 1/12/101-111, Feb, 2021.
13. P Choudhury, R.N Ray, TK Bandyopadhyay, ON Tiwari, B Bhunia; "International Journal of Hydrogen Energy"; 21/46/ 16815-16822, Sep, 2020.
14. Moumita Majumdar, Shamim Ahmed Khan, Nishithendu Bikash Nandi, Shaktibrata Roy, Dr. Anindya Sundar Panja, Dr. Dijendra Nath Roy, Dr. Tarun Kumar Misra; "Chemistry Select"; <https://doi.org/10.1002/slct.202003033>, 18 November 2020.
15. Moumita Majumdar, Amit Dubey, Ritobrata Goswami, Tarun Kumar Misra & Dijendra Nath Roy; "World Journal of Microbiology and Biotechnology"; <https://doi.org/10.1007/s11274-020-02919-x>, 27 August 2020.

Patent Published:

Inventor Name	Year	Title	Published source	Patent version no.	Patent application no.
Uday US, Bandyopadhyay TK, Bhunia B	2021	An Acidophilic xylanases enzyme with broad pH activity from <i>Aspergillus niger</i> .	Indian patent	355786	201631005766

5.6 Industrial Consultancy and Sponsored Research :

The department has been handling funds of about Rs. 2,15,0000/- (Rupees Two Crores, Fifteen lakhs only) from DBT/DST/ICMR and other funding agencies over the years.

5.7 Other Activities:

Invited Lectures by Faculties:

Date	Name of the Faculty	Title of the talk	Host Institution
29/08/2020	Dr. Abhijit Chatterjee	Bioremediation: An overview	Microbiology Department, T H K Jain College, University of Calcutta

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) nos. regular faculty members and 11(Eleven) nos. 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.



Civil Engineering Department

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. Sujit Kumar Pal	Organizing Chairman of Webinar, “Use of Geogrids in Flexible Pavementsat” at NIT Agartala.	30th June 2020
2	Dr. Sujit Kumar Pal	Organizing Chairman of Webinar, “Ground Improvement: Emerging and Future Developments” at NIT Agartala.	26th September 2020
3	Dr. Sujit Kumar Pal	Organizing Chairman (jointly) of IGS - NABL WEBINAR (Jointly organized by IGS Silchar Chapter and IGS Agartala Chapter) – “Importance of Testing and Evaluation of Geotechnical Properties for Better Infrastructure”,	29th August 2020.
4	Dr. Sima Ghosh	International Workshop on Advanced Seismology, Seismic Hazards and Earthquake Engineering	12th Dec to 17th Dec, 2020

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, Surathkal) • Executive Committee member, Agartala Local Centre (Presently, Tripura State Centre) 	<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> <p>1999-2001</p>
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 	

		<ul style="list-style-type: none"> 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	Dr. Lipika Halder	<ul style="list-style-type: none"> Associate Member of IEI, Membership No. AM/093049/3 IEI 	
11	Dr. Gopinandan 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. Nilotpal 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
5	Sustainable production of algal biomass for production of bio-fuels: A holistic approach with bioremediation & economical harvesting technique	NECBH Dept. of Biotech DST GOI	16.0	2019 3 yrs	PI- Dr U Mishra Co-PI Dr Muthu & Dr B Bhunia

6	Knowledge Guided GIS based Hydro-geochemical modelling to understand the sources & control of Arsenic (As) in contamination in Groundwater of Tripura	Space technology Incubation ISRO	19.0	2019 3 yrs	PI- Dr U Mishra Co PI- Dr.P.Chowdhury Dr S.Biswal
7	Long term trend in weather parameters and atmospheric chemistry and its effect on tea cultivation over NE India	Space technology Incubation ISRO	19.0	2019 3 yrs	CoPI- Dr U Mishra PI- Dr P Bhattacharya
8	Flood Risk Assessment of Barak Basin in Assam State - A geospatial approach	Space technology Incubation ISRO	3.0	2019 3 yrs	Co PI- Dr U Mishra PI- Dr S.Biswal

Industrial Consultancy:**A. Consultancy:**

Sl. No.	Name of the faculty	Title	Industry	Amount (Rs.)
1	Dr.Ratul Das, Dr.MrinmoyMajumder, Dr.NilotpalDebbarma& 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	: 27
Total No. Of papers presented in National Conference	: 05
Total No. Of papers presented in International Conferences	: 06

In Refereed International Journals:

1. Hazari, S., Ghosh, S. and Sharma, R. P. (2021), "Total seismic analysis of slope considering logarithmic spiral failure surface", March 2021, Geomechanics and Geoengineering, DOI:10.1080/17486025.2021.1903095.
2. Lipika Halder, Sekhar Chandra Dutta, Pranoy Debnath, Richi Prasad Sharma, (Feb 2021) "Seismic vulnerability assessment of low-rise unreinforced masonry buildings in Northeast India considering variability of material properties" Asian Journal of Civil Engineering.

3. Hazari, S., Ghosh, S. and Sharma, R. P. (2020), "A Comparative Study of Soil Slope Stability Under Seismic Loading Condition", Aug 2020, DOI:10.1007/978-981-15-6233-4_2.
4. Hazari, S., Ghosh, S. and Sharma, R. P. (2020), " Seismic Analysis of Slope Considering Log-spiral Failure Surface with Numerical Validation", June 2020, International Journal of Geo-Engineering, DOI:10.1186/s40703-020-00118-z.
5. Hazari, S., Ghosh, S. and Sharma, R. P. (2020), " Swedish Circle Method for Pseudo-dynamic Analysis of Slope Considering Circular Failure Mechanism", June 2020, Geotechnical and Geological Engineering 38(3):2573-2589, DOI:10.1007/s10706-019-01170-y.
6. Plaban Deb and Dr. Sujit Kumar Pal, "Load-Settlement and Load Sharing Behaviour of Piled Raft Foundation Resting on Layered Soils", Acta Geotechnica Slovenica, Published on 1st July 2020, Vol. 2020/1, pp. 71-86, (SCI INDEX) .
7. Plaban Deb and Dr. Sujit Kumar Pal , "Nonlinear analysis of lateral load sharing response of piled raft subjected to combined V-L loading", Marine Georesources & Geotechnology, Published on 19th May 2020, . (SCI INDEX).
8. M. Suresh & M. Pal (2020), "Effect of centrifuged latex on moisture damage of hot-mix asphalt with brick aggregate", January 04, 2021, <https://doi.org/10.1680/jtran.19.00095> Transport (SCI).
9. Dey G.(2020) "Electrical Impedance-Based Technique for Estimation of Moisture Saturation Conditions of Hardened Cement Paste at Low Radio Frequencies", Journal of Nondestructive Evaluation (2020) 39:64, <https://doi.org/10.1007/s10921-020-00710-4> .
10. Dey G.Ganguli A. Bhattacharjee B. and Gandhi T.K. (2020) "Electrical response-based technique for estimation of degree of moisture saturation in cement concrete and mortar in drying and wetting cycle", Construction and Building Materials, 262 (2020) 120855, <https://doi.org/10.1016/j.conbuildmat.2020.120855>.
11. Suresh, M., Pal, M., Sarkar, D., (2020), "Performance of polymer-reinforced bituminous mixes using recycled coarse aggregate", ICE Transport, pp. 1-15.
12. S. Sangma and D. Tripura (2020). "Flexural Strength of Cob Wallettes Reinforced with Bamboo and Steel Mesh." Construction and Building Materials. <https://doi.org/10.1016/j.conbuildmat.2020.121662>
13. R.S.S. Deep and **D. Tripura** (2020). "Predicting and evaluating the engineering properties of unstabilized and cement stabilized fibre reinforced rammed earth blocks." Construction and Building Materials – 262- 120845, <https://doi.org/10.1016/j.conbuildmat.2020.120845>.
14. S. Sangma and **D. Tripura** (2020). "Experimental study on shrinkage behaviour of earth walling materials with fibers and stabilizer for cob building." Construction and Building Materials, 256, 1-7
15. D. Tripura and S. Sangma (2020). "Failure analysis of earthen, masonry and concrete buildings during 2017 Tripura earthquake" Forensic Engineering, (ICE Publisher). <https://doi.org/10.1680/jfoen.19.00017>.
16. Debnath, B. and Sarkar, P.P., 2020. Characterization of pervious concrete using over burnt brick as coarse aggregate. Construction and Building Materials, 242, p.118154.
17. Zachariah, J.P., Sarkar, P.P. and Pal, M., 2020, August. Fatigue life of polypropylene-modified crushed brick asphalt mix: analysis and prediction. In Proceedings of the Institution of Civil Engineers-Transport (pp. 1-20). Thomas Telford Ltd.
18. Zachariah, J.P., Sarkar, P.P. and Pal, M., 2020. A study on the moisture damage and rutting resistance of polypropylene modified bituminous mixes with crushed brick aggregate wastes. Construction and Building Materials, 269, p.121357.
19. Zachariah, J.P., Sarkar, P.P. and Nandi, D., 2020. A study on the properties of cement

- grouted open-graded bituminous concrete with brick as aggregates. *Construction and Building Materials*, 256, p.119436.
20. Debnath, B. and Sarkar, P.P., 2020. Prediction and model development for fatigue performance of pervious concrete made with over burnt brick aggregate. *Materials and Structures*, 53(4), pp.1-20.
 21. Ded, A., Debnath, A., Bhowmik, K.L., Paul, S.R., & Saha, B. *Application of polyaniline impregnated mixed phase Fe_2O_3 , $MnFe_2O_4$ and ZrO_2 nanocomposite for rapid abatement of binary dyes from aqua matrix: response surface optimisation*. **International Journal of Environmental Analytical Chemistry**, 1946683. [Impact Factor(2020): 2.826]
 22. Das, P., Nisa, S., Debnath, A., & Saha, B. *Enhanced adsorptive removal of toxic anionic dye by novel magnetic polymeric nanocomposite: optimization of process parameters*. **Journal of Dispersion Science and Technology**, 1845958. [Impact Factor(2020): 2.262]
 23. Deb, A., Debnath, A., Bhattacharjee, N., & Saha, B. *Ultrasonically enhanced dye removal using conducting polymer functionalised ZnO nanocomposite at near neutral pH: kinetic study, isotherm modelling and adsorbent cost analysis*. **International Journal of Environmental Analytical Chemistry**, 1843649. [Impact Factor(2020): 2.826]
 24. Tripathy, B.K., Kumar, S., Kumar, M., & Debnath, A. *Microwave induced catalytic treatment of brilliant green dye with carbon doped zinc oxide nanoparticles: Central composite design, toxicity assessment and cost analysis*. *Environmental Nanotechnology, Monitoring & Management*, 100361. [Cite Score: 6.1]
 25. Debnath, B., Majumdar, M., Bhowmik, M., Bhowmik, K.L., Debnath, A., & Roy, D.N. *The effective adsorption of tetracycline onto zirconia nanoparticles synthesized by novel microbial green technology*. *Journal of Environmental Management*, 110235. [Impact Factor(2020): 6.789]
 26. Das, P., Debnath, A., & Saha, B. *Ultrasound-assisted enhanced and rapid uptake of anionic dyes from the binary system onto $MnFe_2O_4$ /polyaniline nanocomposite at neutral pH*. *Applied Organometallic Chemistry*, e5711. [Impact Factor(2020): 4.105]
 27. Deb, A., Debnath, A., & Saha, B. *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*, 1775093. [Impact Factor(2020): 2.262]

In Refereed National Conference:

1. "Load Sharing Mechanism of Piled Raft System under Vertical and Lateral Loading", Indian Geotechnical Conference, IGC- 2020 at Andhra University, Visakhapatnam, India, 17th – 19th December 2020, (Plaban Deb and Dr. Sujit Kumar Pal).
2. "Mobilised Frictional Shear and Dead-Weight of Sand Wedge: Contributing to the Pull-Out Resistance of Belled Anchor Pile in Sand", Indian Geotechnical Conference, IGC- 2020 at Andhra University,
3. Visakhapatnam, India, 17th – 19th December 2020, (Dr. Tanaya Deb and Dr. Sujit Kumar Pal), "Analysis of 3D Consolidation Settlement of C- ϕ Soil using PLAXIS 3D under different Drainage Conditions", Indian Geotechnical Conference, IGC- 2020 at Andhra University, Visakhapatnam, India, 17th – 19th December 2020, (Dr. Arpan Laskar and Dr. Sujit Kumar Pal).
4. "Importance of Verticality of PVD in Consolidation Settlement of Prefabricated Vertical Drain-improved Soft Soils", Indian Geotechnical Conference, IGC- 2020 at Andhra University, Visakhapatnam, India, 17th – 19th December 2020, (Rai Bahadur Reang and Dr. Sujit Kumar Pal).
5. Hossain H. and Dey G.(2020), "A Comparative Study of Sulphate Resistance of Cement Mortar Incorporated with Fly Ash and Rice Straw Ash", ASCE India Conference, March 2020, Kolkata.

In Refereed International Conference:

1. Kollati, H., & **Debnath, A.** *A Short Review on Different Technologies Used for Site Selection of Air Quality Monitoring Stations.* In International Conference on Recent Trends in Engineering and Technology (RTET 2021) at Bankura, MIT Bishnupur, February 2021.
2. Bhowmik, J., Saha, B., & **Debnath, A.** *A systematic study on impact of COVID-19 pandemic lockdown on the air quality in Bangalore city, India.* In International Conference on Recent Trends in Engineering and Technology (RTET 2021) at Bankura, MIT Bishnupur, February 2021.
3. Nath, A., & **Debnath, A.** *A Short Review on Landfill Leachate Treatment Technologies.* In International Online Conference on Recent Trends in Engineering & Technology (RTET 2021), Mallabhum Institute of Technology, West Bengal, March 2021.
4. Deb, A., & **Debnath, A.** (2020). *Synthesis of iron oxide/polyaniline polymeric nanocomposite for highly efficient sono-assisted adsorption of eriochrome black t (ebt) dye and optimization by response surface methodology.* In International Conference on Waste Management "RECYCLE-2020". Department of Civil Engineering, Indian Institute of Technology Guwahati, February 2020.
5. Das, P., Nisa, S., & **Debnath, A.** *Enhanced adsorptive removal of toxic anionic dye by novel magnetic polymeric nanocomposite: optimization of process parameters.* In **3rd International Conference on Waste Management RECYCLE 2020**, Department of Civil Engineering and Centre for Rural Technology, IIT Guwahati, February 2020.
6. Bhowmik, M., *Debnath, A.*, & Saha, B. *Effective remediation of Cr (VI) from aqua matrix using a novel magnetic nanocomposite derived via inorganic chemical pathway.* In International Conference on Waste Management, IIT Guwahati, February 2020.

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.**, Raghuvveer Rao (Eds.) Geohazards. Lecture Notes in Civil Engineering, Springer, Singapore.

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.

7.0 CHEMICAL ENGINEERING DEPARTMENT

7.1 Introduction:

The department of Chemical Engineering offers undergraduate, post graduate and PhD level programmes with a mission to provide high quality technical education and to produce globally competent chemical engineers who are fit for industries and can move forward the research. With this goal, the department is modifying and updating its curriculum time to time based on the need of today's industries by organizing workshops, which are attended by the eminent academicians and technologists. The latest UG level curriculum was modified for 2019-20 batches onwards and currently, the revision of PG curriculum is going on.

The department is committed to excellence in teaching and research. A team of 09 dynamic and proactive faculty members are rendering their best services to build up the real educational atmosphere and academic journey. Research laboratories are equipped with modern instruments and the research works of the department are reflected through 15 (fifteen) research papers in last one year in international peer reviewed journals of repute and 1 (one) paper in international conferences. During this period, the faculty members have published 8 (eight) book chapters. One of the faculty members of the department has received sponsored consultancy project of Rs. 7.00 lacs for the year 2020-21.



The students of this department have received fellowship for doing research internship in India and abroad. Students are getting placements through campus recruitment drives. The graduates have joined for higher studies in IITs and reputed institutes in abroad. One of our past students has been selected for the **Prime Minister Research Fellows (PMRF)** for the year 2021, for pursuing her PhD in IIT Kharagpur.

7.2 Academic Programmes:

Sl No.	Duration
B.Tech in Chemical Engineering	4 years / 8 semesters
M.Tech in Chemical Engineering	2 years / 4 semesters
Ph.D in Chemical Engineering	Approx. 4 + 1 years

7.3 Faculty and their activities:

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

Sl .No	Name of Faculty	Title	Period
Workshop:			
1.	Dr. Kalyan Gayen	Recent Advances in Food Engineering in North-East India	17-19 December 2020, IIT Guwahati, India

7.4 Research and Consultancy:

Sponsored Consultancy Projects:

Sl no	Title	Period	Funding Agency	Amount (in lakhs)	Co-ordinators
1	Identification of Adverse Outcome Pathway for the ovarian cancer under exposure of Clomiphene and submission to the AOP-wiki (Consultancy)	(2020-2021)	Humane Society International India, Mumbai, India & Centre for Predictive Human Model Systems, Atal Incubation Centre-Centre for Cellular and Molecular Biology (AIC-CCMB), Hyderabad	7 Lakhs	Principal Consultant: Dr. Kalyan Gayen

Research Publications

- | | | | |
|------|--|---|-----------|
| i. | Total No. of papers published in refereed International journals | : | 24 |
| ii. | Total No. of papers presented in International Conference | : | 01 |
| iii. | Total No of Book Chapters Published | : | 09 |

In refereed International Journals:

1. Biplab Roy, **Ajay Kumar Manna**, "The Status of Surface Water in West Tripura District, India: An Approach by Using Water Quality Index and Multivariate Statistical Technique", Asian Journal of Water, Environment and Pollution, Volume 18, Issue 2, Pages 27-36, 2021/1/1.
2. **Mriganka Sekhar Manna**, Saikat Biswas, Tridib Kumar Bhowmick, **Kalyan Gayen**, "Acid hydrolysis of the waste newspaper: Comparison of process variables for finding the best condition to produce quality fermentable sugars, Journal of Environmental Chemical Engineering, Vol 8, issue 5, Pages 104345, 2020/10/1.
3. Sambit Sarkar, **Mriganka Sekhar Manna**, Tridib Kumar Bhowmick, **Kalyan Gayen**, "Extraction of chlorophylls and carotenoids from dry and wet biomass of isolated Chlorella Thermophila: Optimization of process parameters and modelling by artificial neural network", Process Biochemistry, Volume 96, Pages 58-72, 2020/9/1.
4. Sambit Sarkar, **Mriganka Sekhar Manna**, Tridib Kumar Bhowmick, **Kalyan Gayen**, "Priority-based multiple products from microalgae: Review on techniques and strategies", Critical reviews in biotechnology, Volume 40, Issue 5, Pages 590-607, 2020/7/3.

5. 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, Issue 4, Pages e13378, 2020/7.
6. **Soma Nag**, Sudip Kumar Das, Nirjhar Bar, “Cr(VI) removal from aqueous solution using green adsorbents in continuous bed column - Statistical and GA-ANN hybrid modelling” *Chemical Engineering Science*, 2020/6.
7. 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” *Environ. Eng. Res.*, Volume 25, Issue 6, Pages 878-889, 2020/12/1.
8. P Choudhury, B Bhunia, **TK Bandyopadhyay**, R.N Ray , “The overall performance improvement of Microbial fuel cells connected in series with dairy wastewater treatment”, *Journal of Electrochemical Science and Technology*, 2020/9.
9. Onkar Nath Tiwari, Muthusivaramapandian Muthuraj, Biswanath Bhunia, **Tarun Kanti Bandyopadhyay**, K Annapurna, Minakshi Sahu, Th Indrama, “Biosynthesis, purification and structure-property relationships of new cyanobacterial exopolysaccharides” *Polymer Testing* Volume 89 Pages 106592, 2020/9/1.
10. 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*, Volume 74, Issue 9, Pages 2977-2990, 2020/9.
11. T Paul, **TK Bandyopadhyay**, **A Mondal**, ON Tiwari, M Muthuraj, B Bhunia, “A comprehensive review on recent trends in production, purification, and applications of prodigiosin”, *Biomass Conversion and Biorefinery*, 2020/7.
12. P Choudhury, RN Ray, **TK Bandyopadhyay**, B Basak, M Muthuraj, B Bhunia, “Process engineering for stable power recovery from dairy wastewater using microbial fuel cell”, *International Journal of Hydrogen Energy*, 2020/6.
13. 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*, Volume 45, Issue 6, Pages 4451-4461, 2020/6.
14. Onkar Nath Tiwari, Biswanath Bhunia, Muthusivaramapandian Muthuraj, **Tarun Kanti Bandyopadhyay**, Dipankar Ghosh, Konga Gopikrishna, “Optimization of process parameters on lipid biosynthesis for sustainable biodiesel production and evaluation of its fuel characteristics” *Fuel*, Volume 269, Pages 117471, 2020/6/1.
15. 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”, *Fuel*, Volume 266, Pages 117073, 2020/4/15.
16. **Mriganka Sekhar Manna**, Chandan Kumar Das, Susanta Ghanta, “Design of CHNO based new hetero-cyclic high energy density molecules: a theoretical survey”, *Structural Chemistry*, Volume 32, Issue 3, Pages 1095-1104.
17. Rupak Roy, **Srimanta Ray**, “Development of a non-linear model for prediction of higher heating value from the proximate composition of lignocellulosic biomass” *Energy Sources, Part A: Recovery, Utilization, and Environmental Effects*.
18. Pritam Dey, R Koijam, **Srimanta Ray**, “Valorization of waste potato peel as iron adsorbent and catalyst in photo-oxidation: a sustainable waste management strategy”, *International Journal of Environmental Science and Technology*, ISSN: 1735-2630.
19. Rupak Roy, Debika Debnath, **Srimanta Ray**, “Comprehensive Assessment of Various Lignocellulosic Biomasses for Energy Recovery in a Hybrid Energy System”, *Arabian Journal for Science and Engineering*, ISSN:2191-4281.

20. Rita Banik, Priyanath Das, **S. Ray**, "Prediction of electrical energy consumption based on machine learning technique", *Electrical Engineering*, Vol 103, pages 909–920.
21. Payel Gouda, **B.K.Lodh**, Umesh Mishra, "A review on water flow behavior of Howrah river using computational fluid dynamics", *CSVTU Research journal*.
22. 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 Biorefinery*, Pages 1-11, 2020/3/13.
23. Sudhansu Sandhibigraha, Subhasis Mandal, Mayank Awasthi, **Tarun kanti Bandyopadhyay**, Biswanath Bhunia, "Optimization of various process parameters for biodegradation of 4-chlorophenol using Taguchi methodology" *Biocatalysis and Agricultural Biotechnology*, Volume 24, Pages 101568, 2020/3/1.
24. T Paul, **T.K Bandyopadhyay**, A Mondal, B. Bhunia, "Strategies for improved production of prodigiosin by *Serratia mercences*", *J. Indian Chem. Soc*, Volume 97, Pages1-6, 2020/3.

As Chapters in Edited Books:

1. Anirban Banik, Mrinmoy Majumder, Sushant Kumar Biswal, **Tarun Kanti Bandyopadhyay**, "Development of Self-Organized Group Method of Data Handling (GMDH) Algorithm to Increase Permeate Flux (%) of Helical-Shaped Membrane", *Research Advancements in Smart Technology, Optimization, and Renewable Energy*, Publisher-IGI Global, Pages 170-182.
2. **Soma Nag, Swarup Biswas**, "Accumulation and Detoxification of Metals by Plants and Microbes", *Removal of Emerging Contaminants Through Microbial Processes*, Publisher-Springer, Singapore, Pages 359-372.
3. **Swarup Biswas, Soma Nag**, "Biomass-Based Absorbents for Heavy Metal Removal" *Green Adsorbents to Remove Metals, Dyes and Boron from Polluted Water*, Publisher-Springer, Cham, Pages 351-376.
4. **Soma Nag, Swarup Biswas**, "Cellulose-Based Adsorbents for Heavy Metal Removal" *Green Adsorbents to Remove Metals, Dyes and Boron from Polluted Water*, Publisher-Springer, Cham, Pages 113-142.
5. Suparna Sen, Sambit Sarkar, Tridib Kumar Bhowmick and **Kalyan Gayen**, "The choice of algae strain: Native, genetically modified or microbial consortia", *3rd Generation Biofuel: Disruptive technologies to enable commercial production*, Editors: Eduardo Jacob-Lopes, Elsevier Science, USA, 2021, In press.
6. **Kalyan Gayen**, "Metabolic engineering approaches for high yield hydrocarbon biofuels", *Hydrocarbon biorefinery: Sustainable processing of biomass for hydrocarbon biofuels*, Editors: Sunil Kumar Maity, Kalyan Gayen, Tridib Kumar Bhowmick, Elsevier Science, USA, 2021, In press.
7. Uttara Mahapatra, Ayantika Pal, **Ajay Kumar Manna**, Dijendra Nath Roy, "Genome Assessment: Functional Gene Identification Involved in Heavy Metal Tolerance and Detoxification", *Soil Bioremediation: An Approach Towards Sustainable Technology*, Pages 51-86.
8. Rita Banik, Priyanath Das, **Srimanta Ray**, Ankur Biswas, "An Improved ANN Model for Prediction of Solar Radiation Using Machine Learning Approach", *Applications of Internet of Things*, volume 137.
9. **B.K. Lodh**, "Biosorbent for heavy metal removal", *Microbial ecology of waste water treatment plant 1*, pages 377- 390, Elsevier, Chapter 18

In refereed international Conference:

1. Anirban Banik, Sushant Kumar Biswal, **Tarun Kanti Bandyopadhyay**, Vladimir Panchenko, J Joshua Thomas, “Modeling and Simulation of Rectangular Sheet Membrane Using Computational Fluid Dynamics (CFD)”, International Conference on Intelligent Computing & Optimization, Pages 345-356

7.5 Institute – Industry Collaboration:

Internship organized for students in various reputed industries.

7.6 Other Activities:

PG curriculum thoroughly revised as per NBA pattern. Both UG and PG level, teaching –learning method carried out in online mode due to the pandemic situation.

7.7 Placement Data:

21 students out of 39 (eligible students) placed (on Campus), 01 student (off Campus) 5 students cleared GATE.

8.0 CHEMISTRY DEPARTMENT

8.1 Introduction:

The Chemistry Department is focused in both teaching and high quality research (basic and multidisciplinary) in the frontier areas of chemistry and its interface with allied disciplines. The department, right from its inception has given high priority for interdisciplinary research along with teaching in basic and applied chemistry. Our faculty have extensive experience in industry, research as well as teaching. Our strength is a reflection of their skills, innovation and drive. The faculty members are actively engaged in research in various frontier areas of chemical sciences including natural product chemistry, organic synthesis, organometallic chemistry, coordination chemistry, green chemistry, bioinorganic, nanotechnology, theoretical & computational chemistry and and so on. The syllabus of all the courses were prepared and modified with research-based knowledge and methods including designing the chemical reactions, synthesis, analysis as well as interpretation of data to provide valid conclusions following the NBA pattern in order to attain the PO, PEOs, PSOs and mapping with POs and PEOs.

The faculty members are committed to provide a stimulating learning environment for our students, and also 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. 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

The Chemistry Department is well equipped to run the under-graduate and post-graduate courses, viz., 1-year Chemistry course for BTech, 5-year dual degree BS-MS and 2-year MSc. The Department has intake capacity of 13 students per session for MSc programme and 25 students per session for dual BS-MS programme. The Department also offers PhD programme in hard core chemistry as well as interdisciplinary areas. 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, nanotechnology as well as Theoretical and computational Chemistry.

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. Misra	Indian Science Congress Association; Indian Chemical Society	Life Member	2013 2014
3.	Dr. Mitali Saha	Indian Carbon Society	Life member	2011
		Indian Chemical Society	Life Member	2016

8.4 Research and Consultancy:

Sponsored Research Projects:

Sl. No.	Title	Period	Funding Agency	Amount (in lakhs)	Co-ordinators
1.	Spacial distribution of Uranium and associated water quality parameters of all	01.04.2019 - 31.03.2021	Board of Research in Nuclear Sciences (BRNS), Dept.	Rs. 28,09,300/-	Dr. Tarun Kumar Misra

	districts of Tripura		of Atomic Energy (DAE), Govt. of India		
--	----------------------	--	--	--	--

Research Publications:

Total No. of papers published in Referred International Journals : **20**

Total No. of Book chapters published : **08**

In Refereed International Journals:

1. Jhuma Debbarma, Peetam Mandal & Mitali Saha, "Fruit wastes to N-containing graphene: chemistry and mechanism". Fullerenes, Nanotubes and Carbon Nanostructures, DOI: 10.1080/1536383X.2021.1889517, 2021.
2. Peetam Mandal, Kandarpa Kumar Nath, Mitali Saha, Efficient Blue Luminescent Graphene Quantum Dots and their Photocatalytic Ability Under Visible Light, Biointerface Research in Applied Chemistry, Volume 11, Issue 1, 8171 – 8178, 2021.
3. Debbarma, Jhuma, Peetam Mandal and Mitali Saha. "N-graphene oxide and Nreduced graphene oxide from jujube seeds: Chemistry and mechanism." Fullerenes, Nanotubes and Carbon Nanostructures 28, 702-706, 2020.
4. Mandal, Peetam and Mitali Saha. "Scalable preparation of carbon nanoparticles and graphene nanoflakes using sand paper abrasion." Materialwissenschaft und Werkstofftechnik 51, 1-7, 2020.
5. 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, 1900158, 2020.
6. Naik, Mude Jaya Prakash, Jhuma Debbarma, Mitali Saha and Abha Bhargava, "Graphene oxide nanoflakes from various agrowastes." Materialwissenschaft und Werkstofftechnik 51, no. 3, 261, 2020.
7. 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, 246-249, 2020.
8. M. Majumdar, T.K. Misra and D.N. Roy, 'In vitro anti-biofilm activity of 14-deoxy-11, 12-didehydroandrographolide from Andrographis paniculata against Pseudomonas aeruginosa', Brazilian Journal of Microbiology, 51 (1), 15-27, (2020).
9. M.Majumdar, S.A. Khan, S.C Biswas, D.N. Roy, A.S. Panja and T.K. Misra, 'In vitro and in silico investigation of anti-biofilm activity of Citrus macroptera fruit extract mediated silver nanoparticles' Journal of Molecular Liquids, 302, 112586, (2020).
10. M.Majumdar, A.Dubey, R.Goswami, T.K. Misra and D.N.Roy, 'In vitro and in silico studies on the structural and biochemical insight of anti-biofilm activity of andrograpanin from Andrographis paniculata against Pseudomonas aeruginosa' World Journal of Microbiology and Biotechnology, 36 (10), 1-18, (2020).
11. S.A. Khan, R.Choudhury, M.Majumdar and T.K .Misra, 'Development of dual-tool nanosensor for cysteine based on N-(1-naphthyl) ethylenediamine cation functionalized silver nanoparticles', Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, 234, 118240, (2020).
12. A.Purkayastha, S.Dhar, S.P. Mondal, A.Franconetti, A.Frontera and R.Ganguly, 'Metal-organic architectures driven by a multifunctional 6-aminouracil spacer: structures, noncovalent interactions, and conductivity' Crystal Engineering Communication, 22 (4), 829-840, (2020).

13. T.K.Misra, S.Das, S. Roy, N.B Nandi, S.A. Khan and M. Majumdar, 'Functionalization of silver nanoparticles with 1-naphthol-4-sulfonate for evaluation of ethylenediamine and diethylenetriamine' Journal of Indian Chemical Society, 97 (9b), 1596-1603, (2020).
14. S.A. Khan, R.Choudhury, M.Majumdar, N.B. Nandi, S.Roy, T.K. Misra, Gluconate-Stabilized Silver Nanoparticles as pH Dependent Dual-Nanosensor for Quantitative Evaluation of Methionine and Cysteine' Chemistry Select, 5 (23), 7076-7085, (2021).
15. N.B. Nandi, A.Purkayastha, S.Roy, J.Kłak, R.Ganguly, I.Alkorta and T.K. Misra 'Tetranuclear copper (ii) cubane complexes derived from self-assembled 1, 3-dimethyl-5-(o-phenolate-azo)-6-aminouracil: structures, non-covalent interactions and magnetic property' New Journal of Chemistry, 45 (5), 2742-2753, (2021).
16. 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, 40(3), 898-905, (2020).
17. D. Sadhukhan, P. Ghosh and S. Ghanta, 'Spectroscopic evidence of chirality in tetranuclear Cu(II)-Schiff base complexes, catalytic potential for oxidative kinetic resolution of racemic benzoin', Inorganic and Nano-Metal Chemistry, (2020).
18. M. S. Manna, C. Kumar Das and S. Ghanta, 'Design of CHNO based new hetero-cyclic high energy density molecules: a theoretical survey', Structural Chemistry, 32, 1095-1104, (2021).
19. 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 (IJRTE), 9, 115-121, (2020).
20. S. L. Sunar, K. S. Singh and S. Kundu, 'Synthesis and Spectral Studies of Some Zn(II) Complexes with Substituted N, N-Donor Ligands Derived from Pyridine-2-carbaldehyde' Asian Journal of Chemistry, 32, 122-126, (2020).

