



# NATIONAL INSTITUTE OF TECHNOLOGY SILCHAR



ANNUAL REPORT  
2012 - 2013



# **ANNUAL REPORT 2012-2013**



**NATIONAL INSTITUTE OF TECHNOLOGY SILCHAR**



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## The Director's Desk...

Since its inception NIT Silchar has had a vision to provide quality technical education and to be a centre of excellence in engineering and scientific research. Today NIT Silchar has attained the status of a national brand and a lot of what the Institute has achieved in these years could be possible due to the tremendous hard work and confidence of the faculty, staff and students along with the faith and encouragement of numerous well wishers, its Board and Senate members, and the officials in the Government of India and the Government of Assam. NIT Silchar is now considered as one of the best institutes in the whole country in terms of placements and overall performance securing 3rd and 8th position respectively among all NITs.

The engineering and management programs are designed to instil the qualities of leadership, teamwork and global vision in the learners. The undergraduate and post graduates as well as the PhD programmes are continuously and closely monitored and regularly revised to include latest trend setting technological theories and practices. For the session 2012-13 the student strength was 2500, including 141 research scholars against more than 112 dedicated faculties. During 2012-13 80 original research papers and 6 book chapters were published besides the filing of 3 patents by the faculty and students of the Institute. Being an integral part of the research oriented learning community; NIT Silchar has been able to craft its own unique niche in the field of research and provides an appropriate captivating R & D atmosphere. The Institute has received a number of sponsored projects from DST, CSIR, MHRD, DRDO, MoIT, BRNS, BARC, MNRE and AICTE. The Institute organized 32 workshops in the last year for promotion of research and training activities.

The Institute takes immense care to provide sound working and soothing living conditions to its staff and students. The lush green meadows and tranquil Lake surrounding the state-of-the-art academic blocks, hostels, housing colonies and other basic amenities provide a healthy environment and natural abode to the seekers of knowledge and invention. Further the



Institute has become one of the pioneers in implementing the CCS pension Rule, 1972 as per the guidelines of Government of India which enables us to provide pension benefit to retiring employees.

Students at NIT Silchar are encouraged to develop attributes & knowledge beyond the constraints of traditional classroom teaching and learning. Engineering and Management education are designed to accommodate current trends and future needs, enhancing the flexibility of the curricula and thus creating more connections and better partnership with global societies. The futuristic teaching and learning approach acts as a simulator and ensures reducing the gap between the industry life and the academic life of our student and make them industry ready. At NIT Silchar we aim to produce well trained professionals who would contribute efficiently towards the attainment of organisational goals as well as become the torch bearers of the 21st century technical advancement and socio-economic development globally. NITS stand as a humble spectacle where tradition meets modernity, aspiration meets inspiration and regional excellence defines global benchmarks.



# 1. INTRODUCTION

## 1.1 Mission

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

## 1.2 Vision

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

## 1.3 Objectives

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

## 1.4 Education System

### 1.4.1 Under Graduate Programme

The Institute offers six undergraduate programmes in various branches of Engineering & Technology. The minimum educational qualification required for admission into any such programme is a pass in 12th standard examination conducted by either CBSE or any recognised State Board Examination with English, Physics, Chemistry and Mathematics as compulsory subjects. The students are admitted into the programme based on their rankings in the Joint Entrance Examination JEE (Main) conducted by CBSE. The entire admission process is governed as per the Central Seat Allocation Board (CSAB) guide lines and instruction received from MHRD, Govt. of India.

### 1.4.2 Post Graduate Programme

The Institute offers 8 Post Graduate programmes in Engineering and 2 in Science. Admission to the entire Post Graduate programme is primarily done on the basis of the GATE score of the candidates. The seats that remain vacant due to non availability of GATE qualified students are filled by non GATE qualified students, based on their performance in written test and interview. A few seats reserved for sponsored candidates, project fellows and Institute staffs are filled as per the prescribed rules of the Institute. Candidates' belonging to those categories are admitted to the programme as per the prescribed rules of the Institute.

# 2. OVERVIEW

## 2.1 Historical Background

In the late fifties, the Government of India decided to establish Regional Engineering Colleges (RECs) under the Quality Technical Education Policy – one each in every major state – with the prime objective of imparting quality technical education through out the country and to foster national integration. These Regional Engineering Colleges were established as

joint ventures of the Government of India and the respective State Governments. Assam is considered as the flag bearer of the Northeast India and so in the year 1967 the 15th REC was officially established in Silchar. However it took almost a decade for REC Silchar to start its academic programmes due to various constraints.