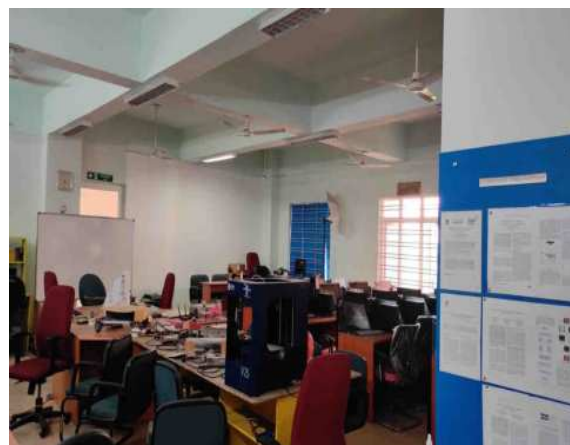
Book chapters Published

Name of the authors published	Title of the books	Date of publication of the	Issue/ Volume No./ page no.
P.Mandal, K.K.Nath, M. Saha	<i>Efficient Blue Luminescent Graphene Quantum Dots and their Photocatalytic Ability Under Visible Light, Biointerface Research in Applied Chemistry</i>	2021	1/11/8171 – 8178
M. Roy and M. Saha	<i>Multiscale Approach toward the Modeling and Simulation of Carbon Nanotubes Networks in Mathematics Applied to Engineering in Action Advanced Theories, Methods, and Models, Edited by Nazmul Islam, Satya Bir Singh, Prabhat Ranjan, A. K. Haghi, CRC Press</i>	2020	chapter-11
P. Mandal and M. Saha	<i>Hollow Nanostructures for K-Ion Batteries, Potassium-ion Batteries: Materials and Applications, Wiley online library</i>	2020	Chapter-7
P. Mandal, M. Saha and A. Bhargava	<i>Hollow nanostructures for application in solar cells, Materials for solar cell technologies, Material Research Forum LLC, USA,</i>	2021	88/129
M. Saha and J. Debbarma	<i>"Graphene nanostructures as nonenzymatic glucose sensor" in Toxic Gas Sensors and Biosensors, Materials Research Forum LLC, Materials Research</i>	2021.	6/92/157-196

	<i>Foundations</i>		
<i>J. Debbarma and M. Saha</i>	<i>Two-dimensional graphene-based nanocomposites for electrochemical sensor, Nanocomposite Materials for Sensors, Bentham Science Publishers</i>	<i>2021</i>	<i>47- 60</i>
<i>P. Mandal and Mitali Saha</i>	<i>Challenges and perspectives of plant-derived green solvents, Green Sustainable Process for Chemical and Environmental Engineering and Science, Elsevier</i>	<i>2021</i>	<i>Chapter-9/157-170</i>
<i>Sajal Kundu^{1*} and Keisham Surjit Singh</i>	<i>“Study of Synthesis, Spectroscopic Characterization and their Antidiabetic Activity of Some Water Soluble Zn(II) Complexes with N,S-donor ligands derived from (E)-N-(Thiophen-2-ylmethylene)anilines” in Current Perspectives on Chemical Sciences</i>	<i>09-September-2020.</i>	

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 inter-disciplinary 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)
- M.Tech in Artificial Intelligence (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
Conference			
1	Dr.Ashim Saha, Nirmalya Kar, Suman Deb	3rd International Conference on Computational Intelligence, Security & IoT (ICCISIoT) 2020	29-30 December 2020

2	Dr.Mrinal Kanti Debbarma	Five Days FDP on Data Science with Machine Learning and Python,Sponsored by AICTE Training and Learning (ATAL) Academy	01-05, February2021
---	--------------------------	--	---------------------

Fellowships of Academics and Professional Societies:

Sl. No.	Name of Faculty	Level	Year
ISTE/ CSI and others			
1.	Dr. Mrinal Kanti Deb Barma	Member, IEEE	
		Corporate Member, IEI(I)	
		Member, IAENG	
		Member, IACSIT	
		Member, SCIEI	
2	DrAshim Saha	Member, IEEE	
		Member, IEI (I)	
		Member, IAENG	
		Member, CSTA	
3	Dr 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 Chairman , IIC and Startup NIT Agartala Chairman SCID	
4	Dr Munesh Chandra	Senior Member, IEEE	
		Executive Committee Member of IEEE, Region-10	
		Life Member, CSI	
		Senior Member,IACSIT	
		Senior Member, ACM	
5	Dr Nirmalya Kar	Member IEEE,	
		Life Membar, CRSI	
		Member IE(I)	
6	Mr Tribid Debbarma	Member IEEE- 92352638 Member ACM-8767872	
7	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	“IoT based Traffic Monitoring System for hilly roads of North-East	01.07.2019 – 31.06.2021	DST	14.47	Dr Ashim Saha

India”;					
---------	--	--	--	--	--

Research Publications:

Total No. of papers published in Refereed International Journals	:	14
Total No. of papers presented in International Conferences	:	8
Total No. of Books published	:	2
Total No. of patents	:	2

In Refereed International Journals:

1. Arindam Debnath, Habila Basumatary, Mili Dhar, Bidyut K. Bhattacharyya & Mrinal Kanti Debbarma “Fuzzy logic-based VANET routing method to increase the QoS by considering the dynamic nature of vehicles”, in Computing, Vol:103, pg-1391–1415, February, 2021.
2. Arindam Debnath, Habila Basumatary, Mili Dhar, Bidyut K. Bhattacharyya & Mrinal Kanti Debbarma A Routing Technique for Enhancing the Quality of Service in Vanet IETE Journal of Research, doi.org/10.1080/03772063.2021.1886879, February, 2021.
3. Habila Basumatary, Arindam Debnath, Mrinal Kanti Debbarma, “Centroid-Based Routing protocol with moving sink node for uniform and non-uniform distribution of wireless sensor nodes” The Journal of Supercomputing, vol77, pg-3727–3751, August, 2020.
4. Habila Basumatary, Mrinal Kanti Debbarma, “Comparative Study on Different Parameters Used for Energy Conservation in Wireless Sensor Networks”, IETE Technical Review, 0256-4602, February, 2021.
5. Smita Das, Dr. Mrinal Kanti Debbarma, “A Comparative Study on Coverage-Hole Detection Improvement with Inner Empty Circle over Delaunay Triangulation Method in Wireless Sensor Networks, Lecture Notes in Networks and Systems” - Communication Software and Networks, LNNS, volume 134, pg 553-561, October, 2020.
6. Anupam Jamatia, Steve Durairaj Swamy, Björn Gambäck, Amitava Das and Swapan Debbarma, “Deep Learning Based Sentiment Analysis in a Code-Mixed English-Hindi and English-Bengali Social Media Corpus”, International Journal on Artificial Intelligence Tools, Vol. 29, No. 05, 2050014 (2020), August, 2020.
7. Nandita Goyal, Munesh Chandra Trivedi, “Breast Cancer classification and Identification using Machine learning approaches”, Elsevier’s Journal -Materials Today Proceedings, October, 2020.
8. Parijata Majumdar, Munesh Chandra Trivedi, “A Study of predictive measures in Neural Network architectures for plant disease detection”, Advances in Intelligent System & Computing (AISC), 2194-5357, January, 2021.
9. Abhrajyoti Das, Abhilash Das & Nirmalya Kar, “A metamorphic cryptography approach towards securing medical data using chaotic sequences and Ramanujan conjecture”, Journal of Ambient Intelligence and Humanized Computing, <https://doi.org/10.1007/s12652-021-02943-1>, February, 2021.
10. Gouranga Mandal, Parthasarathi De, Diptendu Bhattacharya., Real-time fast fog removal approach for assisting drivers during dense fog on hilly roads, Journal of Ambient Intelligence and Humanized Computing, **Vol No:** 12, Issue No: Not Assigned, 1868-5145, January, 2021.
11. Gouranga Mandal, Diptendu Bhattacharya, Parthasarathi De. Real-time fast low-light vision enhancement for driver during driving at night, Journal of Ambient Intelligence and Humanized Computing, Vol No: 12, Issue No: Not Assigned, 1868-5146, February, 2021.

12. Tannistha Pal, "A Fast Method for Defogging of Outdoor Visual Images," Recent Advances in Computer Science and Communications ,Volume 14, Issue 2, pg 416-428, February, 2021.
13. Tannistha Pal, SudhanshuShekharPandey, Arindam Deb, HandCrafted: "An Online Shopping Website of Handicrafts", Journal of Physics: Conference Series, Volume 1804, Issue 1, pg 12079, February, 2021.
14. Tannistha Pal, "A Robust Method for Dehazing of Single Image with Sky Region Detection and Segmentation," International Journal of Image and Graphics, March, 2021.

In Proceedings of International Conference:

1. Vipul Singh Negi, Nirmalya Kar, "Security and Anonymity Aspects in Tails and Windows 10 Operating Systems," ICCISIoT 2020. Communications in Computer and Information Science, Springer, vol 1358, https://doi.org/10.1007/978-3-030-66763-4_17, 188-199, December, 2020.
2. Tamar Das, Nirmalya Kar, "A Novel Cryptographic Approach to Implement Confidentiality Using Point Reflection Property", ICCISIoT 2020. Communications in Computer and Information Science, Springer, vol 1358, pg 178-187, December, 2020
3. Tanu Satija, Nirmalya Kar, "Analysing Social Media Responses in Natural Disaster", ICCISIoT 2020. Communications in Computer and Information Science, Springer, vol 1358 pg 96-107, December, 2020
4. Abhilash Kumar Das, NirmalyaKar, "A Novel Approach of Text Encryption Using Random Numbers and Hash Table," ACeS 2020. Communications in Computer and Information Science, Springer, vol 1347, pg 235-247, February, 2021
5. Amirul Hoque, Jyoti Raj, Ashim Saha, Paritosh Bhattacharjee, "Earthquake Magnitude Prediction Using Machine Learning Technique", Communications in Computer and Information Science, CCIS 1358, pg 37-53, December, 2020
6. Acharjee C., Singhal S., Deb S., "Machine Learning Approaches for Rapid Pothole Detection from 2D Images". in Computational Intelligence, Security and Internet of Things. ICCISIoT 2020. Communications in Computer and Information Science, vol 1358, pp 108-119, December, 2020
7. Nama T., Deb S. , "Intangible Learning Experience Using Leap Motion Controller for Distance Mapping. in Computational Intelligence, Security and Internet of Things". ICCISIoT 2020. Communications in Computer and Information Science, vol 1358 pp 15-23. Springer, Cham. 118pp 719-728 December 2020.
8. Steve Durairaj Swamy, Shubham Laddha, Basil Abdussalam, Debayan Datta, Anupam Jamatia, NIT-Agartala-NLP-Team at SemEval-2020 Task 8: "Building Multimodal Classifiers to Tackle Internet Humor", Proceedings of the Fourteenth Workshop on Semantic Evaluation, pg 1179-1189, December, 2020.

Books Published:

Name of the Authors published	Title of the Books	Date of publication of the Book	Issue/ Volume No./ Page No.
Dr. Nirmalya Kar	Trends in Computational Intelligence, Security and Internet of Things, Part of the Communications in Computer and Information Science book series (CCIS, volume 1358), Springer		

Nirmalya Kar, Ashim Saha, Suman Deb	Trends in Computational Intelligence, Security and Internet of Things	Dec 2020	ISBN: 978-3-030-66763-4
-------------------------------------	---	----------	-------------------------

Patent Published:

<i>Inventor Name</i>	<i>Year</i>	<i>Title</i>	<i>Published source</i>	<i>Patent version no.</i>	<i>Patent application no.</i>
Ashim Saha, Mrinal Kanti Debbarma, Sharmistha Majumder	2021	AN ELECTRONIC SYSTEM FOR WRITING USING CONVENTIONAL ACCESSORIES	Indian Patent Journal	<i>I</i>	<i>202031000360</i>
Dr Munesh Chandra	2021	Novel Algorithm to finding Reduct in Rough Set Theory, Attribute Selection Algorithm ATTRIBUTE SELECTION ALGORITHM	International		

9.5 Institute-Industry Collaboration:

Institute has a MoU with C-DAC. Dr 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:

- Faculties are involved in paper reviewing work of different International Journal, International Conferences.
- Faculties are performing as Expert Speaker in different Seminar Programme.
- Faculties are giving Expert Lecture in the seminar cum workshop.
- Faculties are also invited as Resource person in different workshops.
- Faculties are also External Member of Research Advisory Committee (RAC) and External Expert Member of a Board of Under Graduate Studies (BUGS).

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 65 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 last 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 21 nos. (Part Time: 6, Full Time: 12, Thesis submitted: 3), candidates are carrying out their Ph.D work in the department. The department has awarded 07 (seven) 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	Faculty Development Programme (FDP) on “Renewable Energy Sources: Challenges, Opportunities and Applications” organized under AICTE Training and Learning (ATAL) Academy, New Delhi.	23-27 November 2020
2	Dr. Subhadeep Bhattacharjee		
3	Prof. Ajoy Kumar Chakraborty	Cognitive Skills and Design Thinking	22-26 February, 2021
4	Dr. Arup Ratan Bhowmik		

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
<i>Short-Term Courses</i>			
1.	Dr. Joyashree Das	AICTE sponsored five days' online faculty development programme on NBA accreditation and processes.	8-12 Feb 2021
2.	Dr. Diptanu Das		
3.	Dr. Sharmistha Sharma		
4.	Dr. Diptanu Das	TEQIP-III SPONSORED five days' online short-term course on "Opportunities and Challenges in New Power Distribution Paradigm" (Organized by NIT Silchar)	18 -22 Sept 2020

Honours and Awards obtained:

Sl. No.	Name of Faculty	Name of Award/ Honor	Awarded/ Honored by	Award/Honor for	Date
1.	Dr Arvind Kumar Jain	Best Paper Award	CTAE, Udaipur	Research paper	13-14 March 2021

Fellowships of Academics and Professional Societies:

Sl. No.	Name of Faculty	Level	Year
1.	Dr. Arvind Kumar Jain	Senior Member IEEE (92692111)	2020

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, Dr. Biswanath Bhunia, Bio Engg.
2	Methodology Development for Reducing Failure Rate of 200KVA, 11KV/440V, Distribution Transformers	2019 to 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 : 25

Total No. of papers presented in International Conferences	:	15
Total No. of books/ book chapters published	:	10
Total No. of patents	:	01

In Refereed International Journals:

1. Arijit Datta, Ardhendu Saha “Manifestation of a highly sensitive evanescent wave absorption-based refractive index sensor realized by radiating with an optical Airy beam”. *Optical and Quantum Electronics*, Volume 53, Issue 3, Pages 1-17, 2021.
2. Sharbari Deb, Ardhendu Saha, Asim Asrar, “Ultrashort pulse compression method in bulk BBO crystal using electro-optically tunable cascaded second-order process: a theoretical analysis”, *Applied Physics B*, Volume 127, Issue 2, Pages 1-8, 2021.
3. Abanishwar Chakrabarti, Ardhendu Saha, Sujit K Biswas “Winding open-circuit fault-tolerant operation of single DC-link dual-inverter fed three-phase open-end induction motor drive”. *IET Power Electronics*, 2021
4. R Bhattacharjee, P Dey, A Saha, “An improved Hybrid OTDM-WDM transmission system for effective nonlinearity mitigation utilizing Ti: PPLN waveguide based OPC module”, *Optik - International Journal for Light and Electron Optics*, 2020, Pages 165241.
5. S Das, A Saha, 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.
6. 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.
7. Ruma Debnath, Sharbari Deb, Ardhendu 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.
8. Ankit Paul and Subhadeep Bhattacharjee, ‘Effectuation of biogas based hybrid energy system for cost-effective decentralized application in small rural community’, *Energy* (Elsevier), 203, 1-16, (2020).
9. Rahul Bhattacharjee and Subhadeep Bhattacharjee, ‘Performance of inclined heliostat solar field with solar geometrical factors’, *Energy Sources, Part A: Recovery, Utilization, And Environmental Effects* (Taylor & Francis), DOI: 10.1080/15567036.2020.1784318.
10. Arindam Das, Amit Kar, Chandan Kumar, Mayur Mayur, Ujwal Kumar, Apurva Verma, Souradeep Pal, Aby Joseph, Bikram Das, Prabir Ranjan Kasari, Abanishwar Chakrabarti, Subhadeep Bhattacharjee, ‘TSBC Converter with BESS for DFIG based wind energy conversion system’, *IEEE Transaction on Industry Applications*, DOI: 10.1109/TIA.2020.3022605.
11. R. Banik, P. Das “A Review on Architecture, Performance and Reliability of Hybrid Power System”, *Journal of The Institution of Engineers (India): Series B. Electronic* ISSN: 2250-2114, Print ISSN: 2250-2106 <https://doi.org/10.1007/s40031-020-00473-6>, July(2020).
12. R. Banik, S. Ray, P. Das, A. Biswas “Prediction of Electrical energy consumption based on machine learning technique. “ *Electrical Engineering Electronic* ISSN: 1432-0487 Print ISSN: 0948-7921, DOI: 10.1007/s00202-020-01126-z, October(2020).
13. R. Banik, P. Das, S. Ray, A. Biswas “An improved ANN model for prediction of solar radiation using machine learning approach”, *Applications of Internet of Things (Lecture Notes in Networks and Systems)*, 137, Print ISBN: 978-981-15-6197-9, Online ISBN: 978-981-15-6198-6, https://doi.org/10.1007/978-981-15-6198-6_22, 233-242, August (2020).

14. Y. 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*, Vol. 30, No. 9, pp. e12499, 2020.
15. Arnab Pal, Aniruddha Bhattacharya, Ajoy Kumar Chakraborty " Allocation of electric vehicle charging station considering uncertainties Sustainable Energy, Grids and Networks" ,25, <https://doi.org/10.1016/j.segan.2020.100422>,Mar-21.
16. Arnab Pal, Ajoy Kumar Chakraborty, and Arup Ratan Bhowmik "Optimal Placement and Sizing of DG considering Power and Energy Loss Minimization in Distribution System" *International Journal on Electrical Engineering and Informatics* 12 & 3. <https://doi.org/10.15676 /ijeei. 2020. 12.3.12, 624-653>, Sep-20.
17. Sharma, Navonita, Souradeep Pal, Manas Mishra, Apurva Verma, Ajoy Kumar Chakraborty, Prabir Ranjan Kasari, Bikram Das, and Abanishwar Chakrabarti "OCNOP Control of Grid-Connected Converters for Single-Phase Open Circuit Fault" *IEEE Transactions on Industry Applications*, 57 & 1, <https://doi.org/10.1109/TIA.2020.3033263>, 964 - 976, Oct-20.
18. A. Das, A. K. Kar, B.Das, A. Chakrabarti, Prabir Ranjan Kasari, "TSBC Converter With BESS for DFIG-Based Wind Energy Conversion System" *IEEE Transactions on Industry Applications*, Volume: 56, Issue: 6, 10.1109/TIA.2020.3022605, 6158-6173, Nov.-Dec. 2020.
19. B. Das, N.Panda, Prabir Ranjan Kasari, A. Chakrabarti "A New Grid Interactive 11-Level Hybrid Inverter Topology for Medium-Voltage Application" *IEEE Transactions on Industry Applications*, Volume: 57, Issue: 1, 10.1109/TIA.2020.3040204, 869-881, Jan.-Feb. 2021
20. Diptanu Das, Aniruddha Bhattacharya, Rup Narayan Ray "Scheduling of Hydrothermal System Considering Variable Nature of Water Transportation Delay" *Scientia Iranica*, Articles in Press, DOI:-10.24200/SCI.2020.52887.2936, page-1-44, December, 2020
21. Payel Choudhury , Rup Narayan Ray , Tarun Kanti Bandyopadhyay , Bikram Basak , Muthusivaramapandian Muthuraj , Biswanath Bhunia "Process engineering for stable power recovery from dairy wastewater using microbial fuel cell" *International Journal of Hydrogen Energy*, Volume 46, Issue 4 , <https://doi.org/10.1016/j.ijhydene.2020.06.152>, Pages 3171-3182, 14 January 2021.
22. Payel Choudhury, Biswanath Bhunia, Tarun Kanti Bandyopadhyay, and Rup Narayan Ray "The Overall Performance Improvement of Microbial Fuel Cells Connected in Series with Dairy Wastewater Treatment" DOI: <https://doi.org/10.33961/jecst.2020.01284>, 11-Sep-20.
23. Payel Choudhury , Rup Narayan Ray , Onkar Nath Tiwari , Tarun Kanti Bandyopadhyay , Muthusivaramapandian Muthuraj , Biswanath Bhunia "Strategies for improvement of microbial fuel cell performance via stable power generation from real dairy wastewater" Volume 288 , <https://doi.org/10.1016/j.fuel.2020.119653>, 15 March 2021,
24. A.K. Jain et al., "Design of Grid Connected Micro grid with Solar Photovoltaic Module" doi.org/10.1016/j.matpr.2021.05.228, Materials Today: Proceedings, Elsevier, May 2021.
25. Prasenjit Debnath, Ngangbam Ishwarchandra. "The Rotating Metrics with the Mass Function $\hat{M}(u,r)$ in reference to the Theory of General Relativity". *Indian Journal of Science and Technology (SCI)*, Volume – 14, Issue -15 (2021): Pages - 1184-1188.

In proceedings of International Conference:

1. Rituraj Bhattacharjee, Priyanka Dey, Ardhendu Saha "An Efficient DFG Induced Wavelength Exchanged-OPC Using Only Two Ti: PPLN Waveguides", ICOL-2019:

- Proceedings of the International Conference on Optics and Electro-Optics, Dehradun, India.2021
2. Arijit Datta, Susmita Karmakar, Ardhendu Saha, "Manifestation of an ultra-high sensitive fiber optic microbend sensor realized by shining a Bessel-Gauss beam", SPIE Future Sensing Technologies, Volume 11525, Pages 115250F,2020.
 3. Arijit Datta, Ardhendu Saha, "Multimode interference-based highly sensitive strain sensor by illuminating with a Bessel-Gauss beam" AIP Conference Proceedings, Vol 2281, Issue 1, Pages 020023,2020.
 4. A.K. Jain et al., "A Comparative Evaluation of PV Cable Length on Protection Scheme of Solar Photo Voltaic Systems Considering Pole to Pole Fault" International Conference on "Recent Challenges and Opportunities in Engineering" CTAE, Udaipur during 13-14 March, 2021, organized under TEQIP-III.
 5. A.K. Jain et al., "Experimental Failure Analysis and Investigation of causes for 200 kVA, 11kV/415V Distribution Transformers" RARES 2021, Available on SSRN-Elsevier at <https://hq.ssrn.com/conference=RARES2021>.
 6. Arnab Pal, Soumesh Chatterjee, Aniruddha Bhattacharya, Ajoy Kumar Chakraborty "Optimal Design of Microgrid with Demand Side Management in Presence of Electric Vehicle" 2020 IEEE First International Conference on Smart Technologies for Power, Energy and Control (STPEC)NA , <https://doi.org/10.1109/STPEC49749.2020.9297705>, 1-6, Dec-20.
 7. B.Das, A. Kumar. A. Kumar, Prabir Ranjan Kasari, A. Chakrabarti "MMCC based PMSG for Oceanic Wave Energy Conversion System" IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES), 2020, 10.1109/PEDES49360.2020.9379811, 1-6, 16-19 Dec. 2020
 8. B.Das, A. Kumar. A. Kumar, Prabir Ranjan Kasari, A. Chakrabarti "TSBC Converters for Decouple Control of DFIG in Micro-Hydro Power Plants" IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES), 2020. 10.1109/PEDES49360.2020.9379357, 1-6, 16-19 Dec. 2020.
 9. S. Ruttala, B. Das, A. Chakrabarti, Prabir Ranjan Kasari "Decoupled Control of Asymmetrical Multilevel VSI for Standalone PV Application" IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES). 10.1109/PEDES49360.2020.9379900, 1-6, 16-19 Dec. 2020
 10. A. Chakrabarti, K.Sarkar, S.K.biswas "Generalized Carrier Based Technique for Eliminating CMV in 3-Phase n-level NPC Inverter" IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES), 2020, 10.1109/PEDES49360.2020.9379889, 1-6, 16-19 Dec. 2020
 11. A. Chakrabarti, K.Sarkar, S.K.biswas "A Five-Level Boost NPC Inverter for Electric Vehicle" IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES), 2020. 10.1109/PEDES49360.2020.9379599, 1-6, 16-19 Dec. 2020.
 12. Prasenjit Debnath, "Time in Forward Direction is Associated with Matters only Whereas Time in Reverse Direction is Associated with Anti – Matters: The Time Reverses its Direction at Either Side of the Speed of Light." AIP Conference Proceedings (SCOPUS), Accepted.
 13. Prasenjit Debnath, "The Physical Time in Positive Direction is Associated with Matters only Whereas the Physical Time in Negative Direction is Associated with Anti – Matters." IOP Conference Series (SCOPUS), Volume - 1964, Number – 032002 (2021), Pages – 1 -9 .
 14. Prasenjit Debnath, "We Always Travel at a Constant Speed – at the Speed of Light C ." IOP Conference Series (SCOPUS), Volume - 1964, Number – 072018 (2021), Pages – 1-10.
 15. Prasenjit Debnath, Ngangbam Ishwarchandra, "On the Entropy of a Stationary Black Hole: Due to Extreme Entropy, the Black Hole Radiates Energy to Maintain Proper Balance within the Black Hole.", AIP Conference Proceedings (SCOPUS), Accepted.

Book /Book Chapter Published:

Name of the Authors published	Title of the Book/ book chapter	Date of publication	Issue/ Volume No./ Page No
Dr. Arvind Kumar Jain	Optimal decision making under uncertainty using heuristic approach in restructured power system” in a book entitled “Deregulated Electricity Structures and Smart Grids”.	Accepted for publication	CRC Press, Taylor & Francis Group,
Dr.Subhadeep Bhattacharjee	Book Chapter ‘ <i>Wind Power Technology</i> ’ contributed for Sustainable Fuel Technologies Handbook (Elsevier) (ISBN: 978-0-12-822989-7)	September, 2020	Chapter 5, pp. 121-170
Prasenjit Debnath	“The Basics of Special Relativity Remain Unchanged: It is Merely a Conceptual Modification of the Mass–Energy Equivalence Equation” ISBN: 978-93-91215-53-8,		Chapter 7, Current Approaches in Science and Technology Research Vol. 5, BOOK PUBLISHER INTERNATIONAL, Print ISBN: 978-93-91215-45-3, eBook DOI:10.9734/bpi/castr/v5/9131D
	“On a Macroscopic Scale, Space–Time Symmetry makes Particle's Universe the Same as Anti–Particle's Universe, Whereas Particles on a Microscopic Scale, Charge Symmetry Makes Atom and Anti–Atom the Same” ,		Chapter 8, Current Approaches in Science and Technology Research Vol. 9, BOOK PUBLISHER INTERNATIONAL, Print ISBN: 978-93-91312-54-1, eBook ISBN: 978-93-91312-62-6, DOI: 10.9734/bpi/castr/v9/2383F
	“The Shape of the Higgs Field and the Shape of the Gravitational Field Impacts in Wave Propagation Methods: Scientific Explanation” ,		Chapter 9, Current Approaches in Science and Technology Research Vol. 9, BOOK PUBLISHER INTERNATIONAL, Print ISBN: 978-93-91312-54-1, eBook ISBN: 978-93-91312-62-6, DOI: 10.9734/bpi/castr/v9/2

			385F
	<p>“ Space and Time are Necessary Conditions for the Universe, then Mass and Energy are Sufficient, Anybody can be Transformed into Any Other Condition without Difficulty” ,</p>		<p>Chapter 10, Current Approaches in Science and Technology Research Vol. 9, BOOK PUBLISHER INTERNATIONAL, Print ISBN: 978-93-91312-54-1, eBook ISBN: 978-93-91312-62-6, DOI: 10.9734/bpi/castr/v9/2414F</p>
	<p>“The Entire Life Cycle of the Universe is a 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”</p>		<p>Chapter 11 Current Approaches in Science and Technology Research Vol. 9, BOOK PUBLISHER INTERNATIONAL, Print ISBN: 978-93-91312-54-1, eBook ISBN: 978-93-91312-62-6, DOI: 10.9734/bpi/castr/v9/2474F</p>
	<p>“ Symmetry between Shape and Orbit of Astronomical Bodies” ,</p>		<p>Chapter 9, Newest Updates in Physical Science Research Vol. 8, BOOK PUBLISHER INTERNATIONAL, Print ISBN: 978-93-91312-10-7, eBook ISBN: 978-93-91312-18-3 DOI: 10.9734/bpi/nupsr/v8/10178D</p>
	<p>“ The Uncertainty Principle: A Variable Concept. It Depends on the Complex Physical Time Only” ,</p>		<p>Chapter 10, Newest Updates in Physical Science Research Vol. 8, BOOK PUBLISHER INTERNATIONAL, Print ISBN: 978-93-91312-10-7, eBook ISBN: 978-93-91312-18-3 DOI: 10.9734/bpi/nupsr/v8/</p>

			10214D
	“Space-time Gets Reversed Only for Fermions where as Space-time is Identical for Bosons: Scientific Explanation”		, Chapter 10, Current Approaches in Science and Technology Research Vol. 10, BOOK PUBLISHER INTERNATIONAL, Print ISBN: 978-93-91312-70-1, eBook ISBN: 978-93-91312-78-7, DOI: 10.9734/bpi/castr/v10/2475F

Patent Published:

Inventor Name	Year	Title	Published source	Patent version no.	Patent Application no.
Saptadip Saha, Dr. Priyanath Das	30-01-2021	An multiple power source based electrical drive		357331	201631005530

Distinguished Visitors to the Departments:

Sl No	Name of the Visitors & Designation	Date of visit	Purpose of visit
1.	Prof P.Senthilkumaran, Department of Physics, IIT, Delhi	15-07-2020	PhD defence attended through video conference
2.	Dr. Somnath Pan, Department of EE, Indian School of Mines	12-01-2021	
3.	Dr. Mitresh Kumar Verma, Department of EE, IIT, Bhubaneswar	22-03-2021	

11.0 ELECTRONICS AND COMMUNICATION ENGINEERING DEPARTMENT

11.1 Introduction:

The Department of Electronics & Communication Engineering (ECE) was established in 2007. Since its inception the Department is growing in multidimensional direction in context to UG, PG teaching and PhD research aspects. The department offers a wide range of courses which address almost the entire arena covering Electronic devices, Signal processing, Wireless Communication, VLSI, Nano-electronics, Modern era of Communication, Fabrication and Characterization of Nano Scaled Devices, Image Processing, Advanced Microwave Electronics, Optical Communication, 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 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. Also, number of students are pursuing their higher studies in different reputed Institutions across India and abroad.

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:

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

<i>o.</i>	<i>Name of Faculty</i>	<i>Title</i>	<i>Period</i>
Training:			
1.	Dr. Sambhu Nath Pradhan	'FDP on NBA Accreditation and Processes' organized by NIT Agartala	8th – 12th Feb. 2021
2.	Mr. Anirban Bhattacharjee	'RF & ANTENNA DESIGN USING ANSYS HFSS'	22nd June– 14th July 2020

		organized by Entuple Technologies Pvt. Ltd. In association with IEEE Bangalore Section	
--	--	--	--

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 31st December 2020
IEEE	Dr. Mitra Barun Sarkar	Member, IEEE	Upto 5th March 2022
IEI	Dr. Mitra Barun Sarkar	Member (MIE)	Life time
IAENG	Dr. Apangshu Das	Member	Life time
IEI	Mr. Anirban Bhattacharjee	Member	Life time

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

SL. NO.	LABORATORY	MAJOR DEVELOPMENT
1	VLSI Design Lab	<p>1. Air Quality monitoring system has been designed and developed with easy user interface on mobile application (final product) with two different protocols. That are able to measure Temperature, Humidity, NO₂ gas, CO₂ gas and CO gas.</p> <p>2. Two different ASIC have been designed in the laboratory and have been fabricated in SCL Chandigarh under SMDP-C2SD project and waiting to receive final packaged IC.</p> <p>3. One Patent has been filed for Air Quality monitoring system design with easy user interface on mobile application.</p> <p>4. Working on design and development of high data rate demodulator as a Technology Development Project under Space Technology Incubation Centre funded by ISRO. Till date 380 Mbps speed has been achieved.</p>
2	Embedded System Lab	One Patent has been filed for Microcontroller based Automatic multi-frequency ultrasonic sound generated mosquito repellent.
3	Antenna Lab	Work being carried out on finding applicability of Electromagnetic Metamaterial based Antennas and Circuits suitable for space applications which will give considerable advantage over the conventional antennas and circuits. Thrust area is design, development and fabrication of antennas and circuits with enhanced performance and reduced size for Communication and

		Earth Observation satellite applications. The work is funded by ISRO as a Technology Development Project under Space Technology Incubation Centre (STIC).
4	Nanoelectronics Lab	<p>1. Development of an Integrated, Miniature and Portable Air Pollution Monitoring System (To develop an integrated device to measure major atmospheric pollutants (like SO₂, NO₂, O₃, CH₄, PM_{2.5}, PM₁₀) along with temperature and humidity. The data shall be displayed and analysed using a mobile App). The work is funded by ISRO as a Technology Development Project under Space Technology Incubation Centre (STIC).</p> <p>2. One Patent has been published for System for Agronomy Monitoring and Enhancing an Irrigation Efficiency.</p>

11.5 Research and Consultancy:

Sponsored Research Projects:

<i>Sl. No.</i>	<i>Title</i>	<i>Period</i>	<i>Funding Agency</i>	<i>Amount (in lakhs)</i>	<i>Co-ordinators</i>
1	SMDP-C2SD Project	2015- 2021	MeitY	130.00	Dr. Sambhu Nath Pradhan (CI) and Mr. Biman Debbarma (Co-CI)
2	Design and development of high data rate demodulator	2019-2021	ISRO	13.00	Dr. Sambhu Nath Pradhan (PI), Dr. Tamasi Moyra (CO-PI), Mr. Anirban Bhattarcharjee (CO-PI) and Dr. Abhishek Nag (CO-PI)
3	Applicability of electromagnetic metamaterial in Antennas and microwave circuits for use in space applications	2019-2021	ISRO	24.03520.00	Dr. Tamasi Moyra (PI) And Mr. Anirban Bhattarcharjee (CO-PI)
4	Development of an Integrated Miniature and Portable Air Pollution Monitoring System (APMS)	2019-2021	ISRO	24,43,520	Dr. Mitra Barun Sarkar (PI), Dr. Sambhu Nath Pradhan (CO-PI), Dr. Paritosh Bhattacharya (CO-PI), Dr. Apurba Chakraborty (CO-PI) and Mr. Biman Debbarma (CO-PI)

5	Knowledge Guided GIS based Hydro-geochemical modelling to understand the sources & control of Arsenic (As) contamination in Groundwater of Tripura.	2019-2021	ISRO	21,04,100	Prof. Umesh Mishra (PI), Dr. Priyanka Choudhury (CO-PI) Dr. Susant Kumar Biswal (CO-PI)
---	---	-----------	------	-----------	--

Research Publications:

Total No. of papers published in Refereed International Journals	:17
Total No. of papers presented in National Conference	:01
Total No. of papers presented in International Conferences	:05
Total No. of patents	:02 (Filed) and 01 (Published)

In Refereed International Journals:

1. K. D. Purkayastha, R. K. Mishra, A. Shil and S. N. Pradhan; "IoT Based Design of Air Quality Monitoring System Web Server for Android Platform", International Journal of Wireless Personal Communications; 118, 2921–2940, 2021.
2. A. Bhattacharjee and S. N. Pradhan; NBTI-Aware Power Gating Design with Dynamically Varying Stress Probability Control on Sleep Transistor; Journal of Circuits, Systems, and Computers; 29 (16); 2120004-21200024; 2021
3. S. R. Choudhury and S. N. Pradhan; An Improved Matrix Generation Framework for Thermal Aware Placement in VLSI; IEEE Access; 8 (2020); 216365- 216385; 2020
4. 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; 48 (12); 2202-2218; 2020
5. 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); 2020008-1 to 2020008-23; 2020
6. K. Das, D. Nath and S. N. Pradhan; FPGA and ASIC Realization of EMD Algorithm for Real-Time Signal Processing; IET Circuits, Devices & Systems; 14 (6); 741-749; 2020
7. 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; 6 (4); 26-38; 2020
8. A. Nag, S. Das and S. N. Pradhan; "Low power transistor level synthesis of finite state machines using a novel dual gating technique"; International Journal of Embedded Systems, Inderscience Publishers; 13 (4); 431-438; 2020
9. P. K. Deb, T. Moyra and B. K. Bhattacharyya, "Designing of Miniaturized 4× 4 Butler Matrix Using Coupled Line Coupler and Schiffman Phase Shifter"; Iranian Journal of Science and Technology, Transactions of Electrical Engineering, 45, 259-268, 2020.
10. P. K. Deb, T. Moyra and B. K. Bhattacharyya; "Miniaturized and enhanced bandwidth Marchand balun using CSRR"; IET Microwaves, Antennas & Propagation, 15, 788-796, 2021.

11. A. Nath, R. Raman, V. Kumar Yadav, P. Sannibabu, and M. B. 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), 7668–7675, 2020.
12. A. Nath, and M. B. Sarkar; "Surface-Plasmon-Induced Ag Nanoparticles Decorated In₂O₃ Nanowires for Low Noise Photodetectors"; *Plasmonics*, 16 (1), 37–48, 2021.
13. A. Nath, B. K. Mahajan, and M. B. Sarkar; "Ag Nanoparticles Sheltered In₂O₃ Nanowire as a Capacitive MOS Memory Device"; *IEEE Transactions on Nanotechnology*, 19, 856–863, 2020.
14. V. K. Yadav, A. Nath, A. Das, J. Mazumder, and M. B. Sarkar; "Indium Nanoparticles Capped TiO₂ Nanowire Array for Boosted Photosensing Adoption"; *IEEE Electron Device Letters*, 42, 192–195, 2020.
15. P. B. Saha, D. Ghoshal and R. K. Dash; "Compact Circular CSRR Loaded Koch Fractal Inspired Frequency Band Reconfigurable Antenna"; *Journal of Circuits, Systems and Computers*, 30, 2150075:1-16, 2020.
16. P. B. Saha, D. Ghoshal and R. K. Dash; "A Miniaturized Frequency Reconfigurable Antenna with Half-Mode CRLH-Embedded Metamaterial Arm", *Journal of Electromagnetic Waves and Applications*, 35, 277-290, 2020.
17. P. B. Saha, R. K. Dash and D. Ghoshal, "Triple-band Four-port MIMO Antenna with Reduced Mutual Coupling Using Minkowski-modified Novel Fractal Loop"; *Wireless Personal Communications*, 117, 2253-2271, 2020.

In Proceedings of National Conference:

1. R. K. Singh and A. Chowdhury; "State Feedback based Stability Augmentation System for Airplane Aviation", *National Conference on Electronics, Communication and Computation (NCECC-2020)*; NIT Jamshedpur, 270-277, 5th – 6th September 2020.

In Proceedings of International Conference:

1. K. D. Purkayasth, S. S. Patra and S. N. Pradhan; "Study on Correlation Among the Pollutant Gases and Strategy to Increase the Battery Lifetime of Sensor Network Based Monitoring System", *International Conference on Computational Performance Evaluation (ComPE-2020)*, North-Eastern Hill University (NEHU), DOI:10.1109/ComPE49325.2020.9200084, 260-265, 2nd - 4th July 2020.
2. A. Bhattacharjee and S. N. Pradhan; "Impact of Transistor Aging on the Reliability of the Analog Circuit"; *International Conference on Computational Performance Evaluation (ComPE-2020)*; North-Eastern Hill University (NEHU); DOI:10.1109/ComPE49325.2020.9200055. ; 212-216; 2nd - 4th July 2020
3. S. Singh, A. Nath, R. Raman, R. R. Das, P. Sannibabu and M. B. Sarkar; "A Comparative Study of Temperature Dependency on Electrical Parameters of FinFET for Al₂O₃ and HfO₂ Dielectric Materials"; *International Conference on Applied Mathematics & Computational Intelligence*; NIT Agartala; 1-7; 19th - 20th March 2020
4. P. Sannibabu, A. Nath, R. Raman, S. Singh and M. B. Sarkar; "An evaluation report on Resistive Random-Access Memory"; *International Conference on Applied Mathematics & Computational Intelligence*; NIT Agartala, 1-7, 19th - 20th March 2020.
5. S. Vishwas, S. Saha, M. N. Bhowmik, A. Nath, S. S. Kundu, S.N. Pradhan and M. B. Sarkar, "Design and Development of Arduino Based Portable Air Quality Monitoring System"; *ODICON-2021*, Odisha, DOI: 10.1109/ODICON50556.2021.9428954, 1-4, 17th - 18th January 2021.

Patent Published:

<i>Inventor Name</i>	<i>Year</i>	<i>Title</i>	<i>Published Source</i>	<i>Patent Version No</i>	<i>Patent application No.</i>
Dr. Mitra Barun Sarkar, Ankita Rupam, Abriti Roy	2021	System for Agronomy Monitoring and Enhancing an Irrigation Efficiency	The Office of the Controller General of Patents, Designs and Trade Marks, India		2019310299 93

Distinguished Visitors to the Departments:

Sl. No.	Name of the Visitors and Designation	Date of Visit	Purpose of Visit
1	Dr. Chittaranjan Mandal, Professor, IIT Kharagpur	23rd November 2020	PhD Viva-Voce (Online)
2	Dr. Indranil Sengupta, Professor, IIT Kharagpur	17th February 2021	PhD Viva-Voce (Online)
3	Dr. Rakesh Singh Kshetrimayum, Professor, IIT Guwahati	15th February 2021	PhD Viva-Voce (Online)
4	Dr. Arghya Taraphder, Professor, IIT Kharagpur	9th December 2020	PhD Viva-Voce (Online)

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 Programmes (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
1.	Polarization conversion and rotation using micro-ring resonator and its application to design binary and multi-valued logic circuits in optical domain	09/08/2018 to 08/02/2022	SERB, DST (Govt. of India).	Rs 26.39	Dr. Jayanta Kumar Rakshit
2.	On Finding Suitable Ionospheric Precursors for Earthquakes for North Eastern Region	December 2019 to December 2021	ISRO (Govt. of India),	Rs 10.18	Dr. Jayanta Kumar Rakshit

Research Publications:

Total No. of papers published in Refereed International Journals	11
Total No. of papers presented in International Conferences	2
Total No. of Book Chapters published	01

In Refereed International Journals:

1. D. Nath, P. Dey, A.M. Joseph, **J.K. Rakshit** and J.N. Roy, “Applied Physics A”, 126(8), pp.1-8, August, 2020.
2. C. Nayak, A. Aghajamali, M. Solaimani, **J. K. Rakshit**, D. Panigrahy, K. V. P. Kumar, B. Ramakrishna; “optic”; 222, pp.165290; 7th August, 2020.
3. **J. K. Rakshit**; “Brazilian Journal of Physics”; 50(5), pp.582-593, October, 2020.
4. D. Nath, P. Dey, A. M. Joseph, **J. K. Rakshit**, J.N. Roy; “Optical Materials”; 108, pp.110371, 1st October, 2020.
5. U. Biswas, **J. K. Rakshit**; “Optical and Quantum Electronics”; 52(10), pp.1-16, October, 2020.
6. D. Nath, P. Dey, A. M. Joseph, **J. K. Rakshit**, J.N. Roy; “Optics & Laser Technology”; 131, pp.106393, 1st November, 2020.
7. **J. K. Rakshit**, K. E. Zoiros, G. K. Bharti; “Journal of Computational Electronics”; 20(1), pp.353-367, February, 2021.
8. U. Biswas, **J. K. Rakshit**, J. Das, G. K. Bharti, B. Suthar, A. Amphawan, M. Najjar; “Silicon”; 13, pp.885-892, March, 2021.
9. G. K. Bharti, **J. K. Rakshit**, “Optical Engineering”; 60(3), p.035103, March, 2021.
10. Rituraj Bhattacharjee, **Priyanka Dey**, Ardhendu Saha; “Optik”; 9, 219, pp. 165241, 01 October 2020.
11. Girish Lakhekar, Laxman Waghmare, Prakash Jadhav, **Rupam Gupta Roy**; “IEEE Access”; 8, pp. 109891-109904, 11th June 2020.

In Proceedings of International Conference:

1. U. Biswas, **J. K. Rakshit**, M. P. Singh; “North-Eastern Hill University (NEHU), Shillong”, 2020 International Conference on Computational Performance Evaluation (ComPE); 2-4 July, 2020.
2. M. P. Singh, **J. K. Rakshit**, U. Biswas, G. K. Bharti, A. Tiwari; “2020 International Conference on Computational Performance Evaluation (ComPE)”; North-Eastern Hill University, (NEHU), Shillong, 2-4 July, 2020.

Book Chapter Published:

Name of the Authors published	Title of the Books	Date of publication	ISBN/ISSN/DOI no./ Page No.
Rituraj Bhattacharjee, Priyanka Dey , Ardhendu Saha	ICOL-2019, Proceedings of the International Conference on Optics and Electro-Optics, Dehradun, India	01-03-2021	978-981-15-9259-1, pp. 215-218

13.0 DEPARTMENT OF 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 Skill 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, Communicative Skill Development and Value Education & Ethics 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 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 organized by the faculty members:

Sl. No.	Coordinators	Title	Period (Dd th -Dd th , Month, year)
---------	--------------	-------	---

FDP: 02			
1	Dr. Anirban Dutta, (Course Coordinator)	Five days Online FDP on “Innovation and Start-up Policy” sponsored by AICTE	18 th - 22 nd January, 2021
2	Prof. Debasis Neogi (Course Coordinator) Dr. Anirban Dutta, (Course Coordinator)	Five day online Faculty Development Programme (FDP) on ‘Frugal Innovations and Social Entrepreneurship’.	1 st – 5 th March, 2021
Webinar: 02			
1	Dr. Gyanabati Khuraijam (Organising Secretary)	A Two Day National Webinar on Women Empowerment at Workplace and Beyond	5 th – 6 th Dec, 2020
2	Dr. Rajib Mallik (Organizing Secretary)	Gender Bias and Stereo Typing, Gender Equality and Women’s Right	24 th July, 2021

***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 (Dd th -Dd th , Month, year)
Workshop:			
1	Dr. Gyanabati Khuraijam	Model Curriculum	15-19 March, 2021
2	Dr. Gyanabati Khuraijam	Panicgogy: A Perspective of Online Coaching (IIT Roorkee)	14-18 Dec, 2020
3	Dr. Gyanabati Khuraijam	Pedagogies of Online Teaching and Evaluation: Pre & Post Covid-19 (IIT Roorkee)	7-11 Dec, 2020
4	Dr. Gyanabati Khuraijam	Outcome Based Engineering Education and Accreditation (OBBEA 2020) (NIT Meghalaya)	21-23 Sept, 2020
Conference:			
1	Dr. Gyanabati Khuraijam	Liberty, Oppression and Resistance in Salman Rushdie’s Shalimar The Clown (International Conference)	19-21 Jan, 2021
2	Dr. Gyanabati Khuraijam	Scientific Perspectives in Amitav Ghosh’s Works: An Analysis (Key Note Speaker in International Conference at NIT Meghalaya)	14-18 Dec, 2020
3	Dr. Gyanabati Khuraijam	Salman Rushdie’s Quichotte and Post-truth Condition (International Conference)	20-22 Aug, 2020
4	Dr. Gyanabati Khuraijam	E-education and ICT in India: The Only Way Forward in Covid- 19 Pandemic (International Conference)	26-27 Feb, 2021
5	Dr. Gyanabati Khuraijam	The Impact of Covid-19 Pandemic on Education System in India (International Conference on Covid -19 and Society)	14 Aug, 2020

6	Ms. Jayashree Tripura	Presented a Paper entitled as, "Amitav Ghosh's Gun Island: A Representation of an Evocative Image of Migration and Identity in the Contemporary Era" in A Two day International Virtual Conference on Crossing Borders and Boundaries: Contemporary Trends in Literatures and Language Teaching in The Time of Covid-19.	10th and 11th July, 2020.
7	Ms. Jayashree Tripura	Presented a Paper entitled as "Accentuating Migration, Climate Change and Essentializing the Feminine: A Comparative Study of Amitav Ghosh's <i>Gun Island</i> and Salman Rushdie's <i>Quichotte</i> " in a three-day International Virtual Conference on Gender Studies Organised by Cape Comorin Trust, India and Lavendar Literary Club, India	16-18 September 2020.
8	Ms. Jayashree Tripura	Presented a Paper entitled as, "Amitav Ghosh's The Glass Palace: An Exodus of Migration and War Histories that Diversified Cultural Identities". In a 4 day online conference (COIN-2020) on 'Interdisciplinary Interpretation of Literature' organized by the Department of Humanities and Social Sciences, National Institute of Technology Meghalaya.	14 th December to 18 th December 2020,
Seminar:			
1	Dr. Gyanabati Khuraijam	Women Empowerment Through Nutrition and Health Education (Key Note Speaker)	30-31 Jan, 2021
2	Dr. Gyanabati Khuraijam	Basics of Communication and Its Process (Guest Speaker) National Webinar	8 Dec, 2020
3	Dr. Gyanabati Khuraijam	Conducted National Webinar on Women Empowerment at Workplace and Beyond as Organizing Secretary	5-6 Dec, 2020

13.4 Research and Consultancy :

Sponsored Research Projects:

Industrial Consultancy: 01 (*Revised Final Report submitted on August, 2021*)

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 International Journals	:03
Total No. of Books Chapter published	:04

In Refereed International Journals:

1. Mr. Atri Majumder, Dr. Gyanabati Khuraijam (October, 2020). Salman Rushdie's Quichotte and the Post-truth Condition, Rupkatha Journal on Interdisciplinary Studies in Humanities (Scopus), Vol. 12, No. 5, 1-9, ISSN. 0975-2935.
2. Mr. Atri Majumder, Ms. Jayashree Tripura, Dr. Gyanabati Khuraijam (September, 2020). Negotiating Cultural Spaces Through Language: A Comparative Study of Amitav Ghosh's Sea of Poppies and Salman Rushdie's The Enchantress of Florence, The IUP Journal of English Studies (SCOPUS), Vol. XV, No. 3, 80-91, ISSN 9733728.
3. Dr. Anuradha Nongmaithem (February, 2020). Voices of Women Writers in Manipuri Literature: A Perspective, International journal, Our Heritage, Vol. 68 Issues 30, 10814 to 10818, ISSN: 0474-9030.

Chapters in Edited Book:

1. Ms. Jayashree Tripura, Dr. Gyanabati Khuraijam (February, 2021). Amitav Ghosh's The Hungry Tide: Migration, Displacement and the Crisis for Identity of the Refugees in Their New Homeland, Partition of India and Its Roots and Legacy: Memory and Trauma, 97-105, ISBN. 978 93 90434 68 8.
2. Mr. Atri Majumder, Dr. Gyanabati Khuraijam (August, 2020). Tracing Postcolonial Identities through Svetlana Alexievich's Oral Narratives, Trends in Post-colonial Literature, Language and Culture, ISBN. 978-93-89940-72-5.
3. Dr. Anuradha Nongmaithem (March, 2021). An Inward Journey Into The Poems of Shri N. Biren's "Mapan Naidabasida Ei, Cultural Studies: Essays on Themes & Trends, 11-23, ISBN: 978-93-90970-16-2.
4. Dr. Anuradha Nongmaithem (October, 2020). Towards Understanding Gender Bias and Stereotyping society through the Works of Selected Women Writers of Manipuri Literature, The Quintessence Of Humanistic- Existentialism In Post-Colonial Literature, 14-29, ISBN: 978-81-947388-6-2.

Distinguished Visitors to the Departments :

Sl. No.	Name of the Visitors and Designation	Date of Visit	Purpose of Visit
1	Shri Nitin Sharma, Regional Solution Sales, Director South Asia, BOG Member-IIM Shilong	18 th Jan, 2021	Five days Online FDP on Innovation and Start-up Policy

13.5 Other Activities :

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

14.1 Introduction

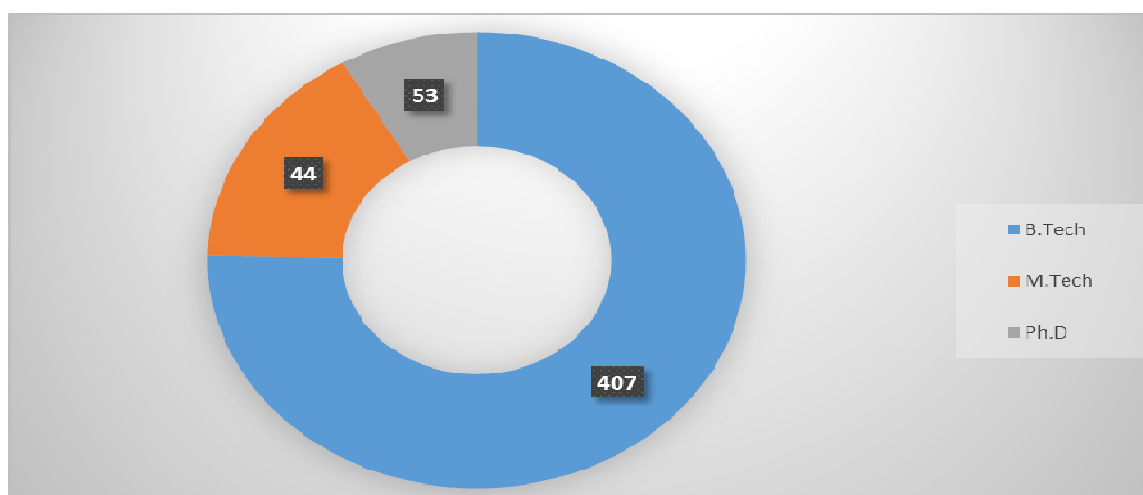
The Department of Mechanical Engineering at NIT Agartala was formed in 1965, when the institute started as a State Engineering College by the name of Tripura Engineering College. Currently, the department has more than 407 students in the B. Tech. programme, 44 students in the M. Tech. programme and 53 Scholars in the Ph.D. programme, which are supported by 27 faculty members and 19 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 efforts to this day has 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 16 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. 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 and 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 5 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 (Dd-Dd) Month, Year
Short Term Course			
1	Prof P Chakraborty & Prof V Tripathy	NBA Accreditation and Processes	08-02-21 to 12-02-21
2	Sagnik Pal, Madhujit Deb & Pritam Das	Biomass and Bioenergy	15-19 March, 2021
3	Sagnik Pal & Madhujit Deb	Engine Combustion and Emission Diagnostics	05-09, October, 2020
4	Sagnik Pal & Madhujit Deb	Energy and Sustainability	3 rd and 4 th August, 2020

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. Ashis Acharjee	Energy and Sustainability	03-04, August, 2020
2	Dr. Ashis Acharjee	Engine Combustion and Emission Diagnostics	05-09, October, 2020
3	Dr. Ashis Acharjee	Biomass and Bioenergy	15-19 March, 2021

4	Durbadal Debroy	Biomass and Bioenergy	15-19 March, 2021
5	Durbadal Debroy	Engine Combustion and Emission Diagnostics	05-09, October, 2020
6	Dr.Manish Bhargava	Advanced Manufacturing Technology conducted by Department of Mechanical Engineering of Indian Institute of Technology Guwahati	December 21 – December 25, 2020.
7	Dr.Manish Bhargava	SUSTAINABLE MANUFACTURING FOR ATMA NIRBHAR BHARAT, M.N.I.T, Jaipur	December 21 – December 25, 2020.
8	Dr.Manish Bhargava	35 th INDIAN Engineering Congress	December 18 – December 20, 2020.
9	Dr.Manish Bhargava	Industry 4.0 and Smart Manufacturing: Opportunities and Challenges” Organized at Dr. B. R. Ambedkar National Institute of Technology, Jalandhar, India	20 - 24 July, 2020
10	Dr.Manish Bhargava	“Hybrid Manufacturing Processes: Opportunities and Challenges” Organized at Dr. B. R. Ambedkar National Institute of Technology, Jalandhar, India	06 - 10 July, 2020
11	Dr.Manish Bhargava	FDP ON “Faculty development Programme”, IIIT-AGARTALA	18-20th June 2020
12	Dr Abhik Majumder	Sustainable Energy technologies : synthesis of alternative fuels, characterization and molecular simulations , organized by IIT Roorkee	7 th to 11 the Dec 2020
13	Dr Abhik Majumder	“Biotechnological Advances and Research” organized by NIT Silchar	22 nd to 26 th 2020
14	Dr. Dipak Chandra Das	NBA Accreditation and Processes	08.02.2021-12.02.2021
Symposia :			
1.	Dr.Manish Bhargava	NEP-2020	14 th August 2020, NIT AGARTALA
2.	Dr.Manish Bhargava	“E-Business and Cyber Security” by JNVU-Jodhpur	June 27-28, 2020
Conference:			
1	Dr.Manish Bhargava	Process Improvement Using Six-Sigma (DMAIC Process) in Bearing Manufacturing Industry: A Case Study”	International Conference on Advances in Materials Processing & Manufacturing Applications (iCADMA 2020) Sponsored by SPARC,

			MHRD & TEQIP-III, NIT Uttarakhand held online on November 5-6, 2020
Short Term Course:			
1.	Dr. Pinku Debnath	Outcome Based Engineering Education and Accreditation (OBEEA 2020)	21 st -23 rd Sept. 2020, NIT Meghalaya
2.	Dr. Pinku Debnath	Engine Combustion and Emission Diagnostics	5 th -9 th Oct. 2020, NIT Agartala
3.	Dr. Pinku Debnath	Computational Fluid Dynamics for Incompressible Flows	9 th -13 th Nov. 2020, IIT Guwahati
4.	Dr. Pinku Debnath	Computational Methods and Analysis for Engineers	18 th -22 nd Nov. 2020, NIT Jalandhar
5.	Dr. Pinku Debnath	Training and Practice on Matlab for Engineering Solutions (TPMES-20)	26 th -30 th Nov. 2020, NIT Jalander
6.	Dr. Pinku Debnath	Atomistic Modelling of Solids: Theory & Applications	21 st -25 th Dec. 2020, IIT Indoor
7.	Dr. Pinku Debnath	Aerospace Technology: Theory and Practice	17 th -21 st Feb. 2021, IIT Guwahati
8.	Dr. Pinku Debnath	Role of Computational Fluid Dynamic for Solution of Industrial Problems.	08 th -12 th March, 2021, NIT Meghalaya
9.	Dr. Pinku Debnath	Fundamentals and Applications of Computational Fluid Dynamics in Fluid-Thermal Systems	13 th -17 th March, 2021, NIT Silchar
10	Dr. Dipak Chandra Das	Aerospace Technology: Theory and Practice (IIT Guwahati)	17.02.2021-21.02.2021

14.3 Research and Consultancy :

Research Publications:

Total No. of papers published in Refereed National Journals	:	2
Total No. of papers published in Refereed International Journals	:	73
Total No. of papers presented in National Conference	:	1
Total No. of papers presented in International Conferences	:	9
Total No. of Books (chapter) published	:	6
Total No. of patents	:	2

In Refereed National Journals:

1. Bhowmik, A., Dey, D., & Biswas, A.; "Indian Journal of Engineering and Materials Sciences", 28(1) 46-54, Feb 2021.
2. Dr. Ashis Acharjee, Co-author: Aditya Ashutosh, Hariom Mishra, Guguloth Nandivardhan, Tamojit Poddar, Nirnimesh De, "Life Cycle Analysis and Design for Sustainability of a Sustainable Renewable Energy System", Journal of Renewable Energy and Resources Mantech Publications, Volume 6 Issue 1, Page: 1-27, January, 2021.

1) In Refereed International Journals:

1. Bhowmik, A., Dey, D., & Biswas, A.; "Microstructure, mechanical and wear behaviour of Al7075/SiC aluminium matrix composite fabricated by stir casting, Indian Journal of Engineering and Materials Sciences", 28(1) 46-54, Feb 2021.
2. Bhowmik, A., Dey, S., Dey, D., & Biswas, A.; "Dry Sliding Wear Performance of Al7075/SiC Composites by Applying Grey-Fuzzy Approach, Silicon", Jan 2021.
3. Bhowmik, A., Dey, D., & Biswas, A.; "Characteristics Study of Physical, Mechanical and Tribological Behaviour of SiC/TiB₂ Dispersed Aluminium Matrix Composite, Silicon"; Jan 2021.
4. Dey, D., Bhowmik, A., & Biswas, A.; "Influence of titanium diboride addition on friction and wear behaviour of Al2024-TiB₂ ex-situ composites, Transactions of Nonferrous Metals Society of China"; 31(5) 1249-1261, Jan 2021.
5. Dey, D., Bhowmik, A., & Biswas, A.; "Characterization of physical and mechanical properties of aluminium based composites reinforced with titanium diboride particulates, Journal of Composite Materials"; 55(14) 1979-1991, Dec 2020.
6. Bhowmik, A., Dey, D., & Biswas, A.; "Comparative Study of Microstructure, Physical and Mechanical Characterization of SiC/TiB₂ Reinforced Aluminium Matrix Composite, Silicon", 13(6) 2003-2010, Jul 2020.
7. Dey, D., Bhowmik, A., & Biswas, A., "Effect of SiC Content on Mechanical and Tribological Properties of Al2024-SiC Composites, Silicon", Oct 2020.
8. Chakrabarti R, Roy J, Biswas P, Saha SC., "Influence of microstructural changes on residual stress characteristics and macro-hardness of submerged arc welded P-91 steel plates. Journal name: Soldagem & Inspeção; 26:e2601, 2021.
9. 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. Journal name: Materials Today: Proceedings"; 2020.
10. P.Jawahar, V.Payak, J.Chandradass, P.Prabhu; "Optimization of mechanical properties of CNT-rubber nanocomposites Materials Today: Proceeding"; Volume 45, Part 7, 2021, Pages 7183-7189, 19/03/2021.
11. J.Chandradass, T.Thirugnanasambandham, P.Jawahar, T.T.M.Kannan; "Effect of silicon carbide and silicon carbide/alumina reinforced aluminum alloy (AA6061) metal matrix composite Materials Today: Proceeding"; Volume 45, Part 7, 2021, Pages 7147-7150, 1/01/2021.
12. J.Chandradass, M.Amutha Surabhi, P.Baskara Sethupathi, P.Jawahar^c, "Development of low cost brake pad material using asbestos free sugarcane bagasse ash hybrid composites Materials Today: Proceeding"; Volume 45, Part 7, 2021, Pages 7050-7057, 01/01/2021.
13. Dr. Ashis Acharjee Co-author: Tushar Gupta, Biplab Bhattacharjee, Suvendu Mohanty and Prasun Chakraborti; "Experimental Investigation of Tribo-Corrosive Nature of Biodiesel and its Effect on Lubricating System" Journal of Bio- and Tribo-Corrosion, Springer Publisher; <https://doi.org/10.1007/s40735-020-00416-0> Page: 1-8, August, 2020.
14. Shankar Swarup Das, Prasun Chakraborti, Prakash Kumar Sarangi, "Fabrication and selection of suitable biomaterials for acetabular liner of hip implants by using TOPSIS method" Materials today proceedings, 27:2134-2145, 12 March 2021.

15. Bhattacharjee, B., Chakraborti, P., & Choudhuri, K.; "Selection of Suitable Lubricant for Sliding Contact Bearing and the Effect of Different Lubricants on Bearing Performance: A Review and Recommendations" *Tribologia - Finnish Journal of Tribology*, 37(3-4), 13-25, 11 December 2020.
16. Biswas, Srijit; Kakati, Dipankar; Roy, Sumit; Chakraborti, Prasun; Banerjee, Rahul; "Exploring the synergistic potential of response surface methodology based multi-objective optimization in the performance-emission-stability trade-off envelope of an existing diesel engine" *Energy Sources, Part A: Recovery, Utilization, and Environmental Effects*, 42:3245-3257, 7 December 2020.
17. Krishanu Gupta, Biplab Bhattacharjee, Sonu Kumar Gupta, Prasun Chakraborti; "Study of natural frequencies of natural rubber cored novel sandwich structure without tip mass" *Structures*, 28:651-658, 15 September 2020.
18. Gupta, T., Bhattacharjee, B., Mohanty, S.; Prasun Chakraborti; "Experimental Investigation of Tribo-Corrosive Nature of Biodiesel and its Effect on Lubricating System" *Journal of Bio- and Tribo-Corrosion*, 6:119-128, 30 August 2020.
19. Chiranjit Bhowmik, Krishanu Gupta, Prasun Chakraborti, "Stability analysis of glass fibre polyamide composite transmission tower" *Journal of Reinforced Plastics and Composites*; 39 (23-24): 918-931, 30 June 2020.
20. 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*, 24: 569-591, 13 June 2020.
21. 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* volume 42, 42:2345-2355, 10 June 2020.
22. Srijit Biswas, Dipankar Kakati, Prasun Chakraborti & Rahul Banerjee; "Exploring The Nox-Soot Emission Trade-Off Of A Single Cylinder Crdi Coupled Diesel Engine With Cng-Diesel Dual Fuel Strategies: A Doe Based Rsm Optimization Approach" *International Journal of Mechanical and Production Engineering Research and Development (IJMPERD)*, 10:116-126, Aug 2020.
23. Sandipan Deb, Sagnik Pal, Dipak Chandra Das, Mantu Das, Ajoy Kumar Das, Ranjan Das; "Surface wettability change on TF nanocoated surfaces during pool boiling heat transfer of refrigerant R-141b", Volume 56, 3273-3287, August, 2020.
24. Dr.Manish &Dr.Sanjay Gaur; "Process Improvement Using Six-Sigma (DMAIC Process) in Bearing Manufacturing Industry: A Case Study, IOP Conference Series: Materials Science and Engineering", 1017 (2021) 012034 IOP Publishing doi:10.1088/1757-899X/1017/1/012034, JAN-2021.
25. Suman Dey, NarathMoniReang, Pankaj Kumar Das, Madhujit Deb, "Comparative study using RSM and ANN modelling for performance-emission prediction of CI engine fuelled with bio-diesohol blends: A fuzzy optimization approach", *Fuel (Elsevier)*, Volume-292, 120356, 14 February 2021.
26. Suman Dey, NarathMoniReang, Pankaj Kumar Das, Madhujit Deb; "A comprehensive study on prospects of economy, environment, and efficiency of palm oil biodiesel as a renewable fuel *Journal of Cleaner Production (Elsevier)*"; Volume 286, 124981, 6 November 2020.
27. Suman Dey, NarathMoniReang, Madhujit Deb, and Pankaj Kumar Das; "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, *Energy Sources, Part A: Recovery, Utilization, and Environmental Effects (Taylor and Francis)*", <https://doi.org/10.1080/15567036.2020.1767234>, 26 May 2020.
28. Suman Dey, NarathMoniReang, ArindamMajumder, Madhujit Deb, Pankaj Kumar Das; "A hybrid ANN-Fuzzy approach for optimization of engine operating parameters of a CI engine fueled with diesel-palm biodiesel-ethanol blend *Energy (Elsevier)*"; Volume 202, 117813; 8 May 2020.