The first batch of students was admitted in 1977 in the BE programmes in 3 branches of Engineering, namely, Civil Engineering, Mechanical Engineering and Electrical Engineering. The total intake in the first batch was 60 students. The inadequate infrastructure facilities consisted of only a part of a hostel, two Assam type buildings (for classes and administration), a workshop building, seven faculty quarters and a few staff quarters when the College started its academic programme in November 1977. Initially under the guidance of the then Principal Dr. H. R. Chablani, the classes started with only 4 full time Faculty members. The College started its academic programme with affiliation from Gauhati University. The first batch of BE students were awarded degrees in the year 1982-83. Subsequently, two more branches, namely, (i) Electronics and Telecommunication Engineering and (ii) Computer Science and Engineering started functioning from the year 1983 and 1987, respectively. The affiliation was later shifted to Assam University in 1994.

On the basis of the report of the High Powered Joint Expert Committee of AICTE and UGC under the chairmanship of Prof. S. K. Joshi, Director General of Council for Scientific and Industrial Research (CSIR), Regional Engineering College Silchar has been transformed and upgraded to National Institute of Technology, Silchar with the status of Deemed University on 28th June 2002. The institute has been taken over by Government of India and subsequently made into a fully funded Central Government Autonomous Institution. This ensures a better financial status for NIT Silchar and will accelerate its growth ensuring that it becomes one of the premier technological institutes of not just the North-East but the entire nation. The institute has remodeled its curriculum and academic activities in line with that of

IITs. With its Deemed University status, the institute started awarding degrees from the year 2002 and the first convocation of the institute was held on 16 February 2004

## 2.2 Location

The institute is situated at Silchar (latitude 24.50N, longitude 92.510E, at a height of 114.68m above MSL), the headquarters of Cachar District in Assam. The location of the institute is at a distance of about eight kilometers to the south of the town of Silchar on the Silchar-Hailakandi road. Cachar is the southernmost district of Assam bordering Mizoram on south, Manipur on east and Tripura and Meghalaya on west. Silchar is well connected to rest of the country via airways, railways and roadways.

The Institute boasts of state-of-the-art academic and research infrastructure-lecture galleries, laboratories, resource-centres, sports grounds, open-air theatre, hospital, food-courts and many more being embraced by the greenery, expansive tea gardens and lakes.

## 2.3 Campus

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



The campus area has been organized in three functional sectors:

- Hostel, amenities and activities centre for students
- Academic blocks and administrative block
- Residential sectors for the staff

The instructional buildings are strategically established between the hostels and staff quarters to provide easy commutation. There is a full-fledged computerized branch of State Bank of India, a Post-Office, and a number of telephone booths with STD/ISD facilities in the campus. The Institute has its own Dispensary with a full-time Lady Medical Officer and a Medical Officer on contractual basis to attend the day to day medical needs of the students, staff and their families. Patients suffering from serious illness, requiring intensive care, are referred to the Silchar Medical College & Hospital, which is about two kilometers from the campus. A well equipped Canteen is situated adjacent to the instructional buildings to facilitate the students and

staff members during and beyond the working hours. Two buildings are being constructed for the same purpose.. There is a well-equipped Gymkhana and a Students Activity Center which are utilized by students for activities like bodybuilding, indoor games and similar other pursuits. There is a 40 room Guest House in the campus for the visitors. There exists an Institute Hall of 500 hundred sitting capacity to conduct the extra-curricular activities of both the students and the staff. The institute has two buses, which make morning and evening trips to Silchar town. City buses and Auto rickshaws ply between Silchar town and the institute campus. There is a Kids School, Lower Primary School and a central school up to class IX in the campus for the schooling of the children.