29. Ranit Karmakar, Pabitra Maji, Subrata Kumar Ghosh; "A Review on the Nickel Based Metal Matrix Composite Coating Metals and Materials International", 27:2134–2145, 22 September 2020.
30. SVVN Siva Rao, Tharra Bhavani, Rahul Kanti Nath, Pabitra Maji, Subrata Kumar Ghosh, John Deb Barma; "Surface Modification By Electro-Discharge Machining Using Powder Metallurgy Electrode: A Review"; September, 2020, *Surface Review and Letters* DOI: <https://doi.org/10.1142/S0218625X2030004X>.
31. Aparesh Datta, Santosh Sah, Arindam Majumder, Nirmalendu Biswas, Dipankar Sanyal; "Designing Interrupted Microchannel Heat Sink with Ribbed Microchambers by Single and Bi-objective Optimizations of Numerical Results Journal of Thermal Analysis and Calorimetry", Online first (<https://doi.org/10.1007/s10973-020-10510-7>), 15 February 2021.
32. Sushmita Sharma, Apu Kumar Saha, Arindam Majumder, Sukanta Nama; "MPBOA-A novel hybrid butterfly optimization algorithm with symbiosis organisms search for global optimization and image segmentation Multimedia Tools and Applications"; Volume 80, 12035–12076, 08 January 2021.
33. Sooraj Kunnin Mukalil, Sameer Sheshrao Gajghate, Abhik Majumder, Bidyut Baran Saha, Swapan Bhaumik; "Numerical and Experimental Analysis of Pool Boiling Heat Transfer Using Graphene Nanofluid"; 2020/10/22.
34. Kevin Alexander, Sameer Sheshrao Gajghate, Anil Shankar Katarkar, Abhik Majumder, Swapan Bhaumik, "Role of nanomaterials and surfactants for the preparation of graphene nanofluid: A review", 2020/12/17.
35. Pinku Debnath & K M Pandey, "Numerical Investigation of Detonation Combustion Wave Propagation in Pulse Detonation Combustor with Nozzle, Advances in Aircraft and Spacecraft Science, an International Journal, ISSN: 2287-528X"; Vol. 7, No. 3, pp. 187–202, May, 2020.
36. Pinku Debnath & K M Pandey; "Numerical Analysis of Detonation Combustion Wave in Pulse Detonation Combustor with Modified Ejector with Gaseous and Liquid Fuel Mixture, Journal of Thermal Analysis and Calorimetry, ISSN: 1388-6150", Vol.145, Issue-6, pp. 3243–3254, June, 2020.
37. Pinku Debnath & K M Pandey; "Effect of Operating Parameters on Application Based Performance Analysis of PDC: A Recent Review, Materials Today: Proceedings, ISSN: 2214-7853"; Vol:45, Page: 6702–6707; January, 2021.
38. Durjyodhan Sethi, Uttam Acharya, Shashank Shekhar, Barnik Saha Roy; "Applicability of unique scarf joint configuration in friction stir welding of AA6061-T6: Analysis of torque, force, microstructure and mechanical properties & Defence Technology"; doi.org/ 10.1016/j.dt.2021.03.010; 2021/3/17.
39. ShirsenduDas^aUttamAcharya^bS.V.V.N. SivaRao^bSwarupPaul^aBarnik SahaRoy^b; "Assessment of the surface characteristics of aerospace grade AA6092/17.5 SiCp-T6 composite processed through EDM & CIRP Journal of Manufacturing Science and Technology"; 33 / 123–132 10.1016/j.cirpj.2021.03.005; 2021.
40. Sudhir Kumar, James D Jafrey Daniel, Barnik Saha Roy; "Friction stir welding of glass filled Nylon 6 composite sheets using double step shoulder tool & Materials Today: Proceedings"; 44/ 2511–2516; 2021/1/1.
41. Sudhir Kumar, D Jafrey Daniel James, K Panneerselvam, Barnik Saha Roy; "Tribological studies of glass filled Nylon 6 composites in self-mated contacts and against AISI D2 steel disc& Materials Today: Proceedings"; 44/ 1939–1943; 2021/1/1.
42. Tinu P Saju, R Ganesh Narayanan, Barnik Saha Roy; "Joining dissimilar grade aluminum alloy sheets using multi-hole dieless friction stir riveting process & The International Journal of Advanced Manufacturing Technology"; 112/1/285–302, 2021/1.
43. Uttam Acharya, Barnik Saha Roy, Subhash Chandra Saha; "On the role of tool tilt angle on friction stir welding of aluminum matrix composites & Silicon"; 13/1/79–89, 2021/1.
44. Surendra Kumar Patel, Virendra Pratap Singh, Barnik Saha Roy, Basil Kuriachen; "Recent research progresses in Al-7075 based in-situ surface composite fabrication

- through friction stir processing: A review & Materials Science and Engineering: B"; 262/114708; 2020/12/1.
45. Tanmoy Medhi, Syed Abou Iltaf Hussain, Barnik Saha Roy, Subhash Chandra Saha; "Selection of best process parameters for friction stir welded dissimilar Al-Cu alloy: a novel MCDM amalgamated MORSM approach & Journal of the Brazilian Society of Mechanical Sciences and Engineering"; 42/10/1-22, 2020/10.
 46. 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"; 56/5/998/1007; 2020/9.
 47. Sanjeev Kumar, Uttam Acharya, Durjyodhan Sethi, Tanmoy Medhi, Barnik Saha Roy, Subhash Chandra Saha; "Effect of traverse speed on microstructure and mechanical properties of friction-stir-welded third-generation Al-Li alloy & Journal of the Brazilian Society of Mechanical Sciences and Engineering"; 42/8/1-13, 2020/8.
 48. Tapash Choudhury, Arijit Ghorai, Tanmoy Medhi, Uttam Acharya, Barnik Saha Roy, SC Saha; "Study of microstructure and mechanical properties in friction stir welded aluminum copper lap joint & Materials Today: Proceedings"; 2020/4/29.
 49. Uday Kumar, Anurag Prajapati, Uttam Acharya, Tanmoy Medhi, Barnik Saha Roy, S. C. Saha; "Welding condition & microstructure of friction stir welded AA 6061-T6 and AZ31B & Materials Today: Proceedings"; 2020/4/6.
 50. 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 SiC_p-T6 composite plates and its consequences on the mechanical property of the joint & Defence Technology"; 16/2/ 381-391, 2020/4/1.
 51. Tanmoy Medhi, Barnik Saha Roy, Subhash Chandra Saha; "An experimental investigation on the influence of rotational speed on microstructure and mechanical properties of friction stir welded dissimilar Al-Cu joints & International Journal of Materials and Product Technology"; 60/2-4/ 236-259, 2020/09.
 52. Vamsikrishna Kolli , Sastry Gadepalli , John Debbarma , Peetam mandal & Sreeram Barathula; "Experimental analysis on performance, combustion & emissions of a diesel engine fueled by Aegle marmelos seed oil biodiesel with additives: Graphene Nanosheets and oxygenated diethyl ether", Energy Sources, Part A: Recovery, Utilization, and Environmental Effects, DOI: 10.1080/15567036.2020.1783393; June, 2020.
 53. Rahul Kanti Nath, Vinayak Jha, Pabitra Maji, John Deb Barma; "A novel double-side welding approach for friction stir welding of polypropylene plate"; The International Journal of Advanced Manufacturing Technology, DOI: <https://doi.org/10.1007/s00170-021-06602-9>, January 2021.
 54. A. Banik, A. Saha, J. Deb Barma, U. Acharya, S.C. Saha; "Determination of best tool geometry for friction stir welding of AA 6061-T6 using hybrid PCA-TOPSIS optimization method"; Measurement, DOI: <https://doi.org/10.1016/j.measurement.2020.108573>; March 2021.
 55. A.Datta, D. Debbarma, N.Biswas, D.Sanyal, A. K. Das; "The role of flow structures on the thermal performance of microchannels with wall features"; *J. Therm. Sci. Engg. App.*, 13(2), 021019, 2020. (ASME); December 2020.
 56. S. Deb, M. Das, D.C. Das, S. Pal, A.K. Das, R. Das; "Significance of surface modification on nucleate pool boiling heat transfer characteristics of refrigerant R-141b"; *Int. J. Heat Mass Transfer*, Vol. 170, pp. 120994-1-16, 2021. (Elsevier); Jan 2021.
 57. Manoj Kr. Triveni, Rajsekhar Panua, "Natural and Mixed Convection Study of Isothermally Heated Cylinder in a Lid-Driven Square Enclosure Filled with Nanofluid"; DOI: *Arabian Journal for Science and Engineering* volume 46, pages2505-2525 (2021), January 2021.

58. **Subrata Bhowmik**, Abhishek Paul, Subrata Kumar Ghosh, Rajsekhar Panua; "Performance, combustion and emission characteristics of a diesel engine fueled with diesel-kerosene-ethanol: A multi-objective optimization study"; *Energy* 211(10163); July 2020, *Energy* 211(10163).
59. Banerjee, P., Peterson, T. R., Liles, M. J., Banerjee, R., & Peterson, M. J.; "How key sociodemographic and spatial variables influence stakeholders' social control frames regarding natural resource conservation in East Sikkim, India"; *Biological Conservation*, 245, 108528, 2020.
60. Biswas, S., Kakati, D., Chakraborti, P., & Banerjee, R.; "Exploring the nox-soot emission trade-off of a single cylinder crdi coupled diesel engine with cngdiesel dual fuel strategies: A DoE based RSM optimization approach"; *International Journal of Mechanical and Production Engineering Research and Development*, 10, 116-126; 2020.
61. Biswas, S., Kakati, D., Roy, S., Chakraborti, P., & Banerjee, R.; "Exploring the synergistic potential of response surface methodology based multi-objective optimization in the performance–emission–stability trade-off envelope of an existing diesel engine"; *Energy Sources, Part A: Recovery, Utilization, and Environmental Effects*, 1-25, 2020.
62. Kakati, D., Biswas, S., & Banerjee, R.; "Parametric sensitivity analysis of split injection coupled varying methanol induced reactivity strategies on the exergy efficiency enhancement and emission reductions objectives in a biodiesel fuelled CI engine"; *Energy*, 225, 120204, 2021.
63. Kakati, D., BISWAS, S., ROY, S., & BANERJEE, R.; "An Investigation of the Optimal Fuel Injection Strategy in an Existing Diesel Engine-A CFD Coupled RSM Optimization"; *International Journal of Mechanical and Production Engineering Research and Development*, 10, 29-38; 2020.
64. Kumar, N., Yadav, V. S., & Banerjee, R.; "Optimizing emission characteristics of a GDI engine using grey Taguchi methodology"; *Materials Today: Proceedings*, 44, 4227-4232, 2021.
65. Gajghate, S. S., Bandurkar, A. V., Das, S., Saha, B. B., & Bhaumik, S.; "Effect of ZrO₂ nanoparticle deposited layer on Pool boiling heat transfer enhancement"; *Heat Transfer Engineering* 42(13-14), 1184-1202; June 2020.
66. Gajghate, S. S., Vashistha, S., Saha, B. B., & Bhaumik, S.; "Experimental and numerical investigation of pool boiling heat transfer over different thickness of graphene–poly (3, 4-ethylenedioxythiophene): poly (styrenesulfonate) layers on copper heater surface"; *Heat Transfer Engineering* 42(13-14), 1203-1222; June 2020.
67. Kiyomura, I. S., Nunes, J. M., de Souza, R. R., Gajghate, S. S., Bhaumik, S., & Cardoso, E. M.; "Effect of microfin surfaces on boiling heat transfer using HFE-7100 as working fluid. Journal of the"; *Brazilian Society of Mechanical Sciences and Engineering* 42(7), 1-13; June 2020.
68. Alexander, K., Gajghate, S. S., Katarkar, A. S., Majumder, A., & Bhaumik, S.; "Role of nanomaterials and surfactants for the preparation of graphene nanofluid"; *Materials Today: Proceedings*, 44(1), 1136-1143; Dec 2020.
69. Katarkar AS, Majumder B, Pingale AD, Belgamwar SU, Bhaumik S; "A review on the effects of porous coating surfaces on boiling heat transfer"; *Materials Today: Proceedings*; 2020 Nov 3.
70. Pinni KS, Katarkar AS, Bhaumik S.; "A review on the heat transfer characteristics of nanomaterials suspended with refrigerants in refrigeration systems"; *Materials Today: Proceedings*; 2020 Dec 30.
71. Gajghate, S. S., Barathula, S., Cardoso, E. M., Saha, B. B., & Bhaumik, S.; "Effect of staggered V-shaped and rectangular grooves copper surfaces on pool boiling heat transfer enhancement using ZrO₂ nanofluids"; *Journal of the Brazilian Society of Mechanical Sciences and Engineering*, 43(2), 1-23, Jan 2021.

72. Ghosh, N., Gajghate, S. S., Pal, S., & Bhaumik, S.; "Design, Fabrication and Experimentation of Aqua Silencer for Diesel Genset", *Recent Advances in Mechanical Engineering* (pp. 463-475). Springer, Singapore; Jan 2021.
73. Shailesh S. Kadre, Vipin K. Tripathi, Hoi Huynh Tan, "Refined Advanced Surrogate Assisted Multi-Objective Optimization Algorithm- RASAMO", *Elementary Education*, 2021; Vol 20 (Issue 5): pp. 2374-2388.

In Proceedings of National Conference:

1. Pabitra Maji, Ranit Karmakar, Rahul Kanti Nath, RK Bhogendro Meitei, Subrata Kumar Ghosh; "RDMPMC 2020"; NIT Jamshedpur; 26th-27th August, 2020.

In Proceedings of International Conference:

1. Geetha Rajamani Jawahar Paulraj; "35th Indian Engineering Congress"; Engineering Self Reliance and Sustainable Goals; 18-20, December 2020.
2. Shankar Swarup Das, Prasun Chakraborti; "AIP Conference Proceedings"; Sikkim; 02 November 2020.
3. Alok Ranjan, Sagnik Pal, Madhujit Deb; "ICRAME"; NIT, Silchar; 7th – 9th Feb, 2021.
4. Dr.Manish Bhargava & Dr.Sanjay Gaur; "IOP Conference Series: Materials Science and Engineering"; M.N.I.T, Jaipur, Jan-2021.
5. Priya Chaudhary, Abhik Majumder; "ICoFT 2020 - Recent Advances in Manufacturing, Automation, Design and Energy Technologies"; "NIT PUDUCHERRY"; 28th - 30th December 2020.
6. Pravin Madane, **Subrata Bhowmik**, Varma Penmatsa, Rajsekhar Panua, "Artificial Neural Network Prediction Based Performance and Exhaust Emission Study of Variable Compression Ratio Engine with Undi Ethyl Ester Diesel Blends: A Fuzzy Based Optimization"; AIP Conference Proceedings 2311(1):20023; December 2020, DOI: 10.1063/5.0034402.
7. Pal, S., Gajghate, S. S., & Bhaumik, S.; "International Conference on Computational Intelligence, Security and Internet of Things (pp. 81-95). Springer"; Comparison of GEP and ANN Method with Experimental Data to Forecast the Laminar Fluid Stream and Heat Transmission Characteristics Through a Tube with Spiral Ribs and Twisted Tapes; Dec 2020.
8. Gajghate, S. S., Barathula, S., Saha, B. B., & Bhaumik, S.; "AIP Conference Proceedings (Vol. 2311, No. 1, p. 090014). AIP Publishing LLC"; Hybrid Taguchi-Fuzzy technique for prediction of boiling heat transfer coefficient of saturated liquids on ZrO₂ coated copper surface; Dec 2020.
9. Pranoti Shinde, Dr S. S. Ohol, Dr Vipin K. Tripathi; "International Conference Recent Advances In Renewable Energy Sources"; Engineering College Banswara; 26 - 27 Feb 2021.

Book chapter Published:

S.No.	Name of the Authors published	Title of the Book Chapter	Date of publication of the Book chapter	Issue/ Volume No./ Page No.
1	Pushpendra Gupta ^{1*} , Joydeep Roy ² and S. C. Saha ³	Effect of Boron Trioxide Enriched Fluxes on the Microstructure and Mechanical Properties in	2020	DOI: 10.9734/bpi/aaer/v1/7077D

		Submerged Arc Welded Mild Steel Plates		
2	Sagnik Pal, Sameer S Gajghate, Swapan Bhaumik	Comparison of GEP and ANN Method with Experimental Data to Forecast the Laminar Fluid Stream and Heat Transmission Characteristics Through a Tube with Spiral Ribs and Twisted Tapes	December 2020	volume 1358, pp 81-95
3	Neelutpal Ghosh, Sameer S Gajghate, Sagnik Pal, Swapan Bhaumik	Design, Fabrication and Experimentation of Aqua Silencer for Diesel Genset	Jan-21	pp 463-475
4	Das A., Tharra B., Siva Rao Sammeta V.V.N., Barma J.D.	Attribute of SiC Powder Additive Mixed EDM on Machining Performance and Surface Integrity Aspects of Inconel 625	January, 2021	DOI: https://doi.org/10.1007/978-981-15-7711-6_86 Online ISBN: 978-981-15-7711-6
5	Vivek Kumar Mishra Subrata Bhowmik Abhishek Paul <u>Rajsekhar Panua</u>	ANFIS Prediction of Performance and Exhaust Emission Characteristics of CRDI Engine Fueled with Diesel-Butanol Strategies		DOI: 10.1007/978-981-15-7711-6_2
6	Vivek Kumar Mishra Subrata Bhowmik Abhishek Paul <u>Rajsekhar Panua</u>	AI-Based ANN Modeling of Performance-Emission Profiles of CRDI Engine under Diesel-Karanja Strategies		January 2021 DOI: 10.1007/978-981-15-7711-6_1

Patent Published:

S.No.	Inventor Name	Year	Title	Published source	Patent version no.	Patent application no.
1	Dr. Prasun Chakraborti and Shankar Swarup Das	2021	Novel polymeric blend for making biological joint prosthesis and method of making the same	www.ipindia.gov.in	17/2021	2019310427 37 A
2	Dr. Apurba Das,	2020	REGENERATIVE HORN	www.ipindia.nic.in	42/2020	2020310414 98 A

	Tanumoy Karmakar, Pankaj Kumar Sarkar, Dr. Saurav Das, Dr. Ankuran Saha, T. Paramesh					
--	---	--	--	--	--	--

14.4 Institute – Industry Collaboration:

Sl. No.	Name of Faculty	Date of Venue	Role	Venue
1.	Dr. Prasun Chakraborti	09/10/2020	MOU between NIT Agartala and IIT Kanpur for Centre for Ganga River Basin Management and Studies.	NIT Agartala and IIT Kanpur
2.	Dr. Prasun Chakraborti	18/08/2020	MOU between NITA and NIT Warangal.	NITA and NIT Warangal.

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 viz. Engineering Mathematics, Numerical Methods, Operation Research, Statistical method, Advanced Topology, Mathematical Modelling and Simulation etc. Department of Mathematics is now one of the premiere Departments of NIT Agartala had offered M.Sc. in Mathematics and currently offering both UG and PG (BS-MS Mathematics, BS-MS Mathematics & Computing and M.Sc. in Mathematics & computing) level courses and collaborative Ph.D programme.



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 & Computing, 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 Ph.D. programme in Mathematics admitting both full time and part time scholars.

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, Soft Computing etc. The Department is

looking forward to offer a new course on “BTMT in Computational Mathematics” in the upcoming academic session 2022-2023.

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

Sl. No.	Co-ordinator	Title	Period (Dd th – Dd th Month, Year)
Short Term Courses			
1.	Dr. Baby Bhattacharya	AICTE Sponsored Five days online Faculty Development Programme On “Model Curriculum as prescribed by the AICTE”	18 th – 22 nd January 2021
2.	Dr. Uttam Kumar Bera	“International Conference on Applied Mathematics and Computational Intelligence” (ICAMCI – 2020)	23 rd – 24 th December 2020
3.	Dr. Uttam Kumar Bera	“Mathematical modelling in the context of Corona and the Global Crisis”	22 nd – 23 rd September 2020

15.4 Research and Consultancy:

The faculty members of the Department are doing an extensive research in fields related to Topology, Generalized fuzzy topological space, Inventory management (Operations Research), Bi-topology, MCDM, Fuzzy control system, Fuzzy optimization, Computational Fluid dynamics, Inventory control, Mathematical Modelling and Simulation, Graph theory, ODE & PDE, Super-symmetric Quantum Mechanics, Water wave mechanics, Heat transfer, Convection, Numerical methods, Neural network, Wireless network, Image processing etc. Faculty members are also doing collaborative research with faculties of other Departments as well as other Institutes. Moreover 22 (approximately) research scholars are pursuing their Ph.D. in the Department in different research areas. Presently five (05) Sponsored Research Projects are ongoing in the Department.

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 – 2022	BRNS	26.30	Dr. Uttam Kumar Bera (Co-PI)
2.	Long Term Trend in Weather Parameters and Atmospheric Chemistry and its Effect on Tea Cultivation over North-East India.	2019 – 2022	Indian Space Research Organisation (ISRO), Dept. of Space, GOI	19.804	Dr. Paritosh Bhattacharya (Joint PI)

3.	Nonlinear plasma wave dynamics in unbounded planar or bounded non-planar geometry.	2019 - 2021	CSIR	14.11	Dr. Uttam Kumar Bera (Co-PI)
4.	Design Development & Demonstration of Solar Dryer Suitable for Drying Natural Rubber Sheets in North East India.	2017 - 2021	Ministry of New and Renewable Energy (MNRE), New Delhi	21.40	Dr. Paritosh Bhattacharya (Joint PI)
5.	A study on deterministic model for HIV/ AIDS through Stability Analysis and Approximate Analytical Method.	2019 - 2020	AICTE - NPIU	4.18	Dr. Paritosh Bhattacharya (Joint PI)

Research Publications:

Total No. of papers published in Refereed International Journals : 53

In Refereed International Journals:

1. A. Paul, T. Dhar, S. P. Maiti and P. Bhattacharya, 'Adaptive Clip-Limit Based BiHistogram Equalization Algorithm for Infrared Image Enhancement', in Applied Optics, 59(28), 9032-9041, (2020).
2. A. Singh, A. Das, U. K. Bera and G. M. Lee, 'Prediction of transportation costs using trapezoidal neutrosophic fuzzy analytic hierarchy process and artificial neural networks', IEEE Access, 9, 103497-103512, (2021).
3. A. Singh, D. Sarma and U. K. Bera, 'Rough-interval in a two-stage solid transportation problems and its solution', International Journal of Logistics Systems and Management, 35(4), 466-485, (2020).
4. A. Tarafdar, J. Mondal, U. K. Bera and B. K. Bhattacharya, 'A PVT Aware Differential Delay Circuit and its Performance Variation due to Power Supply Noise', Integration, 76, 159-171, (2021).
5. B. Das, A. K. Saha and B. Bhattacharya, 'Some Remarks on Fuzzy Infi Topological Spaces', Proyecciones Journal of Mathematics, 40(2), 399-415, (2021).
6. B. Das, B. Bhattacharya and A. K. Saha, 'Some Remarks on Fuzzy Infi Topological Spaces', Revista Proyecciones Journal of Mathematics, 40(2), 399-415 (2021).
7. B. Das, B. Bhattacharya, J. Chakraborty and B. C. Tripathy, 'Generalized fuzzy closed sets in a fuzzy bitopological space via γ -open sets', Afrika Matematika, 32(3), 333-345, (2020).
8. B. Das, B. Bhattacharya, J. Chakraborty and B. C. Tripathy, 'Generalized fuzzy closed sets in a fuzzy bitopological space via γ -open sets', Afrika Matematika, 32(3), 333-345, (2020).
9. B. Das, B. C. Tripathy, P. Debnath and B. Bhattacharya, 'Almost Convergence of Complex Uncertain Double Sequence', Filomat, in press., (2020).
10. B. Das, B. C. Tripathy, P. Debnath and B. Bhattacharya, 'Characterization of Statistical Convergence of Complex Uncertain Double Sequences', Analysis and Mathematical Physics, 71(4), 1-20. (2020).
11. B. Das, B. C. Tripathy, P. Debnath and B. Bhattacharya, 'Statistical Convergence of Complex Uncertain Triple Sequences', Comm in Stat Theo Meth, (2020).

12. B. Das, B. C. Tripathy, P. Debnath and B. Bhattacharya, 'Study of Matrix Transformation of Uniformly Almost Surely Convergent Complex Uncertain Sequences', *Filomat*, 34(14), 4907-4922, (2020).
13. B. Das, B. C. Tripathy, P. Debnath, J. Nath and B. Bhattacharya, 'Almost Convergence of Complex Uncertain Triple Sequences', *Proceedings NASA*, 91(2), 245-256, (2021).
14. B. Das, J. Chakraborty, G. Paul and B. Bhattacharya, 'A new approach for some applications of generalized fuzzy closed sets', *Computational and Applied Mathematics*, 40(44), 1-14, (2021).
15. B. K. Debnath, P. Majumder and U. K. Bera, 'A FEPQ model of sustainable items with time and stock dependent demand under trade credit policy', *International Journal of Operation Research*, 41, 27-52, (2021).
16. Bhowmik, J. Pal, P. Sen, M. Goswami, A. K. Saha and B. Sen, 'Systematic Cell placement in Quantum-dot Cellular Automata Embedding Underlying Regular Clocking Circuit', *IET Circuits, Devices & Systems*, 15(2), 156-167 (2021) .
17. D. Sarma, A. Das, P. Dutta and U. K. Bera, 'A cost minimization resource allocation model for disaster relief operations with an information crowdsourcing-based MCDM approach', *IEEE Transactions on Engineering Management*, (2020).
18. J. Nath and D. Bhattacharya, 'Solution of a portfolio selection problem using linear model, *Int. J of Maths and Stat Invention (IJMSI)*, 8(7), 36-50, (2020).
19. J. Nath, B. C. Tripathy, P. Debnath and B. Bhattacharya, 'Strongly Almost Convergence in Sequence of Complex Uncertain Variables', 1-16, (2021).
20. J. Nath, S. Banik and D. Bhattacharya, 'Portfolio optimization in share market using multiobjective linear programming', *International Journal of Math and Comp Research*, 08, 2112 – 2123, (2020).
21. J. Pal, A. K. Pramanik, J. S. Sharma, A. K. Saha and B. Sen, 'An efficient, scalable, regular clocking scheme based on quantum dot cellular automata', *Analog Integrated Circuits and Signal Processing* .
22. J. Pal, D Bhowmik, A. R. Singh, A. K. Saha and B. Sen, 'Synthesis of Composite Logic Gate in QCA Embedding Regular Clocking', *Facta Universitatis, Series: Electronics and Energetics*, 34(1), (2021).
23. J. Pal, D. Bhowmik, M. Noorallahzadeh, J. S. Sharma, A. K. Saha and B. Sen, 'Regular Clocking Scheme Based Design of Cost-efficient Comparator in QCA', *Indonesian Journal of Electric Engineering and Computer Science*, 21(1), 44-55 (2021).
24. J. Pal, M. Goswami, A. K. Saha and B. Sen, 'CFA: Toward the Realization of Conservative Full Adder in QCA with Enhanced Reliability', *Journal of Circuits, Systems and Computers*.
25. K. K. Dhar, A. Mitra and P. Bhattacharya, 'Two-Phase Simulation On Natural Convection Of A Nanofluid Along An Isothermal Vertical Plate', *Journal of Mechanics of Continua and Mathematical Sciences*, 15, 9 (2020).
26. K. Roy, A. K. Saha, and S. Debnath, 'Effect of multiple reactions on the transport coefficients in pulsatile flow through an annulus', *International Communications in Heat and Mass Transfer*, 110, 104369 (2020).
27. K. Roy, A. K. Saha, R. Ponalagusamy and S. Debnath, 'Mathematical model on magneto hydrodynamic dispersion in a porous medium under the influence of bulk chemical reaction', *Korea Australia Rheology Journal*, 32, 287-299(2020).
28. K. Roy, O. A. Beg, A. K. Saha and J. V. R. Murthy, 'Taylor Dispersion in Non-Darcy Porous Media with Bulk Chemical Reaction: A Model for Drug Transport in Impeded Blood Vessels', *Journal of Engineering Mathematics* (2021).
29. M. Dhar, S. Samaddar and P. Bhattacharya, 'Modeling the cell-to-cell transmission dynamics of viral infection under the exposure of non-cytolytic cure', *Journal of Applied Mathematics and Computing*, (2021).

30. M. Dhar, S. Samaddar and P. Bhattacharya, "Effect of non-cytolytic cure and saturation response: An in silico study to instigate the viral spread inhibition", *European Physical Journal Plus*, 135 (2020).
31. N. Ghorui, A. Ghosh, E. A. Algehyne, S. P. Mondal and A. K. Saha, 'AHP-TOPSIS Inspired Shopping Mall Site Selection Problem with Fuzzy Data', *Mathematics*, 8, 1380 (2020).
32. N. Paul, D. Sarma, A. Singh and U. K. Bera, 'A Generalized Neutrosophic Solid Transportation Model with Insufficient Supply', *Neutrosophic Sets and Systems*, 35, 177-187 (2020).
33. P. Debnath and B. C. Tripathy, 'On a New Class of Complex Uncertain Sequences Related to the (Γ) Space', *New Mathematics and Natural Computation*.
34. P. Debnath and B. C. Tripathy, 'Separation axioms on soft bitopological spaces', *Songklanakarin Journal of Science and Technology*, 42 (4) (2020).
35. P. Majumder, U. K. Bera and M. Maiti, 'An EPQ model of substitutable products under trade credit policy with stock dependent and random substitution', *OPSEARCH*, 57, 1205-1243, (2020).
36. R. Datta, R. Dey and B. Bhattacharya, 'Improved delay-range-dependent stability condition for T-S fuzzy systems with variable delays using new extended affine Wirtinger inequality', *Int. J. of Fuzzy Systems*, 23(3), 985-998 (2020).
37. R. Datta, R. Dey, B. Bhattacharya and R. Saravanakumar, 'Oh-Min Kwon, Stability and stabilization of T-S fuzzy systems with variable delays via new Bessel-Legendre polynomial based relaxed integral inequality', *Information Sciences*, 522, 99-123 (2020).
38. R. Datta, R. Dey, R. Saravanakumar, B. Bhattacharya and Tsung-Chih Lin, 'New delay-range-dependent stability condition for fuzzy Hopfield neural networks via Wirtinger Inequality', *J. of Intelligent & Fuzzy Systems*, 38(5), 6099- 6109 (2020).
39. S. Banik and D. Bhattacharya, 'A Note on min-max Goal programming Approach for Solving Multi Objective De Novo Programming Problem', *International Journal Operation Research*, 37 (1), 32-47, (2020).
40. S. Chakraborty, A. K. Saha, S. Sharma, R. Chakraborty and S. Debnath, 'A hybrid whale optimization algorithm for global optimization', *Journal of Ambient Intelligence and Humanized Computing* (2021).
41. S. Chakraborty, A. K. Saha, S. Sharma, S. Mirjalili and R. Chakraborty, 'A novel enhanced whale optimization algorithm for global optimization', *Computers & Industrial Engineering*, 153(5), 107086 (2021).
42. S. Deb, M. Das, D. C. Das, S. Pal, A. K. Das and R. Das, 'Significance of surface modification on nucleate pool boiling heat transfer characteristics of refrigerant R-141b', *International Journal of Heat and Mass Transfer*, 170, 1-16 (2021).
43. S. Deb, S. Pal, D. C. Das, M. Das, A. K. Das and R. Das, 'Surface wettability change on TF nanocoated surfaces during pool boiling heat transfer of refrigerant R-141b', *Heat and Mass Transfer*, 56, 3273-3287, (2020).
44. S. Debnath, A. K. Saha, B. S. Mazumder and A. K. Roy, 'Dispersion of Reactive Species in Casson Fluid Flow', *Indian Journal of Pure and Applied Mathematics*, 51(4), 1451-1469.
45. S. Debnath, A. K. Saha, B. S. Mazumder and A. K. Roy, 'On transport of reactive solute in a pulsatile Casson fluid flow through an annulus', *International Journal of Computer Mathematics*, 97(11), 23032319(2020).
46. S. Maiti, K. J. Andharia and P. Bhattacharya, 'Development and performance analysis of a mixed mode solar thermal dryer for drying of natural rubber sheets in the northeastern part of India', in *Solar Energy*, 208, 1091-1102 (2020).
47. S. Nama and A. K. Saha, 'A new parameter setting-based modified differential evolution for function optimization', *International Journal of Modeling, Simulation and Scientific Computing*, 11(4), 2050029 (2020).

48. S. Nama, A. K. Saha and S. Sharma, 'A novel improved symbiotic organisms search algorithm', Computational Intelligence (2021).
49. S. Nama, A. K. Saha and S. Sharma, 'Performance up-gradation of Symbiotic Organisms Search by Backtracking Search Algorithm', Journal of Ambient Intelligence and Humanized Computing (2021).
50. S. Samaddar, M. Dhar and P. Bhattacharya 'Effect of fear on prey predator dynamics: Exploring the role of prey refuge and additional food', Chaos: An Interdisciplinary Journal of Nonlinear Science, Chaos, 30(6), 063129 (2020).
51. S. Samaddar, M. Dhar and P. Bhattacharya, 'Impact of refuge to the heterogeneous interaction of species in food chain model: A holistic approach', Iranian Journal of Science and Technology, Transactions A, Science, 45, 221–233(2021).
52. S. Sharma, A. K. Saha and G. Lohar, 'Optimization of weight and cost of cantilever retaining wall by a hybrid metaheuristic algorithm', Engineering With Computers (2021).
53. S. Sharma, A. K. Saha, A. Majumder and S. Nama, 'MPBOA - A novel hybrid butterfly optimization algorithm with symbiosis organisms search for global optimization and image segmentation', Multimedia Tools and Applications, 80, 12035-12076, (2021).

15.5 Other Activities:

- a) One (01) student of M. Sc 2nd semester Mathematics and Computing was selected in the Mathematics Training and Talent Search Programme (Level-2), 2021.
- b) One (01) student from BSMS Mathematics (8th Semester) and one passed out student of BSMS Mathematics qualified Gate-2021
- c) One (01) student from M. Sc. (4th Semester), qualified CSIR NET Exam 2020.
- d) Two (02) students got placement.
- e) One (01) pass out student from BSMS Mathematics got selected in INSPIRE Fellowship.
- f) One (01) passed out student got selected in Ph. D. programme in MNNIT Allahabad in 2021.
- g) One (01), Ph. D. awarded candidate is working as PDF in NIT Silchar (joint collaboration with Dalhousie University, Canada) since 01.09.2020, and also he was selected for the 2nd PDF in "Research Centre for wind energy systems Kunsan National University Gunsan-si, Republic of Korea", expected date of joining 20.08.2021.

16.0 PHYSICS DEPARTMENT

16.1 Introduction:

From the inception of the institute, the mandate of the Physics Department has been conducting 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 127 students in Five year Dual degree programmes, 10 students in M.Sc Programme, about 982 students in its roll which includes the B.Tech programme, and 9 Ph.D. scholars. This year 07 students from BSMS, 07 students from BTMT and 05 students from M.Sc have completed their degree from the Department of Physics. Also 04 students have completed their Ph.D thesis in the last one year. 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 13 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 in companies like Wipro, Infosys, ByJu's etc.

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.

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 functionalization towards improved adsorptive removal of toxic dyes for application in	2018-2021	CSIR	16.5	Dr. Biswajit Saha

	industrial wastewater treatment				
2	Development of a Low Cost Highly Sensitive and Selective Nitric Oxide (NO) Sensor for Asthma Diagnosis	2019-2022	SERB	55.18 (Approx)	Dr Suvra Prakash Mondal

Research Publications:

Total No. of papers published in Refereed International Journals	:	16
Total No. of papers presented in National Conference	:	02
Total No. of papers presented in international Conference	:	06

In Refereed International Journals:

1. Ajit Debnath, Krishna Deb, Kamanashis Sarkar, and Biswajit Saha 'Low Interfacial Energy Barrier and Improved Thermoelectric Performance in Te-Incorporated Polypyrrole' Journal of Physical Chemistry C, 125, 168-17 (2021).
2. Ajit Debnath, Krishna Deb, Lartick Lal Bhowmik, and Biswajit Saha, 'Reduced Hopping Barrier Potential in NiO Nanoparticle-Incorporated, Polypyrrole-Coated Graphene with Enhanced Thermoelectric Properties' ACS Applied Energy Materials, 3, 7772-7781 (2020).
3. 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, 34, e5711 (2020)
4. Ajit Debnath, Krishna Deb, Kamanashis Sarkar and Biswajit Saha. 'Improved Thermoelectric Performance in TiO₂ Incorporated Polyaniline: A Polymer-Based Hybrid Material for Thermoelectric Generators' Journal of electronic Materials, 49, 5028-5036 (2020).
5. Biswajit Paul, Himangshu Dhar, Biswajit Saha, 'Ghosts in higher derivative Maxwell-Chern-Simon's theory and PT-symmetry', Physics Letters B, 808, 135671, 2020.
6. 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, in press (2020)
7. Akash Deb, Animesh Debnath, Nilanjana Bhattacharjee & Biswajit, 'Ultrasonically enhanced dye removal using conducting polymer functionalised ZnO nanocomposite at near neutral pH: kinetic study, isotherm modelling and adsorbent cost analysis', International Journal of Environmental Analytical Chemistry, in press (2020).
8. Payel Das, Saimatun Nisa, Animesh Debnath & Biswajit Saha, 'Enhanced adsorptive removal of toxic anionic dye by novel magnetic polymeric nanocomposite: optimization of process parameters', Journal of Dispersion Science and Technology, in press (2020).
9. Manash Kumar Paul and S. Chakraborty, Response to Comment on Sheath oscillations during directional motion of fire tube formation in expanding RF plasma, Physics of Plasmas 27, 014702 (2020) AIP Publications (SCI).
10. Manash Kumar Paul, Jayanta Majumder and Subhojit Bose, Self-organization of multiple anodic double layers in magnetized plasma, Physics of Plasmas 27, 092303 (2020) AIP Publications (SCI).

11. Shamik Chakraborty, Aparna Nath and Manash Kumar Paul, Firetube formation through sheath-plasma instability in expanding RF plasma, *Indian Journal of Physics* 95(7) 1545–1556 (2020) Springer Publications (SCI).
12. S. Sarkar, B. Deb, B. Dey, S. Suklabaidya, S. Chakraborty, 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*, 144, 109487, (2020).
13. Atanu Purkayastha, Sourab Dhar, Suvra Prakash Mondal, Antonio Franconetti, Antonio Frontera, Rakesh Ganguly, Alexander M Kirillov, Tarun Kumar Misra, 'Metal–organic architectures driven by a multifunctional 6-aminouracil spacer: structures, noncovalent interactions, and conductivity' *CrystEngComm*, 22, 829–840(2020).
14. Pinak Chakraborty, Saurab Dhar, Nitumoni Deka, Kamalesh Debnath, Suvra Prakash Mondal, 'Non-enzymatic salivary glucose detection using porous CuO nanostructures' *Sensors and Actuators B: Chemical*, 302, 127134(2020).
15. Saurab Dhar, Pinak Chakraborty, Nitumoni Deka, Suvra Prakash Mondal, 'Broadband photosensing using p-type cupric oxide nanorods/conducting polymer Schottky junction' *Chemical Physics*, 529, 110578(2020).
16. Nitumoni Deka, Pinak Chakraborty, Dulal Chandra Patra, Saurab Dhar, Suvra Prakash Mondal 'Self-powered broadband photodetection using PbS decorated ZnO nanorods/reduced graphene oxide junction', 118, 105165(2020).

In Proceedings of National Conference:

1. Sarit Chakraborty and S. K. Mandal, Electrical Response with Temperature and Magnetoelectric Coupling of Multiferroic Nanocomposites, *Ferroelectrics*, 570, 15 (2021).
2. Papia Dutta and S. K. Mandal Tuning Electronic Transport through Magnetic Field and Magnetoelectric Coupling of Multiferroic Nanocomposites, *Ferroelectrics*, 513, 179 (2021).

In Proceedings of International Conference:

1. Papia Dutta and S. K. Mandal, Magnetic field induced strain modulated photoresponse of Fe-ZnO/rGO heterojunction device, Third International Conference on Materials Science (ICMS2020), 4th-6th March, 2020, Tripura University, Tripura, India.
2. Sarit Chakraborty and S. K. Mandal, Magnetoelectric and Tunable DC Electrical Properties of $\text{PbZr}_{0.58}\text{Ti}_{0.42}\text{O}_3 - \text{Ni}_{0.5}\text{Co}_{0.5}\text{Fe}_2\text{O}_4$ Magnetoelectric Nanocomposites., Third International Conference on Materials Science (ICMS2020), 4th-6th March, 2020, Tripura University, Tripura, India.
3. Piyali Biswas, Debajyoti Nath and S. K. Mandal, Magneto-electric Coupling and Transport Properties of $\text{LaFeO}_3 - \text{Pb}(\text{Zr}_{0.58}\text{Ti}_{0.42})\text{O}_3 - \text{Organic Poly(vinylidene fluoride)}$ Nanocomposite. Third International Conference on Materials Science (ICMS2020), 4th-6th March, 2020, Tripura University, Tripura, India.
4. Debajyoti Nath and S. K. Mandal, Room temperature Magneto-electric Coupling and Electrical Transport of Eco-Friendly $0.1\text{LaFeO}_3 - 0.9\text{HoMnO}_3$ Nanocomposite, International Conference on Materials Science (ICMS2020), 4th-6th March, 2020, Tripura University, Tripura, India.
5. S. Chakraborty, S. A. Hussain, 'Fluorescence resonance energy transfer (FRET) between acriflavine and CdTe quantum dot', Third International Conference on Materials Science, Tripura University, India, 46. 6087-6090, 04-06 March, 2020.
6. N. Roy, S. Chakraborty, 'ZnO as photocatalyst: An approach to waste water treatment', Third International Conference on Materials Science, Tripura University, India, 46. 6399-6403, 04-06 March, 2020.

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 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 has 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



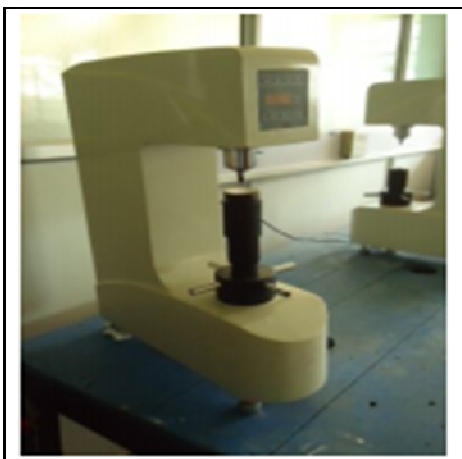
Picture of Metallography Laboratory Picture of CAD/CAM Laboratory



Picture of Condition Monitoring



Picture of Metal Casting and Forming Laboratory



17.2 Academic Programme

Presently department is offering B.Tech, M.Tech & Ph.D programme.

17.3 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 the Faculty	Title	Period
Workshop/Conference:			
1.	Dr. Uttam Kumar Mandal	“On Week Online Short Term Training Programme on Multiple Attribute Decision Making and Its Industrial Applications” (Note: As an Expert)	2 nd – 6 th November, 2020
2.	Dr. Uttam Kumar Mandal	“One-week Faculty Development Programme on Applied Mathematical Skills for Science & Engineering using Contemporary Tools” (Note: As an Expert)	14 th – 18 th September, 2020
3.	Dr. R.N. Rai	“One-week Faculty Development Programme on Novel Materials”, Sponsored by AICTE Training and Learning (ATAL) Academy (Note: As an Expert)	8 th -12 th February, 2021
4.	Dr. R.N. Rai	“2 nd International Conference on Recent Advances in Manufacturing (RAM-2021) (Note: As a Session Chairman)	10 th – 12 th June, 2021
5.	Dr. Vidyut Dey	IIT/IISc/NIT Expert Lecture on Course Manufacturing Process II for TY B.Tech Mechanical Engineering students On “CNC / DNC Technology	3 rd August, 2020
6.	Dr. Vidyut Dey	Expert Lecture-2 on Course Manufacturing Process II for TY B.Tech Mechanical Engineering	14 th August, 2020

		students On “Abrasive Jet Machining Process”	
--	--	--	--

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.

17.4 Design and Development Activities:

The Department of Production Engineering has equipped with some advanced laboratories with modern equipment's. 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

17.5 Research and Consultancy:

Research Publications:

Total No. of papers published in Refereed International Journals : 20 (Twenty)
Total No. of papers presented in International Conferences : 03 (Three)

In Refereed International Journals:

1. Shirsendu Das, Swarup Paul, Biswanath Doloi, A gap-active electrical discharge machining (GA-EDM) to rectify the textural defects of the processed surface” Journal of manufacturing processes 64, 2021, pp. 594-605.

2. Shirsendu Das, Uttam Acharya, S.V.V.N. Siva Rao, Swarup Paul, Barnik Saha Roy, Assessment of the surface characteristics of aerospace grade AA6092/17.5 sicp-T6 composite processed through EDM” CIRP journal of manufacturing science and Technology, 33(2021), 123-132.
3. Pushparenu Bhattacharjee, Vidyut Dey, U.K. Mandal, Risk assessment by failure mode and effects analysis (FMEA) using an interval number based logistic regression model, Safety Science, 132, 104967 (1-10), 2020.
4. Rajesh Chakraborty, R. N. Barman, U. K. Mandal, A Comparative Study of ANN and GEP Model to Predict the Pressure Drop in the Water Transportation System, International Journal of Information Engineering & Electronic Business, 12(5), 47-57, 2020.
5. Binayak Sen, Munish Kumar Gupta, Mozammel Mia, Uttam Kumar Mandal, Sankar Prasad Mondal, Wear behaviour of TiAlN coated solid carbide end-mill under alumina enriched minimum quantity palm oil-based lubricating condition, Tribology International, 148, 106310 (1-10), 2020.
6. Syed Abou Iltaf Hussain, Binayak Sen, Archisman Das Gupta, Uttam Kumar Mandal, Novel multi- objective decision-making and trade-off approach for selecting optimal machining parameters of inconel-800 super alloy, Arabian Journal for Science and Engineering, 45, 5833-5847, 2020.
7. Binayak Sen, Mozammel Mia, Uttam Kumar Mandal, Sankar Prasad Mondal, Synergistic effect of silica and pure palm oil on the machining performances of Inconel 690: A study for promoting minimum quantity nano doped-green lubricants, Journal of Cleaner Production, 25, 120755 (1-53), 2020.
8. Suwendu Mohanty, Soudip Hazra, Swarup Paul, Intelligent prediction of engine failure through computational image analysis of wear particle, Engineering Failure Analysis, 116, 104731 (1-10), 2020.
9. Swarup Paul, Bijan Sarkar, An exploratory analysis of biofuel under the utopian environment, Fuel, 262, 116508 (1-11), 2020.
10. Shirsendu Das, Swarup Paul, Biswanath Doloi, Assessment of the impacts of bio-dielectrics on the textural features and recast-layers of EDM-surfaces, Materials and Manufacturing Processes, 36, 245-255, 2020.
11. Dharmeswar Dash, Ram Singh, Sutanu Samanta and Ram Naresh Rai, Influence of TiC on Microstructure, Mechanical and Wear Properties of Magnesium alloy (AZ91D) Matrix Composites, Journal of Scientific and Industrial Research, 79, 164–169, 2020.
12. Arvind Kumar and Ram Naresh Rai, Grey-Taguchi and TOPSIS-Taguchi-Based Optimisation of Performance Parameters of Spark EDM on Heat-Treated AA7050/5 B₄C Composite, Journal of The Institution of Engineers (India), Series D, 101(1), 71-79, 2020.
13. 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, Vol. 42, pp. 365 (1-9), 2020.
14. Biplab Bhattacharjee, Prasun Chakraborti, Kishan Choudhuri, Selection of Suitable Lubricant for Sliding Contact Bearing and the Effect of Different Lubricants on Bearing Performance: A Review and Recommendations, Tribologia – Finnish Journal of Tribology, 37, pp. 13-25, 2020.
15. Debnay Das, Vidyut Dey, Bidyut Bhattacharyya, Modeling of Heat Flow When Thermal Conductivity, Specific Heat Capacity and Density All are a Function of Temperature, Arabian Journal for Science and Engineering, 46, pp. 7649–7659, 2021.
16. Debashis Podder, Sujoy Chakraborty, Uttam Kr. Mandal, RSM analysis of impact property and characterization of Al6063-CuTiO₂-ZrO₂ composites fabricated by stir casting process, Sadhana (2021) 46:72 (1-12).
17. Arvind Kumar and Ram Naresh Rai, Synthesis of Stir-Cast AA7050/5%B₄C Composite and Optimization of EDM Response Parameters Using Taguchi Analysis, Key Engineering Materials 844:104–113, 2020.

18. Dharmeswar Dash, Sutanu Samanta and Ram Naresh Rai, Flexural, Dry Sliding Wear and Machinability (EDM) Characteristics of AZ91D/TiC (0,5,10, & 20 wt%) MMCs, *Advances in Materials and Processing Technologies*, 2021.
19. Binayak Sen, Mozammel Mia, GM 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*, 8(1), 249 – 280, 2021.
20. Binayak Sen, Syed Abou Iltaf Hussain, Archisman Das Gupta, Munish Kumar Gupta, Application of Type-2 Fuzzy AHP-ARAS for selecting optimal WEDM parameters, *Metals (MDPI)*, 11(1), 1 – 18, 2020.

In Proceedings of International Conference

1. 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 Nano-materials, Nano-engineering and Nano-systems*, Vol. 234, pp. 11-18, 2020.
2. S. A. I. Hussain, U. K. Mandal & H. Chandra, A Comprehensive Literature Review of Particle Swarm Optimization Applied In Multi-Objective Sequencing and Scheduling Problems, *Advances in Intelligent Systems and Computing: International Conference on Applied Mathematics and Computational Intelligence*, December, 2020.
3. S. A. I. Hussain, U. K. Mandal & H. Chandra, Bi-Objective Firefly Optimization Algorithm for Multi-Stage Parallel Machine Scheduling, *VNIT Nagpur*, 2020.

17.6 Other activities:

The Department of Production Engineering is conducting bi-monthly webinars under the banner of "Student Chapter (IEI: The Institution of Engineers, India)" where both faculty and students are used to participate and present some topics related to recent engineering advances.

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 covered with CCTV surveillance system. Library is also equipped with lift facility for easy access to different floors of the library building.

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 this systems. 30500 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	2019-20	2020-2021	Remarks
A. Collections:			
Books	89714 [63981(GL)+25 733(BB)]	89715 [63982(GL)+25 733(BB)]	Current physical book as per accession register 73801 . As because 15914 nos of books fall under damaged, written off, missing, Accession dropped, torned etc.
Ph. D. Theses	116	135	19 nos of PhD thesis added during this period
General	Nil	48,068	
Book Bank	NA	25,733	
Current Periodicals by Subscription	8	NA	
Current Periodicals by Exchange/ Gift	22	61	
C.D	662	662	
Total			
B. Membership:			

Staff	3	NA	
Faculty	10	NA	
Students	1195	4171	Present nos of student
Total			
C. Services : Circulation			
Number of Readers visited	42613	926	
Number of Books/ Journals issued	18874	92	
Overdue & other charges collected	167837	48401	
Xerox charges collection	Rs.407	Nil	
D. Reservation of Books			
Registered	15	7	
Fulfilled	14	5	
E. Literature Search			
CD-ROM search by users	4	Nil	
F. Reprography Service			
Number of Xerox copies supplied	407	Nil	
G. Expenditure on			
Books Printed	Rs.21,57,077	Nil	
E-books	Nil	Nil	e-resources has been made available through ESS only.
E-journals	Nil	Nil	
H. New Journals Added	2778	2889	e-journals added through ESS
I. Any other material, if any:	Glass Door Almirah, AC, Digital Copier, Office Chair, Desktop PCs, Stand Fan, networking items etc.	Hard-Disk, Server Rack, DVR,	

18.3 Binding Facilities:

At present NITA library has no binding section. 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. NITA Central Library is covered with the CCTV surveillance and some items for upgradation of surveillance system have been procured. New lift has been installed for easy access to different floors of the library building. 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 including self check-in and check-out through RFID.
- (iii) Starting documentation work and services on different subjects especially in Science and Engg.
- (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 year examinations.
- (vii) Building complete repository of institute.

19.0 STUDENT AMENITIES AND ACTIVITY

19.1 Hostels:

The Institute has Boys and Girls to accommodate in 4 Boys' Hostels and 1 Girls' Hostel. Present status of the Hostels is given below:

<i>Name of the Hostel/ Unit</i>	<i>Name of the Warden</i>	<i>Hostel Seat Capacity</i>	<i>Seat Occupied</i>
Aryabhatta Hostel	Dr. P Jawahar Dr. Susanta Ghanta Dr. Tridib Bhowmik Mr. Prashant Bharadwaj	944	NIL (Due to Covid-19)
Dhalai & Gomati Hostel	Dr. Subrata Kumar Ghosh Dr. Muthusivaramapandian	208	NIL (Due to Covid-19)
RNT	Dr. Mitra Barun Sarkar Dr. Chakradhar Behera Dr. Saroj Kumar Parida	1554	NIL (Due to Covid-19)
Gargi (Girls Hostel)	Dr. Nabamita Goswami	436	NIL (Due to Covid-19)

19.2 Medical Facilities:

A well equipped Medical Unit with three Medical Officers, two nurses and three supporting staff are residing in the campus for rendering medical care to the students, staff and other inmates of the campus and near villages. Presently we have three Ambulance services available 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 as well as ILS Hospital.

19.3 NCC:

NIT Agartala has NCC unit for Boys and Girls.

19.4 Gymkhana:

The NITA Student Gymkhana is an active student body that acts as a liaison between the students and the administration. The Gymkhana promotes the objectives of fostering extra-curricular and co-curricular activities and welfare of the 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	INTERNATIONAL DAY OF YOGA CELEBRATION	Successfully Organized	21ST JUNE 2020
2	INDEPENDENCE DAY CELEBRATION	Successfully Organized	15TH AUGUST 2020

19.6 Other Activities:

The students of NITA 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 activities on the 'Engineer's Day' organized by NITA and IEI Tripura chapter.

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 relented the institute with proud statistics from the past year with an, outstanding percentage of almost 94.91% of total eligible students being placed in organizations of high repute. Last year, total 429 offers (Total eligible students of B.Tech is 452) have been received from different companies and organizations like Paytm, Amdocs, Delhivery, Nokia, Deloitte, Capgemini, Thermax Limited, Incture, JIO, AMNS India Ltd., LTI, Wipro, L&T Construction, Oracle GBU, Maruti Suzuki, MAQ Software, Infosys, Accenture, Arti Industries Ltd, CGI, TCS, Halliburton, Intellect Design Arena Ltd, Byju's, Vedanta Ltd, Tata Power ITC, ESL Steel, Cognizant, Virtusa, Tredence, Dalmia, KEC International, Samsung, Anglo Eastern, AMD, HLS Asia, KEC International etc.

The turnout of various organizations and companies of repute have been very high in NIT Agartala this year too, since July 2021. Because of the immense efforts by the entire Placement team of the institute, the institute has recorded sky high turnout of companies, in a short span of time. Companies which have already visited us in this short span of time are organizations like ProcDNA, HLS ASIA, Planet Spark, Info Edge, Komprise, Western Digital, Intuit, Infosys, Sabre, Oracle, Mathworks, PayTMPublicis Sapient, O9 Solutions, Increff. Till now, the placement team has fetched the institute a total number of 66 (overall) job offers. In the pipeline are reputed organizations such as Blog Vault, Infosys, JTG, Google, ZS Associate, McKinley & Rice, Amazon, Bosch Limited, Mediatek, The Math Company, Sigmoid. The students are always encouraged to help 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.

For the academic year 2020-21, students are placed in these organizations like Publicis Sapient-5, Paytm-15, Amdocs-10, Delhivery-1, Wadhvani AI-1, Icertis-2, Zopsmart-7, Incture- 5, Nokia-23, Capgemini-6, Deloitte-8, MAQ SOFTWARE-2, Oracle-3, LTI-9, JIO-9, Jungleworks-3, Alstom-4, Varroc-4, Raam Group-1, Accenture-4, Grifeo-38, Cairn Oil(Vedanta Ltd.)-2, Optum (PPO)-1,Xenon Stack-2, Thermax Limited-2, O9 Solutions-13, Wipro-12, DeltaX-2, Halliburton-1, Truminds-1, Pie Infocomm-4, S2Tech-3, Oracle CGBU-2, Informatica-1, Intellect Design Arena Ltd.-3, Infosys-11, Byju's-14, EvoSys-3, L&T Constructions-9, AMNS India Ltd-6, Arti Industries Ltd-8, iLogitron Technologies-2, Walkover-4, CGI-11, TCS-11, DNJ Infotech-95, Dalmia-1,ITC-2, ESL Steel (Vedanta)-15, Tata Power-6, IndiaMart-2, NTT Data-1, DxSherpa/ Vyomlabs-2,Network Intelligence-3, Syngene International Ltd-2, ISC Software-1,Lumen Technologies-4,Cognizant-3, Infoedge-2, PULSUS Health Tech-6, Virtusa-1, CES Ltd.-1, PlanetSpark-4, Cognizant-2, Maruti Suzuki-1, Acadecraft-7, Tredence-3 Capgemini-4, Mphasis Ltd.-7, iQuanti-3, Dalmia-1, KEC International-5, Samsung Bangalore-2, Alround.club-1, Infosys (SES Role)-3, Anglo Eastern-1, Oracle (OMCS)-1, AMD-2, HLS Asia-2, KEC International-5, Comviva-1, Cavisson-2,

Zolostays-1, THERMAX-1, LTTS-2, L&T-4, Prism Johnson Ltd.-1, Suneratech-1, Viraj Profiles Ltd.-11.

Details of the number of students placed during the period under report are given below as against those registered during 2020-21

a. Detailed placement report for UG level

Branch	Total student eligible in undergraduate level	Name of the Company	Total offer in Bachelor Degree level Based on eligibility	Placement Percentage
Bio Engineering	10	TCS DNJ Infotech Acadecraft	7	70.00
Chemical Engineering	34	Raam Group Pie Infocomm Infosys L&T Constructions Arti Industries Ltd CGI DNJ Infotech ESL Steel (Vedanta) PULSUS Health Tech Tredence Capgemini	22	64.71
Civil Engineering	104	Capgemini LTI Accenture Grifeo Wipro DeltaX Pie Infocomm S2Tech Byju's L&T Constructions CGI TCS DNJ Infotech Lumen Technologies PlanetSpark Capgemini iQuanti KEC International Prism Johnson Ltd.	48	46.15
Computer Science and Engineering	63	Publicis Sapient Paytm Amdocs Wadhvani AI Icertis Zopsmart	107	100

		Nokia Capgemini Deloitte MAQ SOFTWARE Oracle LTI JIO Jungleworks Accenture Grifeo Optum (PPO) Xenon Stack O9 Solutions Halliburton Truminds Pie Infocomm Oracle CGBU Informatica Infosys Byju's Walkover CGI TCS DNJ Infotech ESL Steel (Vedanta) IndiaMart NTT Data ISC Software Cognizant Infoedge PULSUS Health Tech Virtusa Tredence Capgemini Mphasis Ltd. Infosys (SES Role) Comviva		
Electrical Engineering	45	Paytm Incture Nokia Alstom Grifeo O9 Solutions Wipro DeltaX Byju's L&T Constructions AMNS India Ltd iLogitron Technologies Walkover CGI DNJ Infotech	44	97.78

		Dalmia ESL Steel (Vedanta) Tata Power Network Intelligence PULSUS Health Tech Tredence iQuanti KEC International Viraj Profiles Ltd.		
Electronics & Instrumenta tion Engineering	32	Paytm Incture Nokia Deloitte Grifeo Cairn Oil(Vedanta Ltd.)(PPO+PPI) O9 Solutions Wipro L&T Constructions Arti Industries Ltd CGI TCS DNJ Infotech ESL Steel (Vedanta) Lumen Technologies PlanetSpark Cognizant Mphasis Ltd. Oracle (OMCS)	39	100
Electronics and Communica tion Engineering	61	Paytm Amdocs Delhivery Incture Nokia Capgemini Deloitte LTI JIO Varroc Accenture Grifeo O9 Solutions Wipro Pie Infocomm Infosys Byju's Walkover CGI TCS DNJ Infotech Lumen Technologies Infoedge	77	100

		CES Ltd. Cognizant Mphasis Ltd. Samsung Bangalore Infosys (SES Role) HLS Asia Cavison Suneratech L&T		
Mechanical Engineering	63	LTI Alstom Varroc Grifeo Thermax Limited O9 Solutions Wipro S2Tech Infosys L&T Constructions AMNS India Ltd DNJ Infotech ESL Steel (Vedanta) Maruti Suzuki Acadecraft iQuanti Dalmia Anglo Eastern THERMAX Viraj Profiles Ltd.	54	85.71
Production Engineering	40	Capgemini LTI Varroc Grifeo O9 Solutions Byju's EvoSys CGI DNJ Infotech Network Intelligence Lumen Technologies PlanetSpark Around.club Viraj Profiles Ltd.	31	77.50
Total Eligible in UG	452		429	94.91

b. Detailed placement report for PG level:

Branch	Total student eligible	Declaration given By the	Name of the Company	Masters Degree level	Total (Total offers Declaration)	Placement Percentage
--------	------------------------	--------------------------	---------------------	----------------------	----------------------------------	----------------------

	in PG level	candidates for not participating in the campus drives			Since the declaration by the candidates will be counted as placement	
Civil Engineering	54	11	DNJ Infotech PlanetSpark KEC International L&T	43	19	35.18
Computer Science and Engineering	9		Amdocs Zopsmart Samsung Bangalore Infosys (SES Role) AMD	9	5	55.55
Electrical Engineering	22	1	Infosys Byju's DNJ Infotech PULSUS Health Tech Acadecraft HLS Asia KEC International LTTS	21	18	81.81
Electronics and Communication Engineering	10	1	Capgemini EvoSys AMD	9	4	40.00
Mechanical Engineering	22	2	Infosys EvoSys DNJ Infotech Acadecraft	20	8	36.36
MCA	9		Amdocs Incture Xenon Stack Intellect Design Arena Ltd. Walkover TCS DNJ Infotech DxSherpa/ Vyomlabs Mphasis Ltd. Cavisson	9	14	100
MBA	16		Grifeo iLogitron	16	21	100

			Technologies DNJ Infotech ITC Network Intelligence Zolostays			
BTMT	9	4	Wipro Byju's TCS	5	8	88.88
BSMS	27	12	DNJ Infotech Syngene International Ltd PULSUS Health Tech	15	16	59.25
Total	176	31		145	113	64.20
Total : UG- 429, PG- 113 (The total numbers considered counting the declaration)(542)						

20.2 Others:

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 (2020-21) total 595 students participated during Summer Vacation and 335 Students participated during Winter Vacation in training & internship activities.

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 365.00 (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 playground (old) at NIT Agartala	1164.75
17.	Supply, Installation, Testing & Commissioning of 14(fourteen) numbers lifts in Administrative Building 1 & 2, School of Management, ECE building, International	417.13

	Guest House & DoNER and Central Library at NIT Agartala.	
--	--	--

Work in progress:

The following works are in progress.

Sl. No.	Name of the Works	Rupees in Lakhs
1.	Special Repair, retrofitting and up gradation of Dhalai Hostel building, at NIT Agartala, Tripura.	99.88
2.	Special Repair, retrofitting and up gradation of Library building, at NIT Agartala.	70.23
3	Construction of 200 capacity Girls hostel at NIT Agartala, Tripura.	1677.41
4	HVAC, Stage Craft, Stage Light, Sound System, Projector System, Sitting Arrangement in the Seminar Hall at NIT, Agartala.	1163.10
5	Extension of height of boundary wall of NIT Ahgartala	213.58
6	Up gradation of 2-stored building adjacent to Knowledge Centre at NIT Agartala	73.20

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 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 completed and functional.

21.5 Hostel :

Boys Hostel: Arryabhatta: 1000 Capacity, Howrah: 128 Capacity, Dhalai: 92 Capacity, Goumati: 128 Capacity, Girls Hostel: Gargi: 500 Capacity are functional. The 1500 capacity boy's hostel (Rabindranath Tagore hostel) has been completed and functional.

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.91.55523 Lakhs in the financial year of 2020-21.

The faculty members of our Institute published 226 SCI numbers of Journals, 106 numbers of SCOPUS Journals, 02 International conferences were organized by the faculty members of NITA. Total numbers of 03 (Three) patents have been granted and 05 (Five) patents have been published in the year of 2020.

In this year the faculty members of our Institute has published in 169 SCI Journals, 67 SCOPUS Journals, 01 International Conference has been organized. 02 (Two) patents have been granted and 04 (Four) patents have been published in the year of 2021 (as on 17.08.2021).

22.2 Sponsored Research :

Sl No.	Sponsoring Agency	Project Title	Name of the Chief Project Investigator/Project Investigator	Sanctioned Value (Rs. In Lakh)
1	SERB	Polarization conversion and rotation using micro-ring resonator and its application to design binary and multi-valued logic circuits in optical domain.	PI: Dr. Jayanta Kumar Rakshit, Asstt. Prof in Electronics & Instrumentation Engineering Dept.	5.00 Lakhs 01.07.2020
2	SERB	Development of a Low Cost Highly Sensitive and Selective Nitric Oxide (NO) Sensor for Asthma Diagnosis .	PI: Dr. Suvera Prakash Mondal Assistant Prof. Of Physics Dept.	6.00 Lakhs 14.07.2020

3	DST	Geoscientific Studies-Geodetic, geological, geomorphological and geotechnical of active landslides	PI: Dr.Sujit Kumar. Pal, Associate. Prof. in Civil Engg. Dept.	1.5 Lakhs 31.07.2021
4	SERB	Technology development for the production of natural colorant (chlorophyll) from isolated microalgae	PI: Dr. Kalyan Gayen Assistant Prof. Of Chemical Engg Dept., Co-PI Dr. Miraganka Sekhar Manna, Assistant Prof. Of Chemical Engg Dept., Dr. Tridib Kumar Bhowmick, Assistant Prof. Of Bio Engg Dept.,	8.2 Lakhs 20.08.2020
5	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.	2.525 Lakhs 07.10.2020
6	DST	IoT based Traffic Monitoring System for hilly roads of North-East India .	PI: Dr. Ashim Saha Assistant Prof. CSE Dept.	4.3 Lakhs 08.10.2020
7	MeitY	SMDP-C2SD Project	PI: Dr. Sambhu Nath Pradhan Assoc. Prof. in ECE Dept.	13.06409 Lakhs 26.10.2020
8	BRNS	Spatial distribution of uranium and associated water quality parameters of all districts of Tripura.	PI: Dr. T.K. Mishra , Associate Prof. of Chemistry Department.	0.19597 Lakhs 01.12.2020
9	BRNS	Spatial distribution of uranium and associated water quality parameters of all districts of Tripura.	PI: Dr. T.K. Mishra , Associate Prof. of Chemistry Department.	4.37578 Lakhs 01.12.2020
10	DST	Mitigating scarcity of stone aggregates in pavement construction using locally available materials & stabilization techniques.	PI: Dr. Partha Pratim Sarkar Associate Prof. Civil Engg. Dept.	2.64 Lakhs 14.12 2020
11	SSAP (State Specific Action Plan)	Preparation of state specific Action Plan (SSAP) for water sector of Tripura State. Mou No.022/MoU/CE/PWD(WR)/2019-20, MoU signed on 14.02.2020.	Nodal Officer, SSAP, NIT Agartala: Dr. Mrinmoy Majumder, Associate Prof. of CE Department	12.00 Lakhs 18.12.2020
12	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. Muthusivaramanian Asst. Prof. of Bio Engg, Dr. Biswanath Bhunia, Assistant Prof. of	1.8425 Lakhs 28.12.2020

			Bio Engg, Dr. Selvaraju N, Asst. Prof of Bio Engg IIT Guwahati	
13	ICMR	Multi-drug delivery with nano-sized carrier particles for combination therapy in tuberculosis.	PI: Dr.Tridib Kumar Bhowmick, Asstt. Prof in Bio Engineering Dept	3.76980 Lakhs 30.01.21
14	DBT	Enhancing the productivity of phycobiliproteins (C-PCs) and Cyanocobalamin(Vitamin B ₁₂) in selected cyanobacteria for valorization and development of functional foods.	PI: Dr.Tarun Kanti Bandypadhyay, Assistant Prof. Of Chemical Engg. Dept, Co-PI: Dr.Biswanath Bhunia, Assistant Prof. Of Bio Engg. Dept.	10.10912 Lakhs 09.02.2021
15	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. Muthusivarramadian Asst. Prof. of Bio Engg, Dr. Biswanath Bhunia, Assistant Prof. of Bio Engg, Dr. Selvaraju N, Asst. Prof of Bio Engg IIT Guwahati	3.5975 Lakhs 02.03.21
16	ISRO	Applicability of Electromagnetic Metamaterials in Antennas and Microwave Circuits for use in space applications. Assistant Prof. of ECE Dept. Release of grant for initiating activities related to Technology Development Proposal (TDP) at STIC, NIT Agartala.	PI: Dr. Tamasi Moyra (Pannua), Assistant Prof. of ECE Dept. CO-PI: Anirban Bhattacharjee,	12.43547 Lakhs 24.03.21
	TOTAL		91,55,523.00 Lakhs	

22.3 Consultancy Programmes :

Institute 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., PWD, Directorate of School Education, HUMANE SOCIETY INTERNATIONAL INDIA and Department of Rural Development, Government of Tripura etc. Institute received Rs.66.0225 Lakhs Rupees from different testing & consultancy activities in the year of 2020-21.