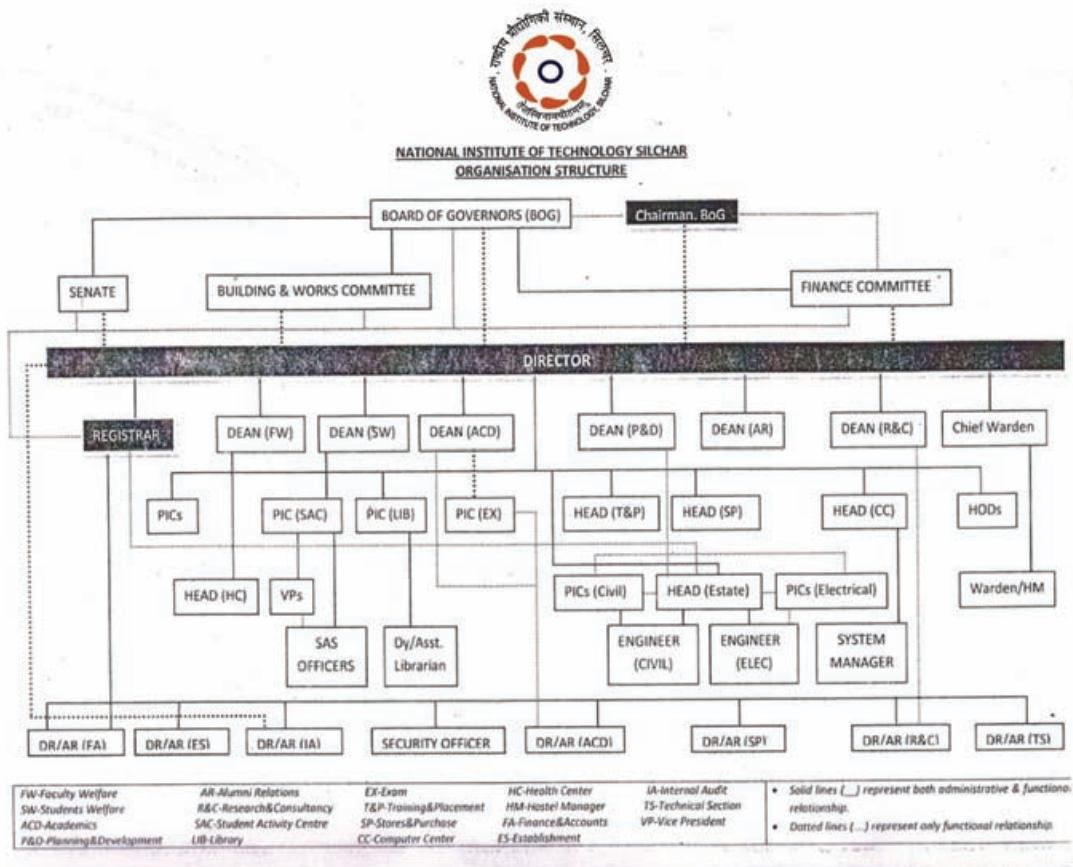
Functionally and aesthetically spread out campus aims at providing an ambience best suited for intellectual development. The soothing breeze rustling through the lush green fields and serene lakes create an amazing and captivating teaching and learning environment.



## 2.4 Administration

NIT Silchar is administered by a society registered under Societies Registration Act. According to the Memorandum of Association of this society, a Board of Governors (BOG) is made responsible for superintendence, direction and control of the

affairs of the Institute. The Director is the principal academic and executive officer of the Institute. Besides the Board of Governors, there is a Senate, a Finance Committee and a Building and Works Committee to carry out different responsibilities of the institute.



## 2.5 Academic Programme

The Institute offers programmes leading to the BTech degree in Civil Engineering, Computer Science & Engineering, Electrical Engineering, Electronics & Communication Engineering, Electronics & Instrumentation Engineering, and Mechanical Engineering. It also offers Postgraduate programmes in Technology & Science leading to MTech degree

in 10 specializations in engineering disciplines and MSc degrees in Applied Chemistry and Applied Physics. During the year under reporting, the Institute commenced MBA programmes with an intake of 30 initially. The Institute also provides opportunities for Part-time MTech in selected fields and also doctoral research in various areas. During the session 2012-13, the Institute had about 1988 students in the four

year BTech Programmes, 226 students in MTech Programmes, 22 students in MSc Programme, 30 students in MBA programme and 141 PhD research scholars. All academic programmes are governed by specified regulations duly approved by the Senate from time to time.

Three new courses were introduced during the current session, namely- MTech in Computer Science and Engineering with an intake of 20 regular and 5 sponsored category students, MBA with an intake of 30 students and MSc in Applied Physics with an intake of 20 students.

## 2.6 Duration of Courses Offered

### 2.6.1 Graduate Courses

#### A. Post Graduate Courses

SI No	Programmes	Duration of Programme
1.	Earthquake Engineering (MTech)	2 years (4 semesters)
2.	Geo-Technical Engineering (MTech)	2 years (4 semesters)
3.	Transportation Engineering (MTech)	2 years (4 semesters)
4.	Water Resources Engineering (MTech)	2 years (4 semesters)
5.	Microelectronics & VLSI Design (MTech)	2 years (4 semesters)
6.	Power & Energy System Engineering (MTech)	2 years (4 semesters)
7.	Design & Manufacturing (MTech)	2 years (4 semesters)
8.	Thermal Engineering (MTech)	2 years (4 semesters)
9.	Control & Industrial Automation (MTech)	2 years (4 semesters)
10.	Computer Science & Engineering (MTech)	2 years (4 semesters)
11.	Applied Chemistry (MSc)	2 years (4 semesters)
12.	Applied Physics (MSc)	2 years (4 semesters)
13.	Business Administration (MBA)	2 years (4 semesters)

#### B. Under Graduate Courses

SI No	BTech	Duration of Programme
1.	Civil Engineering	4 years ( 8 Semesters )
2.	Computer Science & Engineering	4 years ( 8 Semesters )
3.	Electrical Engineering	4 years ( 8 Semesters )
4.	Electronics & Communication Engineering	4 years ( 8 Semesters )
5.	Electronics & Instrumentation Engineering	4 years ( 8 Semesters )
6.	Mechanical Engineering	4 years ( 8 Semesters )

## 2.6.2 PhD Programme

PhD (Part time/Full time) programme is offered in all the areas of Physics, Chemistry, Mathematics and Humanities and Social Sciences and in Civil Engineering, Electrical Engineering, Electronics & Communication Engineering and Mechanical Engineering, Computer Science & Engineering.