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 person in seminar/ workshop, 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 Public Works Department (Water Resources) Government of Tripura on 01.02.2020, IIT Delhi on 27.02.2020, NIT Warangal on 18.08.2020, MSME on 06.10.2020, IIT Kanpur for Centre for Ganga River Basin Management and Studies on 09.10.2020 and IIT Madras regarding faculty post doc programme 07.04.2021.

22.6 Patents :

Sl. No	Title of the Invention	Inventor(s)	Department	Patent version no.	Date of filing of application
1.	A PROCESS FOR ISOLATION OF NUTRITIONAL FROM LIGNOCELLULOSIC BIOMASS	Dr. Srimanta Ray, Assistant Prof. of Chemical Engineering Department	Chemical Engineering	202031025861	19.06.2020
2	NOVEL SANDWICH BEAM FOR IMPROVED RESISTANCE TO VARIATION IN LOAD	Prof. Prasun Chakraborti, Mechanical Engineering Department Dr. Krishanu Gupta,	Mechanical Engineering	202031031898	25.07.2020
3	Regenerative Horn	Dr. Ankuran Saha, Assistant Prof. of Mechanical Engineering Department. Dr. Apurba Das, Tanumoy Karmakar, Pankaj Kumar Sarkar, Dr. Saurav Das, T. Paramesh	Mechanical Engineering	202031041498	24.09.2020
4	PCB Design of Portable Air Quality Monitoring System with Enhanced Battery Life	Dr. S. N. Pradhan, K. D. Purkayastha, D. Nath, V. K. Sing and, B. Debbarma	Electronics And Communication Engineering	202031038999	09.11.2020

22.7 Other Information :

NIT Agartala has established Institute Innovation and Startup as a flagship programme which is in line with the National Innovation Policy and Startup initiative. Since **November 2020** there had been several National level webinar and student awareness programme been conducted on the innovation and startup eco system. To foster the product oriented innovation and idea prototyping, pitching and validation the institute has supported 7 number of students innovation prototyping projects with financial aid. The institute has more than 5000 sqft dedicated facility with common workspace, conference room, incubation facility, internet and office support. The institute has signed an MOU with Government of Tripura, Directorate of Information Technology for New Generation Innovation Network (NGIN). NIT Agartala has framed its Startup and Innovation Policy along with Intellectual Property Right (IPR) Policy.

23.0. TEQIP - III

23.1 Introduction:

The Technical Education Quality Improvement Programme (TEQIP) 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 phase. The first phase of the TEQIP commenced in March 2003 and ended in March 2009. TEQIP phases two has been introduced in National Institute of Technology Agartala on 3rd August 2011 and closed in 2017 and TEQIP III started on 01.04.2017 and ended on 30.09.2021. 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. 2020-21 is Rs. 319.18 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.

24.0. FINANCE & ACCOUNTS

24.1 Grants from MoE:

(Rs. in Lakhs)

Head	2019-20	2019-20
Income		
<u>Grant from Ministry of Education, Govt. of India</u>		
Object Head-31	3105.72	4073.20
Object Head-36	3064.00	500.00
Object Head-35	----	----
Total	6169.72	4573.20
Expenditure		
Object Head-31	3435.99	3931.21
Object Head-36	4241.69	3693.21
Object Head-35	263.02	352.16
Total	7940.70	7976.58

24.1.1 Expenditure Statement:

(Rs. in Lakhs)

Particulars	OH-31	OH-36	OH-35	Total
Opening Balance	423.28	38.97	2224.37	2686.62
Grant received from Ministry of Education	3105.72	3064.00	---	6169.72
Total Available	3529.00	3102.97	2224.37	8556.34
Total Utilized	3435.96	4241.69	263.02	7940.70
Unspent Balance as on 31.03.21	93.01	-1138.72	1961.35	915.64
Income from Other Sources	1915.72			

24.1.2 Details Expenditure Statement:

(Rs. in Lakhs)

Particulars	2020-21	2019-20
<u>Object Head-31</u>		
31-1- Retirement Benefit	----	----
31-2- Scholarships/Fellowships	778.54	971.93
31-3- Foreign/Domestic Travels	0.84	8.29
31-4- Security/Housekeeping	899.89	921.10
31-5- Exp. on Contractual Employees (Teaching & Non-Teaching)	1477.76	1433.98
31-6- Other Expenses	278.96	595.91
Total- OH-31	3435.99	3931.21
<u>Object Head-36</u>		
36-1- Expenditure on Salary of Regular Faculty	2363.52	2237.67
36-2- Expenditure on Salary of Regular Non-Faculty	234.03	243.22
36-3- Medical Expenses	3.76	5.43

36-4- Leave Encashment	----	4.84
36-5- LTC	0.46	18.85
36-6- CPDA	4.44	6.34
36-7- Retirement Benefits	1450.60	1000.00
36-8- Other Expenses	184.88	176.86
Total- OH-36	4241.69	3693.21
<u>Object Head-35</u>		
35-1- Buildings	36.83	137.31
35-2- Equipments	204.62	197.76
35-3- Library	21.57	---
35-4- Furniture	----	17.09
Total- OH-35	263.02	352.16
Grand Total (31+36+35)	7940.70	7976.58

Audit Report & Annual Accounts 2020 -2021

AMG-II-A/SAR/NITA/AGT/2020-21/469
Dated: 24-12-2021



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 फैक्स/ Fax – 0381-2350158
ईमेल/ email: agautripura@cag.gov.in

सेवा में,
पंजीयक,
राष्ट्रीय प्रौद्योगिकी संस्थान, अगरतला,
बरजला, जिरानिया, त्रिपुरा (पश्चिम),
पिन: 799006.

Subject:- वर्ष 2020-21 के लिए राष्ट्रीय प्रौद्योगिकी संस्थान, अगरतला के लेखों पर पृथक लेखा परीक्षा रिपोर्ट (एस.ए.आर).

Sir,

I am to send herewith the Separate Audit Report (SAR) of the accounts of National Institute of Technology, Agartala for the Financial Year 2020-21 along with a management letter for further action at your end.

Hindi version of SAR will follow.

Thanking you,

संलग्न: यथोपरी

भवदीय,

व.लेखापरीक्षा अधिकारी/मुख्यालय -II

SEPARATE AUDIT REPORT OF THE COMPTROLLER AND AUDITOR GENERAL OF INDIA ON THE ANNUAL ACCOUNTS OF THE DIRECTOR NATIONAL INSTITUTE OF TECHNOLOGY, AGARTALA FOR THE YEAR ENDED 31 MARCH 2021

We have audited the attached Balance Sheet of the National Institute of Technology Agartala, Tripura as on 31 March 2021, 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 Ministry of Education (formerly, the Ministry of Human Resources Development), Government of India vide order No. 29-4/2012-FD dated 17 April 2015 except as stated in C.I.
- 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

Application of Funds

Loans, Advances & Deposits (Schedule 8)**Details of Advance to Parties (Schedule 8A)- ₹ 517.53 lakh****Advance to CPWD – ₹337.39 lakh**

A.1 The above advance to CPWD amounting to ₹337.39 lakh relates to Supply, Installation, Testing and Commissioning (SITC) of 14 nos. of lifts in various buildings located within NIT, Agartala campus. As on 31.03.2021, all the 14 lifts are in operation and CPWD has handed over the lifts in phased manner during the period September 2019 to January 2021. As the assets are ready and handed over to the Institution, necessary steps may be taken for booking the amount of ₹337.39 lakh under Tangible Assets and charge depreciation. This has resulted in overstatement of 'Advance to Parties' by ₹337.39 lakh with corresponding understatement of 'Fixed Asset' by the same amount.

B. Income and Expenditure Account**Expenditure****Staff Payment and Benefits (Establishment Expenses) (Schedule 15): ₹4125.78 lakh**

B.1 NIT Agartala has computed actuarial valuation of employees' retirement and terminal benefits as on 31.03.2021. As per the actuarial valuation reports, pension benefit obligation is ₹5375.91 lakh, Leave encashment and compensated absence of earned leave obligation is ₹793.57 lakh and gratuity benefit obligation is ₹667.05 lakh. Thus, the total actuarial value of retirement and terminal benefit obligation is ₹6836.53 lakh. Against this, the retirement benefit fund balance (Schedule – 2) as on 31.03.2021 is ₹5365.42 lakh. Thus, retirement benefit provision to be made during current year is ₹1471.11 lakh (₹6836.53 lakh – ₹5365.42 lakh). Non-provision of the same has resulted in understatement of 'Expenses on Employees Retirement and Terminal benefits' – schedule 15 by ₹1471.11 lakh with corresponding understatement of 'Deficit' and hence overstatement of Corpus by the same amount. This has also resulted in understatement of Retirement Benefit Fund by ₹1471.11 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 2020-21 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	Schedule 9 Academic Receipts	As per the 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 as a separate and distinct item against an appropriate account head in the Income and Expenditure Account. The Institute has shown an amount of ₹1,82,35,600/- as 'All other Fees' under Academic Collection which should be bifurcated as per the MHRD format requirement.

C.2. The Institute during its formation has 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.

C.3. As per the format and instructions of MHRD, the interest income should be shown at gross interest figures (Income from Investment (Schedule 11) and Accrued Interest on Investments/advances (Schedule 2)) and tax deducted at source on interest income is to be stated separately as Claim Receivables (Schedule 8) in the Balance Sheet. The Institute has not accounted the Tax Deducted at Source (TDS) on term deposit matured during the year.

C.4. Scrutiny of records revealed that preparation and finalisation of annual accounts of Hostel is pending since 2015-16. As a result, internal audit of the accounts is also pending. The Hostel accounts should be integrated with the NIT Agartala accounts and user charge in hostel/hostel fee collected from students availing hostel facilities should be shown under Academic Receipts (Schedule 9) and Other Income (Schedule 13) as applicable.

C.5. As per Rule 230 (8) of General Financial Rules 2017, all interests or other earnings against Grants in aid (other than reimbursement) should be mandatorily remitted to the Consolidated Fund of India immediately after finalisation of accounts. Such advances should not be allowed to be adjusted against future releases. Unspent balance of discontinued schemes/completed projects are also to be remitted back. Annexure D of Schedule 3 of NIT Agartala accounts shows unspent balance of ₹1961.34 lakh against capital grant as on 31.03.2021 and ₹990.66 lakh as on 31.03.2020. The unspent balance of discontinued schemes/completed projects should be returned back to the Ministry along with interest earned on unspent fund to comply with the provisions of Rule 230 (8) of GFR 2017.

C.6. The electromechanical work in the swimming pool of sports complex at NIT, Agartala is unfinished as on 31.03.2021. 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 CWIP (Capital Works in Progress) until the swimming pool is ready for use.

C.7. The institute has not accounted for interest accrued as on 31.03.2021 on 122 numbers of fixed deposits (face value ₹14093.31 lakh) held by it against various designated funds as well as own account. The Institute is required to calculate and reflect the same in the Annual Accounts.

D. Grant-in-aid

During the financial year 2020-21, the Institute received ₹61.69 crore as grant-in-aid from Government of India (NIL for capital asset, ₹31.05 crore for recurring and ₹30.64 cr. for salary). Opening unspent grant balance as on 01.04.2020 was ₹9.91 crore (under capital asset). During the year, the Institute has transferred ₹16.96 crore (₹12.34 crore to capital asset, ₹4.23 crore to recurring and ₹0.39 crore to Salary).

from Capital Fund of the Institute. Against the total available fund of ₹88.56 crore the Institute could utilise ₹79.41 crore leaving an net unspent balance of ₹9.15 crore as on 31.03.2021.

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 31.03.2021,

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

For and on behalf of the

Comptroller & Auditor General of India



(B.R.Mondal).

Principal Accountant General (Audit)

Annexure

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 2020-21

4. Physical Verification of Inventories

Physical verification of Inventories had been duly completed by the institute for the financial year 2020-21

5. Regularity in payment of statutory dues

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



भारतीय लेखापरीक्षा और लेखा विभाग
INDIAN AUDIT AND ACCOUNTS DEPARTMENT

No. AMG-II-A/SAR/NITA/AGT/2020-21/399
Date: 24-12-2021

भारतीय लेखापरीक्षा और लेखा विभाग,
INDIAN AUDIT AND ACCOUNTS DEPARTMENT
प्रधान महालेखाकार (लेखापरीक्षा) का कार्यालय, त्रिपुरा, अगरतला
OFFICE OF THE PRINCIPAL ACCOUNTANT GENERAL (AUDIT),
TRIPURA, AGARTALA
पिन/ PIN – 799006 फैक्स/ 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, 2021.

Sir,
Certification audit on the annual accounts of National Institute of Technology, Agartala for the year ended 31 March 2021 was taken up by this office under Section 19 (2) of the Comptroller and Auditor Generals' (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 six 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.

(Rahul Kumar)
Deputy Accountant General (AMG-II)

Annexure to Management Letter

1. The Institute is having a current account with Canara Bank (A/c no-2348201000876) with balance of ₹ 4,48,955/- as on 31.03.2021. The account had same balance since the last 05 years. The need to keep the dormant account may please be assessed.
2. During 2020-21 NIT Agartala performed single cash transaction of ₹ 3,500/-. However, a decent balance of ₹ 74,172/- is maintained as cash in hand as on 31.03.2021. Cash requirement may be assessed on quarterly basis and excess cash balance may be deposited in the bank. Holding up of un-necessary cash balance is a risk area for the Institute.
3. As per MHRD format of accounts- instructions for Stock accounting (page 50), the value of closing stocks held on 31st March is set up as inventories by reducing corresponding revenue expenditure on the purchase of chemicals, glassware, publications and other stores on the basis of information obtained from respective Departments and valued at cost.
As per Sl. No.4 on Inventory valuation (Schedule-23-Significant Accounting Policies) of accounts of NIT Agartala, expenditure on inventory is booked on cash basis and no closing stock for the same is shown in Balance Sheet. However, Department wise stock register is maintained by the Institute. The accounting policy for inventory valuation may be suitably changed and closing stock of inventory as on 31st March may be valued as illustrated in the MHRD format of accounts.
4. NIT Agartala have six number of hostels for students. 13 number of Bank accounts (six in SBI, six in Canara Bank and one in PNB) exist for Hostel purpose with bank balance of ₹ 1,267.97 lakh as on 31 03 2021. Scrutiny of the records revealed that since 2019 NIT Agartala is using a single Bank account (NIT A Hostel Fund A/c -4121132000005-Canara Bank) for hostel operation purpose. All the other 12 number bank accounts with bank balance of ₹ 1,144.38 lakh are lying dormant for last three years. In December 2018 it was decided by NIT Agartala to close the 12 dormant bank accounts but same has not been implemented. The hostel bank balance of ₹ 1,267.97 lakh is not shown under NIT Agartala accounts.
5. The State Government of Bihar has supported number of students from Bihar studying at NIT Agartala by facilitating credit loan towards academic fees of these students. During 2020-21, an amount of ₹ 20.05 lakh has been received by the NIT from the Bihar state government for this purpose. However, the amount of ₹ 20.05 lakh has been wrongly booked as stipend money to be paid to the students. This has resulted in overstatement of Other Current Liabilities- Stipend by ₹ 20 05 lakh and understatement of academic fees received from students by the same amount.
6. Expense amounting to ₹ 1,89,502/- incurred on BoG Meeting Affairs (Bill-310 dated- 4/11/2020) has been wrongly accounted as Medical Facility (Schedule 15- Staff Payment Benefit). This has resulted in overstatement of expenditure on Staff Payment & Benefit (Schedule 15) amounting to ₹ 1,89,502/- and understatement of Administrative & General expenses (Schedule 17) by the same amount.


Sr. Audit Officer/HQ-II



राष्ट्रीय प्रौद्योगिकी संस्थान अगरतला
National Institute of Technology Agartala
AGARTALA - 799 046 (TRIPURA)

No.F.NITA.4 (10-Accounts)/2014/Vol-5/IR-2020-21/4705, Dated: 25/01/2022

To
The Deputy Accountant General (Audit),
Indian Audit and Accounts Department,
O/o the Principal Accountant General (Audit),
Tripura, Agartala
Pin-799006

Subject: Reply of Management letter of SAR on the Accounts of NIT Agartala
for the year 2020-21

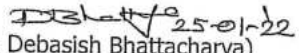
Reference: AMG-II-A/SAR/NITA/2020-21/469 dated 24.12.2021

Sir,

In inviting a reference to the subject mentioned above, I am to furnish herewith
reply of Management Letter of Separate Audit Report (SAR) on the Accounts of NIT
Agartala for the year 2020-21 for your kind consideration.

With regards,

Yours faithfully,


(Dr. Debasish Bhattacharya)
Registrar I/c

Encl: As Stated

25/01/22

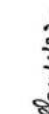


National Institute of Technology Agartala
Bajjala, Jirania, West Tripura, Pin: - 799046
Tel No +91381 2346630 / 6629, Fax No +91381 2346360, Url :- www.nita.nic.in.

NATIONAL INSTITUTE OF TECHNOLOGY, AGARTALA
REPLY OF MANAGEMENT LETTER ON THE ANNUAL ACCOUNTS OF NIT AGARTALA FOR THE YEAR 2020-21

Ref No.	Audit Observation	Replies
A.1	The institute is having a current account with Canara Bank (A/c no - 2348201000876) with balance of Rs 4,48,955/- as on 31.03.2021. The account had same balance since last 05 years. The need to keep the dormant account may please be assessed.	Necessary correction will be done in 2021-22 Accounts of the Institute
A.2	During 2020-21 NIT Agartala performed single cash transaction of Rs 3,500/-, However, a decent balance of Rs 74,172/- is maintained as cash in hand as on 31.03.2021. Cash requirement may be assessed on quarterly basis and excess cash balance may be deposited in the bank. Holding up of un-necessary cash balance is a risk area for the institution.	Necessary action has been taken by the NITA. The copy of voucher is attached herewith for your perusal and ready reference.
A.3	As per MHRD format of accounts- instructions for stock accounting (page 50), the value of closing stocks held on 31 st March is set up as inventories by reducing corresponding revenue expenditure on the purchase of chemicals, glassware, publications and other stores on the basis of information obtained from respective Departments and valued at cost.	Audit instruction will be strictly followed and the same will be reflected in 2021-22 Accounts of the Institute
A.4	As per Sl. No. 4 on Inventory valuation (Schedule-23-Significant Accounting Policies) of accounts of NIT Agartala, expenditure on inventory is booked on cash basis and no closing stock for the same is shown in Balance sheet. However, Department wise stock register is maintained by the institute. The accounting policy for inventory valuation may be suitably changed and closing stock of inventory as on 31 st March may be valued as illustrated in the MHRD format of accounts.	
	NIT Agartala has six number of hostel for students. 13 numbers of Bank accounts (Six in SBI, Six in Canara Bank, one in FNB) exist for Hostel purpose with Bank balance of Rs 1,267.97 lakh as on 31.03.2021. Scrutiny of the records revealed that since 2019 NIT Agartala is using a single Bank account (NITA Hostel Fund A/c-412113200005- Canara Bank) for Hostel operation purpose. All the other 12 number bank accounts with bank	Necessary correction will be done in 2021-22 Accounts of the Institute.

	balance of Rs 1,144.38 lakh are lying dormant for last three years. In December 2018 it was decided by NIT Agartala to close the 12 dormant bank accounts but same has not been implemented. The Hostel bank balance of Rs 1,267 97 lakh is not shown under NIT Agartala accounts.	
A.5	The state Government of Bihar has supported number of students from Bihar studying at NIT Agartala by facilitating credit loan towards academic fees of these students. During 2020-21, an amount of Rs 20.05 lakh has been received by the NIT Agartala from the Bihar state government for this purpose. However, the amount of Rs 20.05 has been wrongly booked as stipend money to be paid to the students. This has resulted in overstatement of other Current Liabilities - Stipend by Rs 20.05 lakh and understatement of academic fees received from students by the same amount	Necessary correction will be done in 2021-22 Accounts of the Institute.
A.6	Expenses amounting to Rs 1,89,502/- incurred on BoG Meeting affairs (Bill-310 dated -4/11/2020 has been wrongly accounted as Medical Facility (Schedule 15 - staff payment benefit). This has resulted in overstatement of expenditure on staff payment & Benefit (Schedule 15) amounting to Rs 1,89,502/- and understatement of Administrative & General expenses (Schedule 17) by the same amount	Necessary correction will be done in 2021-22 Accounts of the Institute.


 25-01-22
 Prof. Debasish Bhattacharya
 Registrar i/c, NIT Agartala



राष्ट्रीय प्रौद्योगिकी संस्थान अगरतला
National Institute of Technology Agartala
AGARTALA - 799 046 (TRIPURA)

No.F.NITA.4 (10-Accounts)/2014/Vol-5/IR-2020-21/9264,

Dated: 04 / 01 / 2022

To
The Deputy Accountant General (Audit),
Indian Audit and Accounts Department,
O/o the Principal Accountant General (Audit),
Tripura, Agartala
Pin-799006

Subject: Reply of the Separate Audit Report (SAR) on the Accounts of NIT Agartala
for the year 2020-21

Reference: AMG-II-A/SAR/NITA/2020-21/469 dated 24.12.2021

Sir,

In inviting a reference to the subject mentioned above, I am to furnish herewith
reply of Separate Audit Report (SAR) on the Accounts of NIT Agartala for the year 2020-
21 for your kind consideration.

With regards,

Yours faithfully,

(Dr. Ajay Kumar Das)
Registrar I/c

Encl: As Stated



National Institute of Technology Agartala
Bajjala, Juania, West Tripura, Pin. - 799046
Tel No +91381 2346630 / 6629, Fax. No. +91381 2346360, Url :- www.nita.nic.in

NATIONAL INSTITUTE OF TECHNOLOGY, AGARTALA
REPLY OF SEPARATE AUDIT REPORT (SAR) OF ANNUAL ACCOUNTS FOR THE YEAR 2020-21

Ref No.	Audit Observation	Replies
A.1	<p>Application of Funds Loans, Advances & Deposits (Schedule 8) Details of Advance to Parties (Schedule 8A) - Rs.517.53 lakh Advances to CPWD - Rs. 337.39 lakh</p> <p>The above advance to CPWD amounting to Rs. 337.39 lakh relates to Supply, Installation, Testing and Commissioning (SITC) of 14 nos. of lifts in various buildings located within NIT, Agartala campus. As on 31.03.2021, all the 14 lifts are in operation and CPWD has handed over the lifts in phased manner during the period September 2019 to January 2021. As the assets are ready and handed over to the Institution, necessary steps may be taken for booking the amount of Rs. 337.39 lakh under Tangible Assets and charge depreciation. This has resulted in overstatement of 'Advance to Parties' by Rs.337.39 lakh with corresponding understatement of 'Fixed Asset' by the same amount.</p>	In view of Audit observation the Assets was handed over on 30.09.2021 i.e. financial year 2021-22 and accordingly the same will be reflected while preparing the annual accounts for the year 2021-22 (copy enclosed).
B.	<p>Income and Expenditure Account Expenditure Staff payment and Benefits (Establishment Expenses) (Schedule 15) Rs. 4125.78 lakh</p>	
B.I	<p>NIT Agartala has computed actuarial valuation of employees' retirement and terminal benefits as on 31.03.2021. As per the actuarial valuation reports, pension benefit obligation is Rs. 5375.91 lakh, Leave encashment and compensated absence of earned leave obligation is Rs. 793.57 lakh and gratuity benefit obligation is Rs. 667.05 lakh. Thus, the total actuarial value of retirement and terminal benefit obligation is Rs. 6836.53 lakh. Against this, the retirement benefit fund balance as on 31.03.2021 is Rs. 5365.42 lakh. Thus, retirement benefit provision to be made during current year is Rs. 1471.11 lakh (Rs.6836.53 lakh - Rs. 5365.42 lakh). Non-provision of the same has resulted in understatement of 'Expenses on Employees Retirement and Terminal benefits' - schedule 15 A by Rs. 1471.11 lakh with corresponding understatement of 'Deficit' by the same amount. This has also resulted in understatement of Retirement Benefit Fund by Rs.1471.11 lakh</p>	In view of Audit observation the difference in the provision of Retirement Benefit fund due to non-valuation by the Actuaries in the previous years. The difference amount of Rs. 1471.11 Lakhs will be reflected in the Annual Accounts of the Institute transferred to the Retirement and Terminal benefit fund in this financial year provided sufficient fund is received from the Ministry of Education and will be reflected in the annual accounts for the year 2021-22.

C.	General		Necessary correction will be done in 2021-22 Accounts of the Institute.						
C.1	<p>Format of Account</p> <p>Schedule 23: Significant accounting policies SI.No.1 para 3 states that the Institute has prepared the Annual Accounts 2020-21 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:</p> <table><tr><th>Sl.No.</th><th>Name of Schedule</th><th>Nature of non-compliance</th></tr><tr><td>1.</td><td>Schedule 9 <i>Academic Receipts</i></td><td>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 Rs50, 000/- whichever is higher shall be shown as a separate and distinct item against an appropriate account head in the Income and Expenditure Account. The Institute has shown an amount of Rs. 1,82,35,600 as 'All other Fees' under Academic Collection which should be bifurcated as per the MHRD format requirement.</td></tr></table>	Sl.No.	Name of Schedule	Nature of non-compliance	1.	Schedule 9 <i>Academic Receipts</i>	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 Rs50, 000/- whichever is higher shall be shown as a separate and distinct item against an appropriate account head in the Income and Expenditure Account. The Institute has shown an amount of Rs. 1,82,35,600 as 'All other Fees' under Academic Collection which should be bifurcated as per the MHRD format requirement.		
Sl.No.	Name of Schedule	Nature of non-compliance							
1.	Schedule 9 <i>Academic Receipts</i>	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 Rs50, 000/- whichever is higher shall be shown as a separate and distinct item against an appropriate account head in the Income and Expenditure Account. The Institute has shown an amount of Rs. 1,82,35,600 as 'All other Fees' under Academic Collection which should be bifurcated as per the MHRD format requirement.							
C.2	The Institute during its formation had taken over net assets of Rs. 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.	<p>A letter/email vide dated 10.08.2021 received from the Directorate of Higher Education, Government of Tripura relating to transfer of Assets of Rs. 16.08 crore of TEC is enclosed herewith for your information and ready reference. (Copy enclosed)</p> <p>In view of the above, the Assets and Liabilities will be incorporated in the Annual Accounts of the Institute after getting confirmation from Directorate of Higher Education, Government of Tripura.</p>	<p>A letter/email vide dated 10.08.2021 received from the Directorate of Higher Education, Government of Tripura relating to transfer of Assets of Rs. 16.08 crore of TEC is enclosed herewith for your information and ready reference. (Copy enclosed)</p> <p>In view of the above, the Assets and Liabilities will be incorporated in the Annual Accounts of the Institute after getting confirmation from Directorate of Higher Education, Government of Tripura.</p>						
C.3	As per the format and instructions of MHRD, the interest income should be shown at gross interest figures (Income from Investment (Schedule 11) and Accrued Interest on Investments/advances (Schedule-2)) and tax Deducted at Source (TDS) on interest income is to be stated separately as Claim Receivables (Schedule 8) in the balance sheet. The Institute has not accounted the Tax Deducted at Source (TDS) on term deposit matured during the year.	The income of NIT Agartala has exempted under section 10(23C). The copy of the same is enclosed herewith.	The income of NIT Agartala has exempted under section 10(23C). The copy of the same is enclosed herewith.						
C.4	Scrutiny of records revealed that preparation and finalisation of annual accounts of Hostel is pending since 2015-16. As a result, internal audit of the accounts is also pending. The Hostel accounts should be integrated with the NIT Agartala accounts and user charge in hostel/hostel fee collected from students availing hostel facilities should be shown under Academic Receipts (Schedule 9) and Other Income (Schedule 13) as applicable.	Internal Audit of the Hostel Accounts is under process and the same will be completed soon.	Internal Audit of the Hostel Accounts is under process and the same will be completed soon. Necessary correction will be done in 2021-22 Accounts of the Institute.						

C.5	As per Rule 230 (8) of General Financial Rules 2017, all interests or other earnings against Grants in aid (other than reimbursement) should be mandatorily remitted to the Consolidated Fund of India immediately after finalisation of accounts. Such advances should not be allowed to be adjusted against future releases. Unspent balance of discontinued schemes/completed projects are also to be remitted back. Annexure D of Schedule 3 of NIT Agartala accounts depicts unspent balance of Rs. 1961.34 lakh against capital grant as on 31.03.2021 and Rs. 990.66 lakh as on 31.03.2020. The unspent balance of discontinued schemes/completed projects should be returned back to the Ministry along with interest earned on unspent fund to comply with the provisions of Rule 230 (8) of GFR 2017.	Henceforth, all the grants will be received from PFMS/TSA Accounts and at the end of the financial year, balance will automatically be reversed to the RBI.
C.6	The electromechanical work in the swimming pool of sports complex at NIT Agartala is unfinished as on 31.03.2021. In 43 rd 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 CWIP until the swimming pool is ready for use.	CPWD has Already agreed to take up the electromechanical work in the swimming pool of sports complex.
C.7	The Institute has not accounted for interest accrued as on 31.03.2021 on 122 numbers of fixed deposit (face value Rs 14093.31 lakh) held by it against various designated funds as well as own account. The institute is required to calculate and reflect the same in the Annual Account.	Audit Instructions regarding computation of accrued interest on Fixed Deposit have been noted. Accrued interest for individual Fixed Deposit will be calculated and reflected in the Annual Accounts of the Institute from 2021-22.
D.	<p>Grant-in-aid</p> <p>During the financial year 2020-21, the Institute received Rs.61.69 crore as grant-in-aid from Government of India (NIL for capital asset, Rs.31.06 cr. for recurring and Rs.30.64 cr. for salary). Opening unspent grant balance as on 01.04.2020 was Rs.9.91 cr. (under capital asset). During the year, the Institute has transferred Rs.16.96 crore (Rs. 12.34 cr to capital asset, Rs. 4.23 crore to recurring and Rs. 0.39 cr to Salary) from Capital Fund of the Institute. Against the total available fund of Rs. 88.56 cr, the Institute could utilise 79.41 cr. leaving an net unspent balance of Rs.9.15 cr as on 31.03.2021.</p> <p>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.</p> <p>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.</p> <p>a. In so far it relates to the Balance Sheet of the state of affairs of the National Institute of Technology, Agartala as on 31.03.2021,</p> <p>b. In so far as it relates to Income and Expenditure Account of the deficit for the year ended on that date.</p>	

Keeping in view of above reply, Audit is requested to drop the para.

The above is sent for your kind consideration.

(Dr. Ajay Kumar Das)
Registrar I/c



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 01.04.2020 to 31.03.2021(Revised)

With reference to the letter No. NITA.4 (10-Accounts)/2007/Vol-4/1022 dated-15th June,2021, we have conducted the Internal Audit of NIT Agartala for the period from 01.04.2020 to 31.03.2021 and our observations in this respect are as follows:-

1. GRANT-IN-AID:

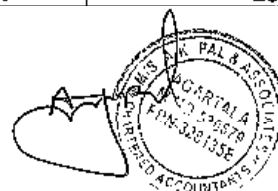
- Grant received by NIT Agartala from MHRD, New Delhi during the financial year 2020-21 as follows:-

For Object Head - 31:

Sl. No	Sanction Memo	Date of sanction	Amount in lakhs
1	F.36-4/2020-TS-III	23.04.2020	154.00
2	F.36-4/2020-TS-III	05.05.2020	154.00
3	F.36-4/2020-TS-III	22.06.2020	153.72
4	F.36-4/2020-TS-III	20.07.2020	330.00
5	F.36-4/2020-TS-III	20.08.2020	330.00
6	F.36-4/2020-TS-III	08.09.2020	330.00
7	F.36-4/2020-TS-III	23.10.2020	295.00
8	F.36-4/2020-TS-III	04.11.2020	295.00
9	F.36-4/2020-TS-III	08.12.2020	292.00
10	F.36-4/2020-TS-III	28.12.2020	100.00
11	F.36-4/2020-TS-III	12.02.2021	505.00
12	F.36-4/2020-TS-III	05.03.2021	167.00
Total			3105.72

For Object Head - 36:

Sl. No	Sanction Memo	Date of sanction	Amount in lakhs
1	F.36-4/2020-TS-III	23.04.2020	215.03
2	F.36-4/2020-TS-III	05.05.2020	215.00
3	F.36-4/2020-TS-III	22.06.2020	215.00
4	F.36-4/2020-TS-III	20.07.2020	277.97
5	F.36-4/2020-TS-III	20.08.2020	279.00
6	F.36-4/2020-TS-III	08.09.2020	279.00
7	F.36-4/2020-TS-III	23.10.2020	265.00
8	F.36-4/2020-TS-III	04.11.2020	266.00
9	F.36-4/2020-TS-III	08.12.2020	266.00





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

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

10	F.36-4/2020-TS-III	28.12.2020	86.00
11	F.36-4/2020-TS-III	12.02.2021	525.00
12	F.36-4/2020-TS-III	05.03.2021	175.00
		Total	3064.00

For Object Head - 35:

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

Grants from Others

Sl. No	Sanction Memo	Date of sanction	Amount in lakhs
1	Grants from Social Justice, Govt. of India, New Delhi for Const of Girls Hostel in NIT Agartala		315.00

- The status of Grant-in-aid during the financial year 2020-21 is as follows:

(Rupees in Lakhs)

Object Head	Unspent balance as on 01.04.2020	Grant-in-aid	Total Fund	Utilized	Unspent balance as on 31.03.2021
OH-31	423.28	3105.72	3529.00	3435.99	93.01
OH-36	38.97	3064.00	3102.97	4241.69	-1138.72
OH-35	2224.37	---	2224.37	263.02	1961.35
Total	2686.62	6169.72	8556.34	7940.70	915.64





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

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

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-2020, May-2020, September-2020, January-2021, February-2021 and March-2021 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 per cash book as on 31.03.2021 are as follows:

Sl. No	Name of Bank, Branch	A/c No	Balance as on 31.03.2021 (Rs)
1	SBI, NIT Agartala Br	30358199684	98,33,858/-
2	Canara Bank, NIT Agartala Br	4121101001663	12,48,623/-
3	SBI, NIT Agartala Br	30369892838	2,09,44,032/-
4	Canara Bank, NIT Agartala Br	876	4,48,895/-

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

Sl. No	Name of Project	A/c No	Balance as on 31.03.2021 (Rs)
1	NPS Tier I	30471674447	20,11,552/-
2	Project Fund	30533908751	1,17,75,854/-
3	Retirement Benefit Fund	30693303036	15,36,39,613/-
4	Student Welfare Fund	30534089717	26,33,210/-
5	NITA Corpus Fund	30534091012	20,83,88,515/-
6	EMD & Security Fund	30936141729	1,28,17,653/-
7	Sponsored Project Fund	30773081908	1,37,73,459/-
8	Staff Welfare Fund	30534092027	3,18,038/-
9	Deptt. Promotional Fund	30534090278	41,37,864/-
10	Staff Benefit Trust Fund	31509918149	21,20,410/-
11	Guest House Fund	31664487420	92,31,902/-
12	NIT Transit House Fund	31092166195	3,42,290/-
13	Infra. Development Fund	8026010030064	33,31,201/-

COMMENTS:

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





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

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

3. ADVANCES:

OBSERVATIONS:

- NIT Agartala has maintained Advance Register separately.
- Temporary advance to employee lying unadjusted as on 31.03.2021 is as follows:

Sl. No	Name of Employee	Amount of Advance as on 31.03.2021 (Rs)	Remarks
1	Manojit Das	21,300/-	
Total		21,300/-	

- Unadjusted advances given to third parties as on 31.03.2021 under Non-Recurring items are as follows:

Sl. No	Name of Party/Agency	Amount of Advance as on 31.03.2021 (Rs)	Remarks
1	BSNL-Agartala	1,72,764/-	
2	THB-Agartala	76,40,420/-	
3	EPIL	1,02,00,000/-	
4	CPWD-Agartala	3,37,39,471/-	
Total		5,17,52,655/-	

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 Education, Government of India.
- Only vehicle insurance was covered.

5. FIXED DEPOSITS/MUTUAL FUND:-

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





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

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

6. STATUTORY DUES REGISTER:

- Statutory Dues Register has been maintained by NIT Agartala.
- No due is outstanding during the Financial Year 2020-21.

7. Overall Observations:-

A) In the following cases GST-TDS was not deducted while payment made:-

- i) Bill No.244, dated-08.10.2020, Rs.3,22,904/- for Supply of Electrical appliances.
- ii) Bill No.308, dated-04.11.2020, Rs.4,42,230/- for Supply of Electrical appliances.
- iii) Bill No.219, dated-05.10.2020, Rs.4,95,880/- for supply of single cot (Metal steel).
Moreover, In Bill No.219 as mentioned above, it was also observed that the supplier Was raised Tax Invoice without quoting GST amount separately.

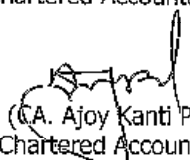
We thankfully acknowledge the Co-operation extended by the Officers/Officials of NIT Agartala in conducting the Internal Audit.

UDIN:-21530679AAAAANX3163

Date: 29.07.2021
Place: Agartala

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




(CA. Ajoy Kanti Pal)
Chartered Accountant

**KOUSHIK DEBNATH & ASSOCIATES**

Chartered Accountants

Office: Lenin Sarani, Old Municipality Road
(Near Nath Bhandar) Agartala
Tripura (West) 799001
Ph: 0381 2381007

caakoushik2012@gmail.com

**ACCOUNTANT'S REPORT ON COMPILATION OF UNAUDITED FINANCIAL
STATEMENTS**

To the Management of - NATIONAL INSTITUTE OF TECHNOLOGY (NIT) AGARTALA

On the basis of the accounting records and other information and explanations provided to us by the management, we have compiled, the unaudited balance sheet of **NATIONAL INSTITUTE OF TECHNOLOGY (NIT) AGARTALA** (name of the entity) as at March 31, 2021 and the related Income & Expenditure account for the period then ended.

The management of the **NATIONAL INSTITUTE OF TECHNOLOGY (NIT) AGARTALA** (name of the entity) is responsible for:

- (a) Completeness and accuracy of the underlying data and complete disclosure of all material and relevant information to the accountant.
- (b) Maintaining adequate accounting and other records and internal controls and selecting and applying appropriate accounting policies;
- (c) Preparation and presentation of financial statements in accordance with the applicable laws and regulations, if any.

(d) Establishing controls to safeguard the assets of the entity and preventing and detecting frauds or other irregularities.

(e) Establishing controls for ensuring that the activities of the entity are carried out in accordance with the applicable laws and regulations and preventing and detecting any non compliance.

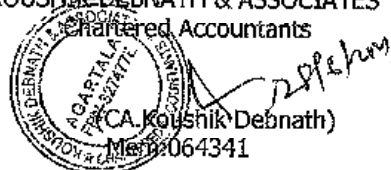
The compilation engagement was carried out by us in accordance with the Standard on Related Services (SRS) 4410, "Engagements to Compile Financial Information", issued by the Institute of Chartered Accountants of India.

The balance sheet and the Income & Expenditure account are in agreement with the books of account. We have not audited or reviewed these financial statements and accordingly express no opinion thereon.

Place: Agartala

Date:

For, KOUSHIK DEBNATH & ASSOCIATES
Chartered Accountants



FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)			
Name of Entity: NATIONAL INSTITUTE OF TECHNOLOGY, AGARTALA			
BALANCE SHEET AS AT 31.03.2021			
Amount Rs			
Previous year			
2019-2020			
Current year			
2020-2021			
Schedule			
I. SOURCES OF FUNDS			
CORPUS / CAPITAL FUND AND LIABILITIES			
CORPUS / CAPITAL FUND	1	7296212864	7660159062
DESIGNATED / EARMARKED / ENDOWMENT FUNDS	2	1665885631	1298972586
CURRENT LIABILITIES & PROVISION	3	219751910	174371521
TOTAL		9181850405	9133503169
II. APPLICATION OF FUNDS			
FIXED ASSETS			
i) Tangible Assets	4	7255420982	7435143115
ii) Intangible Assets	5	11175515	10447478
iii) Capital Works-in-Progress	6	0	0
INVESTMENTS - FROM EARMARKED / ENDOWMENT FUNDS	7	1409330592	961714299
i) Long Terms	8	0	0
ii) Short Terms	9	452939179	669738122
INVESTMENTS OTHERS	10	52984136	56460155
CURRENT ASSETS			
LOANS, ADVANCES & DEPOSITS			
TOTAL		9181850405	9133503169
SIGNIFICANT ACCOUNTING POLICIES			
CONTINGENT LIABILITIES AND NOTES ON ACCOUNTS			
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p><i>Koushik</i> Asstt. Registrar (Finance)</p> </div> <div style="width: 45%;"> <p><i>Director</i> Director</p> </div> </div>			
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>For KOUSHIK DEBNATH & ASSOCIATES (Chartered Accountants)</p> <p><i>(CA Koushik Debnath)</i> Chartered Accountant</p> </div> <div style="width: 45%;"> <p>Head (F & A)</p> </div> </div>			

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 31.03.2021			
Particulars	Schedule	Current year 2020-2021	Previous year 2019-2020
INCOME			
Academic Receipts	9	179424564	263925884
Grants & Subsidies	10	794069988	485564706
Income from Investments	11	10732120	6837563
Interest Earned	12	10590301	18024915
Other Income	13	4478742	646075
Prior Period Income	14	0	0
TOTAL (A)		999295715	774999143
EXPENDITURE			
Staff Payment & Benefits (Establishment Expenses)	15	412578427	400199182
Academic Expenses	16	90480564	87572483
Administrative & General Expenses	17	109400237	132093127
Transportation Expenses	18	686761	1232683
Repairs & Maintenance	19	11779775	22711400
Finance Cost	20	41147	9845
Other Expenses	21	15020026	15002500
Prior Period Expenses	22	0	0
Expenses of Plan Fund	23(a)	0	0
Depreciation	4	211717001	212347405
Contribution to Retirement Benefit Fund		146061704	100000000
Corpus Fund		200000000	270000000
TOTAL (B)		1197765642	1241168625
Balance being Excess/Deficit of Income over Expenditure (A - B)		(198469927)	(466169482)
transferred to Capital Fund			
Significant Accounting policies	23		
Contingent liabilities and notes on Accounts	24		
For Koushik Deb Nath Asstt. Registrar (Finance)	Head (F & A)	Registrar	Director
For Koushik Deb Nath & ASSOCIATES (Chartered Accountants)			
(CA Koushik Deb Nath) Chartered Accountant			

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

SCHEDULE 5A: 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	30.05.2020	30268531331	4420050	30.05.2022	4886708	SBI Agt Br.
2	30.05.2019	30772128735	59752	30.05.2022	66060	SBI Agt Br.
3	15.03.2020	2348401000653/5	11087772	15.03.2022	12490294	Canara Bank, Agt Br
4	31.03.2021	3248401000647/5	6569037	31.03.2022	6917345	Canara Bank, Agt Br
5	31.03.2020	3248401000647/6	6657769	31.03.2022	7010783	Canara Bank, Agt Br
6	26.03.2020	3248401000648/1	10822807	26.03.2022	12191813	Canara Bank, Agt Br
7	31.03.2021	4121401000103/97	10555978	01.10.2021	10792155	Canara Bank, NIT Agt Br
8	31.03.2021	4121401000103/98	10555978	01.10.2021	10792155	Canara Bank, NIT Agt Br
9	31.03.2021	4121401000103/99	10555978	01.10.2021	10792155	Canara Bank, NIT Agt Br
10	31.03.2021	4121401000103/100	10555978	01.10.2021	10792155	Canara Bank, NIT Agt Br
11	31.03.2021	4121401000103/101	10555889	01.10.2021	10792064	Canara Bank, NIT Agt Br
12	31.03.2021	4121401000103/102	10555889	01.10.2021	10792064	Canara Bank, NIT Agt Br
13	31.03.2021	4121401000103/103	10555889	01.10.2021	10792064	Canara Bank, NIT Agt Br
14	31.03.2021	4121401000103/104	10555889	01.10.2021	10792064	Canara Bank, NIT Agt Br
15	31.03.2021	4121401000103/105	10555889	01.10.2021	10792064	Canara Bank, NIT Agt Br
16	31.03.2021	4121401000103/106	10555889	01.10.2021	10792064	Canara Bank, NIT Agt Br
17	31.03.2021	4121401000103/107	10555889	01.10.2021	10792064	Canara Bank, NIT Agt Br
18	31.03.2021	4121401000103/108	8072147	01.10.2021	8252752	Canara Bank, NIT Agt Br
TOTAL			163804558		170528914	
ii) Retirement Benefit Fund						
1	02.04.2020	30359168928	2898324	02.04.2023	3434687	SBI, NITA Br
2	19.08.2020	4121401000241/2	10708801	19.08.2021	11298692	Canara Bank, NIT Agt Br
3	19.08.2020	4121401000241/1	10000000	19.08.2021	10551035	Canara Bank, NIT Agt Br
4	06.02.2021	33642380099	4116928	06.02.2022	4306490	SBI, NITA Br.
5	06.02.2021	33642380191	2470154	06.02.2022	2583892	SBI, NITA Br.
6	06.02.2021	33642380351	2470154	06.02.2022	2583892	SBI, NITA Br.
7	06.02.2021	33642380500	2470154	06.02.2022	2583892	SBI, NITA Br.
8	06.02.2021	33642380634	2470154	06.02.2022	2583892	SBI, NITA Br.
9	06.02.2021	33642380736	2470154	06.02.2022	2583892	SBI, NITA Br.
10	06.02.2021	33642380872	2470154	06.02.2022	2583892	SBI, NITA Br.
11	06.02.2021	33642381004	2470154	06.02.2022	2583892	SBI, NITA Br.
12	06.02.2021	33642379708	2470154	06.02.2022	2583892	SBI, NITA Br.
13	06.02.2021	33642379822	2470154	06.02.2022	2583892	SBI, NITA Br.
14	06.02.2021	33642379866	2470154	06.02.2022	2583892	SBI, NITA Br.
15	06.02.2021	33642379968	2470154	06.02.2022	2583892	SBI, NITA Br.
16	12.03.2021	34783448095	1461336	12.03.2022	1529096	SBI NITA Br.
17	12.03.2021	34783447976	1461336	12.03.2022	1529096	SBI NITA Br.

MAHESWARI
 Assistant Registrar (Fin)
 NIT, Agartala

(TANMOY CHOSHAL)
 Head (F&A), NIT, Agartala.

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

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

GOVIND BHARGAVA
Registrar,
NIT, Agartala.
(Prof. Harish Kr. Sharma)
Director, NIT Agartala

(TAMMOY GHOSHAL)
Head (F&A), NIT, Agartala.

DATE RECEIVED
BY: [Signature]

12	22.01.2021	8026141600482	2459063	22.01.2022	2591874	TGB NITA Br.	
13	22.01.2021	8026141600483	2459063	22.01.2022	2591874	TGB NITA Br.	
14	22.01.2021	8026141600484	2459063	22.01.2022	2591874	TGB NITA Br.	
15	22.01.2021	8026141600485	2459063	22.01.2022	2591874	TGB NITA Br.	
16	22.01.2021	8026141600486	2235513	22.01.2022	2356250	TGB NITA Br.	
17	22.01.2021	8026141600487	1788413	22.01.2022	1885003	TGB NITA Br.	
18	22.01.2021	8026141600488	1341335	22.01.2022	1413779	TGB NITA Br.	
19	22.01.2021	8026141600489	895372	22.01.2022	943778	TGB NITA Br.	
20	22.01.2021	8026141600490	446925	22.01.2022	471063	TGB NITA Br.	
21	22.01.2021	8026142100058	9356341	22.01.2022	9861685	TGB NITA Br.	
22	22.01.2021	8026142100067	9490009	22.01.2022	10003501	TGB NITA Br.	
23	22.01.2021	8026142100076	9480943	22.01.2022	9992997	TGB NITA Br.	
24	22.01.2021	8026142100085	9480946	22.01.2022	9993000	TGB NITA Br.	
25	22.01.2021	8026142100094	7584755	22.01.2022	7994398	TGB NITA Br.	
26	22.01.2021	8026142100100	5688569	22.01.2022	5995801	TGB NITA Br.	
27	22.01.2021	8026142100119	3792374	22.01.2022	3997195	TGB NITA Br.	
28	22.01.2021	8026142100128	1896187	22.01.2022	1998598	TGB NITA Br.	
29	26.05.2021	8026142103578	2817916	26.05.2022	2970260	TGB NITA Br.	
		TOTAL	115472986		121710360		
w) Infrastructure Development Fund		4121401000239/1	11328106	19.08.2021	11952322	Canara Bank, NIT Agt Br.	
		TOTAL	11328106		11952322		
v) NITA Corpus Fund (Institute Development Fund)		4121401000240/2	16870390	19.08.2021	17800005	Canara Bank, NITA Br.	
1	19.08.2020	4121401000240/1	10000000	19.08.2021	10551035	Canara Bank, NITA Br.	
2	06.02.2021	33642377597	2467967	06.02.2022	2581603	SBI NITA Br.	
3	06.02.2021	33642378738	2470154	06.02.2022	2583892	SBI NITA Br.	
4	06.02.2021	34783371607	7306697	12.03.2022	7645498	SBI NITA Br.	
5	12.03.2021	34783371562	7306697	12.03.2022	7645498	SBI NITA Br.	
6	12.03.2021	34783371459	7306697	12.03.2022	7645498	SBI NITA Br.	
7	12.03.2021	34783371051	7306697	12.03.2022	7645498	SBI NITA Br.	
8	12.03.2021	34783369621	7306697	12.03.2022	7645498	SBI NITA Br.	
9	12.03.2021	35665970393	6758768	31.03.2022	7073669	SBI NITA Br.	
10	31.03.2021	35665969151	6758768	31.03.2022	7073669	SBI NITA Br.	
11	31.03.2021	35665968884	6758768	31.03.2022	7073669	SBI NITA Br.	
12	31.03.2021	36734493631	5986002	03.04.2021	6334567	SBI NITA Br.	
13	03.04.2020	36734493653	5986002	03.04.2021	6334567	SBI NITA Br.	
14	03.04.2020	38361787890	82624992	30.03.2022	84900434	SBI NITA Br.	
15	30.03.2021	38361786557	82624992	30.03.2022	84900434	SBI NITA Br.	
16	30.03.2021	38361785292	82624992	30.03.2022	84900434	SBI NITA Br.	
17	30.03.2021	38361753598	82624992	30.03.2022	84900434	SBI NITA Br.	
18	30.03.2021	39732434347	15000000	14.10.2021	15748616	SBI NITA Br.	
19	14.10.2020	39732434347	15000000	14.10.2021	15748616	SBI NITA Br.	
20	14.10.2020	39732433229	15000000	14.10.2021	15748616	SBI NITA Br.	

(KAMLESH TILWANI)
Assistant Registrar (Fin.)
NIT Agartala.

(TANJOY GHOSHAL)
Head (F&A), NIT, Agartala.

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

21	14.10.2020	39732432351	15000000	14.10.2021	15748616 SBI NITA Br.
22	14.10.2020	39732431084	15000000	14.10.2021	15748616 SBI NITA Br.
23	14.10.2020	39732429097	15000000	14.10.2021	15748616 SBI NITA Br.
24	14.10.2020	39732500865	15000000	14.10.2021	15748616 SBI NITA Br.
25	14.10.2020	39732499984	15000000	14.10.2021	15748616 SBI NITA Br.
26	14.10.2020	39732436865	15000000	14.10.2021	15748616 SBI NITA Br.
27	14.10.2020	39732435691	15000000	14.10.2021	15748616 SBI NITA Br.
28	14.10.2020	39732505922	15000000	14.10.2021	15748616 SBI NITA Br.
29	14.10.2020	39732504521	15000000	14.10.2021	15748616 SBI NITA Br.
30	14.10.2020	39732502579	15000000	14.10.2021	15748616 SBI NITA Br.
31	14.10.2020	39732506674	15000000	14.10.2021	15748616 SBI NITA Br.
32	14.10.2020	39732419942	15000000	14.10.2021	15748616 SBI NITA Br.
33	14.10.2020	39732421724	15000000	14.10.2021	15748616 SBI NITA Br.
34	14.10.2020	39732415697	50000000	14.10.2021	5249539 SBI NITA Br.
35	04.11.2020	MF- 24962491	50000000	14.10.2021	0 SBI NITA Br.
		TOTAL	711090272		686714681
vi) FMD & Security Deposit Fund					
1	05.02.2021	33642378772	2470154	06.02.2022	2583892 SBI NITA Br.
2	06.02.2021	33642378909	2470154	06.02.2022	2583892 SBI NITA Br.
3	06.02.2021	33642378976	2470154	06.02.2022	2583892 SBI NITA Br.
4	06.02.2021	33642379038	2470154	06.02.2022	2583892 SBI NITA Br.
5	06.02.2021	33642379107	2470154	06.02.2022	2583892 SBI NITA Br.
6	06.02.2021	33642379232	2470154	06.02.2022	2583892 SBI NITA Br.
7	06.02.2021	33642379301	2470154	06.02.2022	2583892 SBI NITA Br.
8	06.02.2021	33642379436	2470154	06.02.2022	2583892 SBI NITA Br.
9	06.02.2021	33642379538	2470154	06.02.2022	2583892 SBI NITA Br.
10	06.02.2021	33642379606	2470154	06.02.2022	2583892 SBI NITA Br.
		TOTAL	24701540		25838920
vii) Moutoshi Kar Memorial					
1	31.03.2020	3473297775	30002	18.12.2021	31141 SBI NITA Br.
		GRAND TOTAL	1409330592		1416793754

Kamlesh
(KAMLESH TIWARI)
Assistant Registrar (Fin.)
NIT Agartala

Tanmoy Ghoshal
(TANMOY GHOSHAL)
Head (F&A), NIT, Agartala.

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

Prof. Harish Kr. Sharma
(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 31.03.2021					
RECEIPTS	(Amount - Rs.) Current Year 2020-2021	(Amount - Rs.) Previous Year 2019-2020	PAYMENTS	(Amount - Rs.) Current Year 2020-2021	(Amount - Rs.) Previous Year 2019-2020
I) Opening Balance					
In Savings Plus A/c (Non-Plan)					
Bank (SBI, NIT Agt Br)	29372037	23063821	II) EXPENSES	405283290	393667305
Bank (Canara Bank Agt Br)	448955	148955	a) Staff Payment & Benefit	102510886	131414997
Cash	0	0	b) Administrative & Gen Expenses	80828893	87611876
			c) Academic Expenses	708061	1232683
Opening Balance (Plan)			d) Transportator Expenses	12465891	19683468
Bank-SBI, NIT Agt Br	147061815	450201744	e) Repair & Maintenance	37607	9845
Bank (Canara Bank Agt Br)	1211775	1171141	f) Finance Cost	601832620	633825174
Cash	77732	1311	III) Expenditure on Fixed Assets & Capital Working Outlays -		
			Fixed Assets		
II) GRANTS RECEIPTS			Plan	24308988	27244706
From MHRD (Govt. of India)			Non-Plan		275000
a) Object Head-35	310572000	407320000	IV) Other Payments		
b) Object Head-31	306400000	500000000	a) Stipend/Scholarship	1042050	22519706
c) Object Head-36	616972000	500000000	Otherstate-Stipend		
III) Interest Received			Moutoshi Kar Memorial		
a) Plan Fund	7135068	16396726	IV) Advances		
b) Non-Plan Fund	3455233	1555320	a) Plan	0	6000000
			b) Non-Plan		
IV) Any other received			Corpus Fund	200000000	270000000
a) Academic Collection	185848564	269840884	Exp. for CSAB & CCMT	255315	2050948
b) Miscellaneous Receipts	316684	646075	Retirement Benefit Fund	146061704	100000000
c) Library Caution Money			Library Caution Money	35000	6680000
d) CSAB & CCMT Fees	566700	1920129	Grant to KV, NIT Agartala	15000000	15000000
Fund from Social Justice, New Delhi	31500000		Loan refund to DHE (Staff Salary & others)	5649980	1563500
Temporary Advance Received			LTC Advance to Faculty & Staff	21300	
			Temporary Advance to Employee		
Otherstate-Stipend Received	2769982	718467	V) Closing Balance		
Other Loan Recovery			a) In Savings Plus A/c (Non-Plan)		
From Startup Fund			Bank-Canara Bank, AGT Br	448955	448955
From TEQIP Fund			Bank-SBI, NIT Agt Br	20944032	29372037
			Cash	0	29820992
			b) In Savings Plus A/c (Plan)		
			Bank-Canara Bank, Agt Br	1246623	1211775
			SBI, NIT Agt Br	9833858	147061815
			Cash	74172	77732
				11156653	148351322
TOTAL	1026756545	1240082778	TOTAL	1026756545	1240082778

(KAMLESH TILWANI)


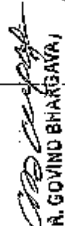


Assistant Registrar (Fin.)
NIT, Agartala.

TANMOY GHOSHAL

Head (F&A), NIT, Agartala.

(UN. GURU BHARRAVA)

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 31.03.2021			(Amount - Rs.)	
SCHEDULE 1-CAPITAL FUND :			Current Year 2020-2021	Previous Year 2019-2020
			7660159062	8126328544
Balance as at the beginning of the year			0	0
Add: Contributions towards Corpus/Capital Fund			0	0
Add: Grants from UGC, Govt. of India and State Govt. to the extent utilized for Capital Expenditure			0	0
Add: Assets Purchased out of Earmarked Funds			0	0
Add: Assets Donation/Gift Received			0	0
Add: Other Additions			4118729	
Add (Deduct) balance of Net Income/ Expenditure transferred from the Income and Expenditure Account.			(198469927)	(466169482)
Less: Transfer to Schedule-3 for MoE Grants			(16,95,95,000)	0
BALANCE AS AT THE YEAR - END			7296212864	7660159062
 (KAMLESH TILWANI) Assistant Registrar (Fin.) NIT Agartala.			 (DR. GOVIND BHARGAVA) Registrar, NIT, Agartala.	
 (TANMOY GHOSHAL) Head (F&A), 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 31.03.2021

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 (Annexure "A")	TOTAL
A.							
a) Opening Balance	699279207	396052851		11066685	0	192573843	896991708
b) Additions during year	200044395	153240592				24328781	405139167
c) Income from Investments made of the Funds						0	0
d) Accrued Interest on Investments/advances	16098778	9806737		3487595		8696144	49686650
e) Interest on Savings A/c	4056407	2073289		105027		1695817	4500520
f) Others (Specify nature)						0	0
TOTAL (A)	919478787	561173469	0	14659307	0	227294585	1356318045
B.							
Utilisation/Expenditure towards objectives of funds	0			0		0	0
i) Capital Expenditure	0	24630728		0		32089789	57345459
ii) Revenue Expenditure							
TOTAL (B)	0	24630728	0	0	0	32089789	57345459
Closing Balance at the end of the year (A-B)	919478787	536542741	0	14659307	0	195204796	1298972586
Represented by							
Cash and Bank balance	208388515	153639613		3331201		55030270	491565808
Investments- FDs	711090272	382903128		11328106		140174526	807406773
Interest accrued but not due							
Total	919478787	536542741	0	14659307	0	195204796	1298972586

Kamlesh
(KAMLESH TILWANI)
 Assistant Registrar (Fin.)
 NIT Agartala.

Tanmoy Ghoshal
(TANMOY GHOSHAL)
 Ad (E&A), NIT, Agartala.

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

Prof. Kamlesh K. Tilwani
(Prof. Kamlesh K. Tilwani)
 Director, NIT Agartala

Annexure "A" of Schedule- 2

SCHEDULE 2- DESIGNATED / EARMARKED FUNDS	General Fund-Subsidiary								TOTAL	
	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	8217930	40820763	1709149	306761	128837368	4027212	8321523	333137	192573843	186352760
b) Additions during year	6673271	6691111	865153	2776	9420515		675955		24328781	34634211
c) Income from Investments made of the Funds									0	0
d) Accrued Interest on Investments/advances		1451050			7245094				8696144	8030780
e) Interest on Savings A/c	264753	448923	68908	8501	550267	110652	234660	9153	1695817	2153776
f) Others (Specify nature)									0	
TOTAL (A)	15155954	49411847	2643210	318038	146053244	4137864	9232138	342290	227294585	231171527
B.										
Utilisation/Expenditure towards objectives of funds										
i) Capital Expenditure	0								0	
ii) Revenue Expenditure	3380100	11892654	10000		16806799		236		32089789	38597684
TOTAL (B)	3380100	11892654	10000	0	16806799	0	236	0	32089789	38597684
Closing Balance at the end of the year (A-B)	11775854	37519193	2633210	318038	129246445	4137864	9231902	342290	195204796	192573843
Represented by										
Cash and Bank balance	11775854	12817653	2633210	318038	13773459	4137864	9231902	342290	55030270	
Investments- FDs	0	24701540		0	115472986	0			140174526	
Interest accrued but not due										
Total	11775854	37519193	2633210	318038	129246445	4137864	9231902	342290	195204796	0

Kamlesh

(KAMLESH TILWANI)
Assistant Registrar (Fin.)
NIT Agartala

G. Ghoshal

(TANMOY GHOSHAL)
Head (F&A), NIT, Agartala

G. Bhargava

(DR. GOVIND BHARGAVA)
Registrar,
NIT, Agartala

L. Sharmma

(Prof. Harish Kr. Sharmma)
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 31.03.2021

SCHEDULE 3- CURRENT LIABILITIES AND PROVISIONS		Current Year	(Amount - Rs.)
		2020-2021	Previous Year
A) CURRENT LIABILITIES			
1) Deposits from Staff		0	21724199
2. Deposits from Students (Annexure - "A")		28113199	0
3) Sundry Creditors		0	1675461
a) For Goods & Services		0	0
b) For Others		0	0
4) Deposits- Others (including EMD, security Deposit)		0	0
5) Statutory Liabilities (GPF, TDS, WC Tax, CPF, GIS, NPS)		0	0
a) Overdue		0	0
b) Others		0	0
6) Other Current Liabilities:			
a) Salaries & Wages		34183507	33018649
b) Receipts against Sponsored Projects		0	0
c) Receipts against sponsored Fellowships & scholarship		0	0
d) Un-utilised Grants			
i) Object Head-31 (Annexure- "B")		9301000	0
ii) Object Head-36 (Annexure- "C")		(11,38,72,000)	0
iii) Object Head-35 (Annexure- "D")		196134930	99066918
e) Grants in Advance		0	0
f) Other Funds- Funds from Social Justice, New Delhi		31500000	0
g) Other Liabilities:			
i) Repair & Maintenance-Computer		0	822932
ii) Gardening Expenses		1282508	1194047
iii) Electricity & Power		1592573	1132173
iv) Sweeping & Cleaning		2512401	0
v) Security Services		4130089	0
vi) LTC Exp		5798795	0
vii) Scholarship-Inst.		9651671	0
viii) CSAB, CCMT & Other Fees		4527819	4216434
ix) Stipend payable to Students- Annexure "E"		4895418	3147486
x) Statutory Audit Fees-AG		0	300000
xi) Counselling Fees-Payable to Students		0	100000
xii) Staff Development Fund		0	120379
xiii) NSS Unit Prog.		0	13182
xiv) Fund from ST Welfare Deptt(Books)		0	817500

(KAMLESH TILWANI)
 Assistant Registrar (Fin.)
 NIT, Agartala

(TANMOY GHOSHAL)
 Head (F&A), NIT, Agartala.

(DR. GOVIND BHARGAVA) (Prof. Harish Kr. Sharma)
 Registrar,
 NIT, Agartala, Director, NIT Agartala

xv) Fund from SC Welfare Deptt(Books) xvi) Fund for Rubber Processing xvii) Fund for Virtual Class Room (Plan Fund) xviii) Loan from DHE(Staff Salaries) xix) Earnest Money Deposit	0 0 0 0 0	27817 156250 1195524 5629954 12616
TOTAL (3A)	219751910	174371521
B. PROVISIONS		
1) For taxation	0	0
2) Gratuity	0	0
3) Superannuation / pension	0	0
4) Accumulated Leave Encashment	0	0
5) Trade Warranties / Claims	0	0
6) Others (Specify)	0	0
TOTAL (3B)	0	0
TOTAL (A + B)	219751910	174371521
(KAMLESH TILWANI) Assistant Registrar (Fin.) NIT Agartala	(TANMOY GHOSHAL) Head (F&A), NIT, Agartala.	(DR. GOVIND BHARGAVA) Registrar, NIT, Agartala.
		(Prof. Harish Kr. Sharma) Director NIT Agartala

OTHER CURRENT LIABILITIES- LIBRARY CAUTION MONEY				Annexure "A" of Schedule- 3	
PARTICULARS	Current Year 2019-2020	(Amount - Rs.) Previous Year 2018-19			
Library Caution Money					
A.					
a) Opening Balance	21724199	22489199			
b) Received during the year	6424000	5915000			
c) Others (Specify)					
Total (A)	28148199	28404199			
B.					
Utilisation/Expenditure towards objectives of funds					
i) Capital Expenditure	0	0			
ii) Revenue Expenditure	35000	6680000			
TOTAL (B)	35000	6680000			
Un-Utilised	28113199	21724199			
OTHER CURRENT LIABILITIES- UNUTILISED GRANTS - OH-31				Annexure "B" of Schedule- 3	
PARTICULARS	Current Year 2020-2021	(Amount - Rs.) Previous Year 2019-2020			
GRANTS FROM MHRD, GOVT. OF INDIA					
A.					
a) Opening Balance	0	0			
b) Grants received during the year	310572000	0			
c) Others (Specify)					
Transfer from Corpus/Capital Fund	42328000				
Total (A)	352900000	0			
B.					
Utilisation/Expenditure towards objectives of funds					
i) Capital Expenditure	0	0			
ii) Revenue Expenditure	343599000				
iii) Advances	0	0			
TOTAL (B)	343599000	0			
Un-Utilised Grants	9301000	0			

(KAMLESH TILWANI)
Assistant Registrar (Fin.)
NIT Agartala.

(TANMOY GHOSHAL) (DR. GOVIND BHARGAVA)
Head (F&A), NIT, Agartala. NIT, Agartala.

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

OTHER CURRENT LIABILITIES- UNUTILISED GRANTS - OH-36			Annexure "C" of Schedule- 3
PARTICULARS	Current Year 2020-2021	(Amount - Rs.) Previous Year 2019-2020	
GRANTS FROM MHRD, GOVT. OF INDIA			
A. Opening Balance	0	0	
b) Grants received during the year	306400000	0	
c) Others (Specify)			
Transfer from Corpus/Capital Fund	3897000		
Total (A)	310297000	0	
B. Utilisation/Expenditure towards objectives of funds			
i) Capital Expenditure	0	0	
ii) Revenue Expenditure	424169000	0	
iii) Advances	0	0	
TOTAL (B)	424169000	0	
Un-Utilised Grants	(11,38,72,000)	0	
OTHER CURRENT LIABILITIES- UNUTILISED GRANTS (PLAN GRANTS) - OH-35			Annexure "D" of Schedule- 3
PARTICULARS	Current Year 2020-2021	(Amount - Rs.) Previous Year 2019-2020	
GRANTS FROM MHRD, GOVT. OF INDIA			
A. Opening Balance	99066918	127311624	
b) Grants received during the year	0	0	
c) Others (Specify)			
Transfer from Corpus/Capital Fund	123370000		
Total (A)	222436918	127311624	
B. Utilisation/Expenditure towards objectives of funds			
i) Capital Expenditure	24308988	22244706	
ii) Revenue Expenditure	1993000		
iii) Advances	0	6000000	
TOTAL (B)	26301988	28244706	
Un-Utilised Grants	196134930	99066918	

KAMLESH TILWANI
Assistant Registrar (Fin.)
NIT, Agartala

(TANMOY GHOSHAL)
Head (F&A), NIT, Agartala.

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

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

OTHER CURRENT LIABILITIES- STIPEND			Annexure "E" of Schedule- 3	
PARTICULARS	Current Year 2019-2020	(Amount - Rs.) Previous Year 2018-19		
Stipend				
A.				
a) Opening Balance	3147486	131255		
b) Received during the year-Other State	2789982	7184867		
c) Others (Specify)				
Total (A)	5937468	7316122		
B.				
Utilisation/Expenditure towards objectives of funds				
i) Stipend release during the year	1042050	4168636		
TOTAL (B)	1042050	4168636		
Un-Utilised	4895418	3147486		

Kamlesh
(KAMLESH TILWANI)
Assistant Registrar (Fin.)
NIT Agartala.

Dr. Govind Bhargava
(DR. GOVIND BHARGAVA)
Head (F&A), NIT, Agartala.

Dr. Harish Kr. Sharma
(DR. HARISH KR. SHARMA)
Registrar,
NIT, Agartala.
Director, NIT Agartala

(KAMLESH TILWANI)
Assistant Registrar (Fin.)

Sports Complex	2.0%	644029061	51522374	12830581	64402905	579626156	597506737
Central Library	2.0%	424408526	42440854	8988171	50939025	373479501	381967672
Duplex Building	2.0%	113282817	9662625	2265656	11328281	101954536	104220192
Central Plaza	2.0%	22800000	184000	456000	22800000	20520000	209760009
HAB Building	2.0%	276576301	22126104	5531526	27657630	248918671	254450157
1500 Capacity Boys Hostel	2.0%	1447040285	28940806	28940806	57881612	1369158673	1418099470
FURNITURE & FIXTURES	7.5%	1348623	749258	77372	57881612	521993	599365
COMPUTER & PERIPHERALS	20%	1891925	1812005	65920	1877925	14000	79920
ELECTRIC INSTALLATIONS	5%	55991915	26415339	292492	29207831	26784084	28576576
EPBX Machine	5%	421438	421438	(1)	421437	0	0
Water Purifier	5.0%	126406	126406	2828	122189	4217	5632
Fax Machine	5%	9000	9000	(1)	8999	1	0
INTERNET / V SET	5%	123291	85310	6165	92475	30816	36981
Hostel building, quarters etc	2%	19500000	9215000	390000	9650000	9805000	10285000
Sports Goods & Equipments	5.0%	1609509	1140678	43238	1150018	449491	468861
Machinery & Equipments	5%	10095738	6551798	501150	7052948	3032790	3533940
Office Equipments	7.5%	707432	532403	50512	582915	124517	175029
Musical Instruments	7.5%	165771	130556	7617	138173	27598	35215
Medical Equipments	5%	36749	36749	(1)	38748	1	0
Podium	7.5%	34000	36000	2550	33150	850	3400
Library Books	10%	17761577	16181389	321563	16502952	1258625	1580188
Type IV Quarters (Buildings)	2%	34380269	11213317	687605	11930922	2349347	23136952
Networking (Equipments)	7.5%	2242620	1681968	168197	1850165	392455	500652
Auditorium Building	2%	14838699	6159636	206774	6466410	8372289	8669063
Boundary Wall	2%	251005	90322	5020	95342	165663	170683
Workshop	2%	387633	26444	7753	38765	348668	361189
TOTAL (I)		8847729186	31998709	211838987	1624303073	7255420982	74351493115
INTANGIBLE ASSETS							
NON-PLAN FUND							
Computer Software	40%	159233515	159233515	(1)	159233514	1	0
Books & Journals							
Patents							
TOTAL (II)		159233515	0	(1)	159233514	1	0
CAPITAL WORK-IN-PROGRESS							
Cost/valuation As at beginning of the year							
Additions during the year							
Deductions during the year							
Cost/valuation at the year-end							
As at the beginning of the year							
On additions during the year							
On deductions during the year							
Total up to the year-end							
As at the Current year-end							
As at the Previous year-end							
Consist of Sewerage Treatment Plant (STP)		10447478	0		0	10447478	10447478
Consist of 200 capacity Girls Hostel		728037	0		0	728037	728037
TOTAL (III)		10447478	0	0	0	11175515	10447478
GRAND TOTAL		9017410179	32726446	211838986	1783536587	7268596498	7445590593

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

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

(KAMLESH CHOSHAL)
Head (F&A), NIT, Agartala.

(KAMLESH TILWANI)
Assistant Registrar (Fin.)
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 31.03.2021

	(Amount - Rs.)	
	Current Year 2020-2021	Previous Year 2019-2020
SCHEDULE 5- INVESTMENTS FROM EARMARKED / ENDOWMENT FUNDS:		
1) In Central Govt securities	0	0
2) In State Govt securities	0	0
3) Other approved Securities	0	0
4) Shares	0	0
5) Deventures & Bonds	0	0
6) Terms Deposit with Banks	0	0
i) Long Terms	0	0
ii) Short Terms		
Fixed Deposit with SBI Agt Br.-General A/c	4479802	4179469
Fixed Deposit with Canara Bank, Agt. Br.-General A/c	159324756	150098052
Fixed Deposit with Canara/SBI Agt Br.-RBF Fund	382903128	253096391
Fixed Deposit with Canara Bank NITA Br-Inf. Dev Fund	11328106	7840511
Fixed Deposit with TGS NITA Br-SDP Fund	115472986	108227892
Fixed Deposit with SBI Agt Br.-Moutoshi Kar Memorial	30002	30000
Fixed Deposit with SBI Agt Br.-EMD & Security Deposit	24701540	23250490
Fixed Deposit with Canara/SBI NITA Br-NITA Corpus Fund	661090272	414991494
Mutual Fund with SBI, NITA Br- NITA Corpus Fund	50000000	0
7) Others (to be specified)	0	0
TOTAL:	1409330592	961714299

	(Amount - Rs.)	
	Current Year 2020-2021	Previous Year 2019-2020
SCHEDULE 6- INVESTMENTS - OTHERS		
1) In Govt securities		
2) In State Govt securities		
3) Other approved Securities		0
4) Shares		0
5) Deventures & Bonds		0
6) Others (to be specified)		0
TOTAL:	0	0

Kamlesh
KAMLESH TILWANI
 Assistant Registrar (Fin.)
 NIT, Agartala

Tanmoy Ghoshal
(TANMOY GHOSHAL)
 Head (F&A), NIT, Agartala.

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

Prof. Harish Kr. Sharma
(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 31.03.2021

SCHEDULE 7 CURRENT ASSETS	Current Year 2020-2021	Previous Year 2019-2020
1) Stock:		
a) Stores and Spares		
b) Loose Tools		
c) Publications		
d) Laboratory chemicals, Consumables and glass ware		
e) Building Materials		
f) Electricals Materials		
g) Stationery		
h) Water supply materials		
2) Sundry Debtors:		
a) Debts Outstanding for a period exceeding six months		
b) Others		
3) Cash and Bank Balances:		
a) With Scheduled Banks:		
i) In Current Accounts		
ii) In Term deposit Accounts		
iii) In Savings Accounts		
SBI, NITA Br.-Non Plan(A/c-30369892838)	20944032	29372037
Canara Bank- Non Plan A/c No- 876	448895	448955
SBI, NITA Br.-Plan(A/c-30358199684)	9833858	147061815
Canara Bank, Agt Br.- Plan (A/c-4121101001663)	1248623	1211775
SBI, NITA Br.-Project Fund(A/c-30533908751)	11775854	8217930
SBI, NITA Br.-R. B. Fund(A/c-30693303036)	153639613	142956460
SBI, NITA Br.-Student Welfare Fund(A/c-30534089717)	2633210	1709149
SBI, NITA Br.-NITA Corpus Fund(A/c-30534091012)	208388515	284287713
SBI, NITA Br.-EMD & Security Deposit(A/c-30936141729)	12817653	17570273
TGB, NITA Br.-Inf. Dev Fund(A/c-8026010030064)	3331201	3226174
SBI, NITA Br.-SDP Fund(A/c-30773081908)	13773459	20609476

(KAMLESH TILWANI)
 Assistant Registrar (Fin-)
 NIT Agartala.

(TANMOY GHOSHAL)
 Head (F&A), NIT, Agartala.

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

(Prof. Ranish 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 31.03.2021			
SCHEDULE 8 LOAN, ADVANCES & DEPOSITS		Current Year 2020-2021	Previous Year 2019-2020
1. Advance to employees: (Non-interest bearing)			
a) Salary		0	
b) Festival		0	
c) Medical Advance		0	
d) Other (to be specified)		0	
i) LTC Advance to Employees		0	
ii) Temporary Advance		21300	
2. Long Term Advances to employees: (Interest bearing)			
a) Vehicle loan			447000
b) Home loan			0
c) Other (to be specified)			
3. Advances and other amounts recoverable in cash or in kind or for value to be received.			
a) On Capital account.			
Advance to Parties (OH-35)- Corresponding Schedule "8A"		51752655	56008055
b) to Suppliers			
c) Others			
4. Prepaid Expenses			
a) Insurance			
b) Other expenses			
5. Deposits			
a) Telephone		0	0
b) Lease Rent		0	0
c) Electricity		5100	5100
d) AICTE, if applicable		0	0
e) Others (to be specified)			
6. INCOME ACCRUED			
a) On Investment - Others:			
i) Interest on Fixed Deposit-General A/c		1205081	0
ii) Interest on Fixed Deposit-SDP Fund		0	0
7. CLAIMS RECEIVABLE			
TOTAL		52984136	56460155

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

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

(TANNIOY GHOSHAL)
Head (F&A), NIT, Agartala.

(Dr. Anil Kumar)
Accounting Officer (F&A)
NIT Agartala

FORM OF FINANCIAL STATEMENTS (NON- PROFIT ORGANISATIONS)
Name of Entity: NATIONAL INSTITUTE OF TECHNOLOGY, AGARTALA
SCHEDULES FORMING PART OF SCHEDULE 8 AS AT 31.03.2021

SCHEDULE 8 A- DETAILS OF ADVANCE TO PARTIES	Current Year			Previous Year
	Opening Balance	Addition during the year	Adjustment during the year and tr. To Fixed Assets	Total
Advance to: B.S.N.L.(Call User Group-CUG) P.H.E(Iron Removal Plant) Tripura Housing Board(Academic Building, Library) DWS Deptt.(Water Supply) EPIL(Const of Workshop) CPWD	172764 1560100 7640420 2695300 10200000 33739471		1560100 2695300	172764 1560100 7640420 2695300 10200000 33739471
TOTAL	56008055	0	4255400	51752655

Kamlesh
(KAMLESH TILWANI)
 Assistant Registrar (Fin.)
 NIT Agartala.

Tanmoy Choshal
(TANMOY CHOSHAL)
 Head (F&A), NIT, Agartala.


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

Prof. Harish Kr. Sharma
(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 31.03.2021


	(Amount - Rs.)	
	Current Year 2020-2021	Previous Year 2019-2020
SCHEDULE 9 - ACADEMIC RECEIPTS		
1) Academic Collection		
Admission Fees	1307000	1227000
Institute Development Fees	11165000	9850000
Tuition Fees	125257733	221191667
All other Fees (Exam Fee, Library Fee, IT Fee and Sports Complex user charges etc)	18235600	8849500
Student Activity Fees	7800000	7094000
Comm Skill Dev. Fees	4422000	5660000
T & P Fees	2676000	2220000
Alumni Fees	873000	795000
Medical Fees	2294400	2336800
Prospectus Fees	295500	262800
Identity Card Fees	264800	227000
Grade Card Fees	3879000	3476000
Degree Certificates	302850	253800
Lab Fees	481600	407600
2) Others (Specify):-		
Misc. Collection from Students	170081	73717
TOTAL	179424564	263925884
<i>Kamlesh</i> (KAMLESH TILWANI) Assistant Registrar (Fin) NIT Agartala.	<i>DR. GOVIND BHARGAVA</i> (DR. GOVIND BHARGAVA) Registrar, NIT Agartala.	<i>hsh.</i> (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 31.03.2021		
SCHEDULE 10 - GRANTS / SUBSIDIES	Current Year 2020-2021	Previous Year 2019-2020
(Amount - Rs.)		
(Irrevocable Grants & Subsidies received)		
1) Central Govt.	0	0
a) From Ministry of Education	343599000	407320000
i) Utilised Grant- OH-31	424169000	50000000
ii) Utilised Grant- OH-36	26301988	28244706
iii) Utilised Grant- OH-35	0	0
b) From AICTE		
2) State Govt.		
3) Govt. Agencies		
4) Institution / Welfare bodies		
5) International Organisations		
6) others (Specify)		
TOTAL	794069988	485564706
SCHEDULE 11 - INCOME FROM INVESTMENTS	Current Year 2020-2021	Previous Year 2019-2020
(Amount - Rs.)		
1) Interest:		
a) On Govt. securities		0
b) Other Bonds/Debtenture	0	0
2) Interest on Term Deposit	10732120	6837563
3) Income accrued but not due on Term Deposits		
4) Interest on Savings Bank Accounts		
5) Others		
TOTAL	10732120	6837563



 Prof. Harish Kr. Sharma
 Director, NIT Agartala



 Registrar,
 NIT, Agartala





 Head (P&A), NIT, Agartala


 (TANMOY GHOSHAL)
 Head (P&A), NIT, Agartala


 (TANMOY GHOSHAL)
 Head (P&A), NIT, Agartala


 (TANMOY GHOSHAL)
 Head (P&A), NIT, Agartala


 (TANMOY GHOSHAL)
 Head (P&A), 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 31.03.2021

SCHEDULE 12 - INTEREST EARNED	Current Year 2020-2021	(Amount - Rs.) Previous Year 2019-2020
1) On Savings Accounts:		
a) With scheduled Banks	10590301	18024915
b) With Non scheduled Banks		0
c) Post office savings Accounts		
d) Others		
3) On Loans:		
a) Employees / Staff		
b) Others		
4) Interest on Debtors and Other Receivables		0
TOTAL	10590301	18024915
SCHEDULE 13 - OTHER INCOME	Current Year 2020-2021	(Amount - Rs.) Previous Year 2019-2020
A. Income from Land & Building	0	
B. Sale of Institute's Publications		
C. Income from holding events		
D. Others (Specify):-		
a) Misc Income	316684	646075
b) Other Income (as per Audit Observation 2019-20)	4163058	0
TOTAL	4478742	646075
SCHEDULE 14 - PRIOR PERIOD INCOME	Current Year 2020-2021	(Amount - Rs.) Previous Year 2019-2020
1. Academic Receipts		
2. Income from Investments	0	0
3. Interest earned		
4. Others (Specify)-		
TOTAL	0	0

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

(Signature)
 (TANMOY GHOSHAL)
 Head (F&A), NIT, Agartala.

(Signature)
 (KAMLESH TILWANI)
 Assistant Registrar (Fin.)
 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 31.03.2021

SCHEDULE 15 - STAFF PAYMENT & BENEFIT	(Amount - Rs.)	
	Current Year 2020-2021	Previous Year 2019-2020
a) Salaries and Wages		
i) Regular Faculty & Staffs		
1) Salaries & Allowance- Director	3366900	3355425
2) Salaries & Allowance- Faculty	210529787	210334037
3) Salaries & Allowance- Non- Teaching Staff	22433861	24052016
ii) Contractual Faculty & Staffs		
1) Salaries & Wages- Contractual Faculty	70616581	69592735
2) Salaries & Wages- Contractual Non-Teaching Staffs	71233534	66047774
3) EPF- Contractual Faculty & Non-Teaching Staffs	6569548	6740605
b) Allowances and Bonus		
c) Contribution to Provident fund		
d) Contribution to other funds (Specify)		
e) New Pension Scheme Fund-Tier-1	252000	14210113
1) CPF-Director	17128200	
2) NPS-Faculty	728666	
3) NPS-Non- Teaching Staff		
f) Staff Welfare Expenses		
g) Expenses on Employees Retirement and Terminal benefits		
h) LTC Facility	5593172	1788073
1) Faculty	583347	
2) Non-Faculty		
i) Medical Facility		
1) Faculty	275230	1045160
2) Non-Faculty	293127	
j) Children Education Allowance		
1) Faculty	2234250	2475000
2) Non-Faculty	189000	
k) Other (Specify)		
1) Telephone Re-imbursement	41312	62736
1) Faculty	20606	
2) Non-Faculty	489306	495508
2) CPDA		
TOTAL	412578427	400199182

(AMULESH TILGIANI)
 Assistant Registrar (Finance) Head (F&A), NIT, Agartala.
 NIT Agartala.

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

(PRADIP 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 31.03.2021

SCHEDULE 16 - ACADEMIC EXPENSES	(Amount - Rs.)	
	Current Year 2020-2021	Previous Year 2019-2020
a) Laboratory Expenses	969311	2573014
b) Honorarium to Visiting Examiner & others	810913	2108240
c) Expenses on Workshop	49487	497283
d) Convocation Expenses	1278917	1803508
e) Scholarship-Institute	87347286	80565438
f) Others (specify)		
1) Contingency to PhD/M.Tech	24650	
2) Expenses for Research Affairs		25000
3) Expenses for NBA		
TOTAL	90480564	87572483

Kamlesh
(KAMLESH TILWANI)
 Assistant Registrar (Fin.)
 NIT Agartala.

Tanmooy Ghoshal
(TANMOY GHOSHAL)
 Head (F&A), NIT, Agartala.

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

Harish Kr. Sharma
(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 31.03.2021

SCHEDULE 17 - ADMINISTRATIVE & GENERAL EXPENSES		(Amount - Rs.)	
	Current Year	Previous Year	
	2020-2021	2019-2020	
A. Infrastructure:			
a) Electricity and Power	9318105	21301657	
b) Water Charges			
c) Rent to NIT Transit House, Delhi	350000	350000	
d) Rent to NITD-Agartala Transit House		136590	
B. Communication			
a) Postage	85000	61580	
b) Telephone & Communication	205701	257232	
C. Others			
1) Printing & Stationery	322587	1333978	
2) Travelling & Conveyance Expenses	82402	800455	
3) Hospitality Expenses	188146	554158	
4) Advertisement and publicity	1186036	2175928	
5) Newspaper & Periodical		16288	
6) Miscellaneous Expenses	83572	451547	
7) Medicine Expenses	909917	1146688	
8) Training & Placement: Exp		76388	
9) Recruitment expenses		1352343	
10) NSS Programme	4800	52690	
11) Security Services	54150186	53447441	
12) Gardening Expenses	7810986	6339777	
13) Sweeping & Cleaning	33590987	33542170	
14) Legal Fees	143390	2096114	
15) Networking Expenses	326155	388682	
16) Games, Sports & Cultural Activity	132871	5094032	
17) Internal Audit Fees & others	253698	63260	
18) Startup Expenses	7500		
19) BOG Meeting Expenses	248198	1054149	
20) Cable Charges			
TOTAL	109400237	132093127	

Kamlesh
(KAMLESH TILWANI)
 Assistant Registrar (Fin.)
 Head (F&A), NIT, Agartala.

(DR. GOVIND BHARAWA)
 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 31.03.2021

SCHEDULE 18 - TRANSPORTATION EXPENSES		(Amount - Rs.)	
	Current Year	Previous Year	
	2020-2021	2019-2020	
1. Vehicles (Owned by Institution)			
a) Fuel Charges	376097	800368	
b) Repair & Maintenance	180567	263783	
c) Registration, Insurance etc. for Vehicle	130097	130328	
2. Vehicles taken on Rent/Lease			
a) Rent/Lease Expenses			
3. Vehicles hiring Expenses		38204	
TOTAL	686761	1232683	

SCHEDULE 19 - REPAIRS & MAINTENANCE		(Amount - Rs.)	
	Current Year	Previous Year	
	2020-2021	2019-2020	
a) Repair & Maintenance	533759	2608459	
b) Repairs & Maints-Electricals	1096804	2391827	
c) Repair & Maintenance - Building	6973331	8547555	
d) Repair & Maintenance - Computer & Accessories	3150881	5286013	
e) Repair & Maintenance - Internal Road	25000	3877546	
f) Repair & Maintenance - Equipment & Machinery			
g) Others (Specify)			
TOTAL	11779775	22711400	

Kamlesh
 Kamlesh Choudhary
 Head (F&A), NIT, Agartala

Tanmoy Choshal
(TANMOY CHOSHAL)
 Head (F&A), NIT, Agartala.

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

Prof. Harish Kr. Sharma
(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 31.03.2021

(Amount - Rs.)			
SCHEDULE 20 - FINANCE COSTS	Current Year 2020-2021	Previous Year 2019-2020	
a) Interest on Fixed Loans	0	0	0
b) Interest on Other Loans	0	0	0
c) Bank Commission	41147		9845
d) Others (Specify)	0	0	0
TOTAL	41147		9845

(Amount - Rs.)			
SCHEDULE 21 - OTHER EXPENSES	Current Year 2020-2021	Previous Year 2019-2020	
a) Provision for Bad and Doughtful Debts	0	0	0
b) Irrecoverable Balance Written off	0	0	0
c) Others (Specify)	0	0	0
Exp. on Moutoshi Kar Memorial Scholarship	20026		2500
Loan refund to DHE, Govt. of Tripura	150000000		150000000
Grant to KV, NIT-Agartala	15020026		15002500
TOTAL	15020026		15002500

(Amount - Rs.)			
SCHEDULE 22 - PRIOR PERIOD EXPENSES	Current Year 2020-2021	Previous Year 2019-2020	
1. Establishment Expenses	0	0	0
2. Academic Expenses	0	0	0
3. Administrative Expenses	0	0	0
4. Transportation Expenses			
5. Repairs & Maintenance			
6. Others (Specify)			
TOTAL	0		0

Kamlesh Tilwani
(KAMLESH TILWANI)
 Assistant Registrar (Fin.)
 NIT Agartala.

Tanmay Ghoshal
(TANMAY GHOSHAL)
 Head (F&A), NIT, Agartala.

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

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

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

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 Education, New Delhi Vide Gazette of India Part II Section 3 Sub Section (i) dated 23.04.2009.

The Government of India, Ministry of Education, New Delhi release funds to the Institute for Object Head 31, 35 and 36.

The Institute has prepared the Annual Accounts 2020-21 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 accrual basis, 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.


(KAMLESH TILWANI)
Assistant Registrar (Fin.)
NIT, Agartala.


(TANMOY GHOSHAL)
Head (F&A), NIT, Agartala.



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

5. INVESTMENT:

No Investment except Fixed Deposit/Mutual Fund was made during the year. 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 Education, Government of India in respect of following Assets.

Tangible Assets:

- (i) Building- 2%,
- (ii) Electrical Installation- 5%,
- (iii) Plant and Machinery- 5%,
- (iv) Scientific & Laboratory Equipment- 8%,
- (v) Office Equipment- 7.5%,
- (vi) Computer & Peripherals- 20%,
- (vii) Furniture & Fittings- 7.5%,
- (viii) Vehicle- 10%,
- (ix) Library Books- 10%

Intangible Assets:

- (i) e-Books/e-Journal- 40%.

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.
- ii) Fixed Assets acquired out of specific grants are shown at their full value of acquisition.

Kamlesh
(KAMLESH TILWANI)
Assistant Registrar (Fin.)
NIT Agartala.

Tanmoy Ghoshal
(TANMOY GHOSHAL)
Head (F&A), NIT, Agartala.

Dr. Govind Bhargava
(DR. GOVIND BHARGAVA)
Registrar,
NIT, Agartala. (Prof. Harish Kr. Sharma)
Director, NIT Agartala.

9. RETIREMENT BENEFIT:

Retirement Benefits i.e. Pension, gratuity and Leave Encashment are provided on the basis of actuarial valuations for the year 2020-21.

10. NEW PENSION SCHEME (NPS):

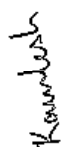
Employees' contribution to NPS along with matching contribution of the Institution has been deposited in a separate Bank Account and the NPS contributions are remitted to CRA (NSDL) on monthly basis regularly.


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.	3047167447
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, Kumiaban 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 e-Tender.


(KAMLESH TILWANI)
Assistant Registrar (Fin.)
NIT Agartala.


(TANMOY GHOSHAL)
Head (F&A), NIT, Agartala.


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


(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 re-grouped/re-arranged wherever necessary.

5. Schedules 1 to 23 are annexed to and form an integral part of the Balance Sheet as at 31.03.2021 and Income and Expenditure and Receipts and Payment Accounts for the year ended on that date.

Kowlesh
Joint Secretary (Fin)
NIT, Agartala

(TANMOY GHOSHAL)
Head (F&A), NIT, Agartala.

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

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

FINANCIAL STATEMENT IN N-PROFIT FORM
Name of Entity: NATIONAL INSTITUTE OF TECHNOLOGY, AGARTALA
CASH FLOW STATEMENT FOR THE PERIOD/ YEAR ENDED 31.03.2021

Particulars	Current Year 2020-2021	Previous Year 2019-20
A. CASH FLOW FROM OPERATING ACTIVITIES		
Surplus/(deficit) for the year	(19,84,69,927)	(46,61,69,482)
Less: Expenditure on other Fund (NMEICT)	-	-
Adjustments for the Non-operating Incomes/Expenses		
Depreciation	21,17,17,001	21,23,47,405
Write offs	-	-
Interest expenses on Loans	21,17,17,001	21,23,47,405
(Increase)/Decrease in Current Assets	1,32,47,074	(25,38,22,077)
Increase/(Decrease) in Current Liabilities	4,88,56,408	(2,03,74,875)
Net Cash Flow from Operating Activities	6,21,03,482	(27,41,96,952)
B. CASH FLOW FROM INVESTING ACTIVITIES		
(Purchase)/Sale of Fixed Assets	(3,27,22,906)	(2,25,19,706)
(Purchase)/Sale of Fixed Investments	(95,27,039)	-
Interest received	-	-
Net Cash Flow from Investing Activities	(4,22,49,945)	(2,25,19,706)
C. CASH FLOW FROM FINANCING ACTIVITIES		
Additions to General Fund during the year	-	-
Grants/funds in nature of founders/promoters contribution	(16,54,76,271)	-
Endowment fund(principal sum)	-	-
Interest paid on Loans	(16,54,76,271)	-
Net Increase in Cash Equivalents (A+B+C)	(14,56,22,734)	(29,67,16,658)
Cash and cash Equivalents as at the beginning of F.Y.	17,81,72,314	47,48,88,972
Cash and Cash Equivalent at the end of the period	3,25,49,580	17,81,72,314

Kamlesh
(KAMLESH TILWANI)
 Assistant Registrar (Fin.)
 NIT Agartala.

Tanmoy Ghoshal
(TANMOY GHOSHAL)
 Head (F&A), NIT, Agartala.

Dr. Govind Chandra
(DR. GOVIND CHANDRA)
 Registrar,
 NIT, Agartala.

Prof. Harish Kr. Sharma
(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 31.03.2021
STAFF BENEFIT TRUST (GPF)

Liabilities	Current Year 2020-2021	Previous Year 2019-2020	Assets	Current Year 2020-2021	Previous Year 2019-2020
GPF					
Opening Balance	69460865	62670471	Investment (Opn. Bal)	69003772	59585772
Add: Subscription during the year	11302606	9735000	Add: Current year	8274000	9418000
Add: Interest Credited	0	0	Add: Interest Accrued	0	0
Less: Advance/withdrawal Closing Balance	80763471 1623000	72405471 2944606	Less: Withdrawal	7727772 0	69003772 0
Interest Reserve:					
Opening Balance	202150	112489	Bank Balance		
Add: Excess of Income over Expenditure	55561	89561	Bank (SBI, NIT Agt Br)	2120410	659243
Closing Balance	257711				
TOTAL	79398182	69663015	TOTAL	79398182	69663015

Koushik
 Asstt. Registrar (Finance)

Qul
 Head (F & A)

Registered
 Registrar

Director
 Director

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 31.03.2021
STAFF BENEFIT TRUST (GPF)

Expenditure	Current Year 2020-2021	Previous Year 2019-2020	Income	(Amount - Rs.)	
				Current Year 2020-2021	Previous Year 2019-2020
Bank Charges	0	0	Interest Earned	55561	89661
Excess of Income over Expenditure	55561	89661	Other Receipts	0	
TOTAL	55561	89661	TOTAL	55561	89661

Koushik
 Asstt. Registrar (Finance)

Q
 Head (F & A)

AB
 Registrar

h
 Director

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
RECEIPTS AND PAYMENTS FOR THE PERIOD/ YEAR ENDED ON 31.03.2021
STAFF BENEFIT TRUST (GPF)

RECEIPTS	(Amount - Rs.)	(Amount - Rs.)	PAYMENTS	(Amount - Rs.)	(Amount - Rs.)
	Current Year 2020-2021	Previous Year 2019-2020		Current Year 2020-2021	Previous Year 2019-2020
I) Opening Balance: In Savings A/c Bank (SBI, NIT Agt Br)	659243	3197188	I) EXPENSES: Remittance Others Exp GPF Adv/Final payment disbursed to employee	8274000 1623000	9418000 450 2944606
II) SUBSCRIPTION: Monthly Subscription GPF Withdrawal Others	8358000 2944606	9735000 0 450	II) In Savings A/c Bank (SBI, NIT Agt Br)	2120410	659243
III) Interest Received	55561	89661			
TOTAL	12017410	13022299	TOTAL	12017410	13022299

Koushik
 Asstt. Registrar (Finance)

[Signature]
 Head (F & A)

[Signature]
 Registrar

[Signature]
 Director

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
Balance Sheet as at 31.03.2021
NPS Tier I

Liabilities	Current Year	Previous Year	Assets	Current Year	Previous Year	(Amount - Rs.)
	2020-2021	2019-2020		2020-2021	2019-2020	
NPS Tier I						
Opening Balance	1844373	1627784	Investment	0	0	0
Add: Subscription during the year	3061992	26533504	Add: Interest	0	0	0
Add: Interest Credited	0	0	Less: Maturity	0	0	0
	32464365	28161288	Bank Balance			
Less: Transferred to NSDL	30808028	26316915	Bank (SBI, NIT Agt Br)	2011552		2117829
Closing Balance		1656337				
Interest Reserve:						
Opening Balance	273456	187784				
Add: Excess of Income over	81759	85672				
Expenditure						
Closing Balance		273456				
TOTAL			TOTAL			
		2011552		2011552		2117829

Koushik
 Asstt. Registrar (Finance)

Q2
 Head (F & A)

Registrar
 Registrar

Director
 Director

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 31.03.2021
NPS TIER I

	Expenditure	(Amount - Rs.)	
		Current Year 2020-2021	Previous Year 2019-2020
	Intt. credited to Subscribers A/c Bank Charges	265	
	Excess of Income over Expenditure	81759	85672
	TOTAL	82024	85672
		Interest Earned	82024
		Other Receipts	0
		TOTAL	82024
			85672

Koushik
 Asstt. Registrar (Finance)

[Signature]
 Head (F & A)

[Signature]
 Registrar

[Signature]
 Director

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
RECEIPTS AND PAYMENTS FOR THE PERIOD/ YEAR ENDED ON 31.03.2021
NPS TIER I

RECEIPTS	(Amount - Rs.)		(Amount - Rs.)		PAYMENTS		(Amount - Rs.)		(Amount - Rs.)	
	Current Year	2020-2021	Previous Year	2019-2020			Current Year	2020-2021	Previous Year	2019-2020
I) Opening Balance: In Savings A/c Bank (SBI, NIT Agt Br)		2117829	1815568		I) EXPENSES: Fund tr. To NSDL Bank Charges		30808028	265	26316915	
II) SUBSCRIPTION: Own Subscription Institute Contribution Fixed Deposit Maturity		30619992	12323391 14210113 0		II) In Savings A/c Bank (SBI, NIT Agt Br)		2011552		2117829	
III) Interest Received Init on Savings A/c		82024	85672							
TOTAL		32819845	28434744	TOTAL			32819845		28434744	

Koushik

Asstt. Registrar (Finance)



Head (F & A)



Registrar



Director

For

KOUSHIK DEBNATH & ASSOCIATES
(Chartered Accountants)(CA Koushik Debnath)
Chartered Accountant