## 2.7 Admission Procedure

### i. BTech

The students are enrolled into the 1st year of BTech programme through the Joint Entrance Examination JEE (Main) conducted by Central Board of Secondary Education as per the guidelines framed by Department of Higher Education, MHRD, Government of India. This institute acts as one of the Reporting-cum-Counseling Centers of AIEEE-2012.

### ii. MTech

Admission into MTech programme is conducted through Centralized Counselling for MTech (CCMT). During 2012-13 session, MHRD, Government of India entrusted the responsibility of carrying out the Centralized MTech Counselling to Malviya NIT, Jaipur. Leftover seats after the CCMT counseling were filled up by spot counseling.

### iii. MSc (Basic Sciences)

Admission to MSc courses in Chemistry and Physics are based on career marking (weightage for 10<sup>th</sup>, 12<sup>th</sup> and BSc are 25%, 25% and 50% respectively). Applicants must have secured at least 50% of total mark in aggregate at BSc level and preference is given to students having Honours in the applied discipline.

### iv. PhD

The advertisement for PhD programme is released in leading national newspapers, local dailies and in the

website of the institute. The candidates are selected on the basis of marks in the qualified examinations and on the basis of performance in the interview. The candidates with at least 60% of marks (or CPI 6.5) in ME/MTech for engineering departments, first class with 60% of marks in MSc for science departments, and Masters degree with a minimum of 55% marks or equivalent for Humanities and Social Sciences department are eligible to apply. BE/BTech degree holders with excellent academic record with CPI at least 8 (70% of marks) are also allowed to apply. Assistantship to regular full-time students with valid GATE/NET score are permitted subject to availability of fund.

### v. Sponsored Students for Post-Graduate programmes (MTech, MSc & PhD)

- Preference is given to those candidates who are GATE qualified. Sponsored candidates will not be eligible to receive scholarship even if they are qualified in GATE.
- The candidates must possess a minimum of 2 years of full time experience in the sponsored organisation which should be a reputed one. **During the year under reporting, Senate has formulated detailed eligibility criterion for sponsored candidates.**
- There will not be any age restriction.
- Sponsorship certificate from the employer in the proper Performa has to be produced at the time of admission.

## 2.8 Students

National Institute of Technology, Silchar has always been the preferred destination of the enthusiastic goal oriented students. The present student strength of *more than 2500 will be doubled by the end of 12<sup>th</sup> five year plan*. Students of the Institute are also known for their excellence in socio-cultural



activities and sports. The eligible students can enroll themselves in any of the programmes purely on the basis of the merits without any discrimination on the basis of caste, creed, race, religion, sex or place of birth. This creates a multilingual and multi-cultural environment conducive for the overall professional and intellectual development of the students and offering them a strong foundation to

face and survive in the real world. The 8000+ strong alumni of the Institute have already made a mark in industry and public life and *quite a few of them are serving their alma-mater in very responsible positions*. They are taking significant interest and contributing in whichever way possible in the affairs of the Institute and will continue to do so in future.



## 2.9 Examination and Evaluation

Since the conversion of the Institute into a Deemed University in 2002 and its subsequent conversion into an Institute of National Importance (by National Institutes of Technology Act, 2007), the entire

examinations and evaluations leading to finalization of BTech/MTech/MSc/MBA/PhD results, for students admitted from 2002 batch onwards, were conducted under the direct control and supervision of the office of the Dean (Academic Affairs). The Institute follows

credit based system where every course is assigned a certain number of credits and letter grades are awarded when a student completes a course. One mid-semester examination, one end-semester examination besides continuous evaluations throughout the semester done by the course instructors form the basis for awarding letter grades to students in a course. There exists provision for improvement of grades for all those students whose cumulative performance index (CPI) is below 6.0.

## 2.10 Placement

The Institute is one of the oldest T-schools in the country and the oldest in this region. The Institute had the privilege to host more than 64 companies in 2012-13 sessions culminating in more than 95 % placement. NITS has a separate full-fledged Training and Placement (T&P) Section headed by a Faculty-in-Charge which is responsible to build the Industry-Institute interface to maintain a competitive edge. In addition to placement and arrangement for industrial

training to the students, the Section is responsible for issuing railway and air concession, bona-fide certificates.

## 2.11 Games & Sports

The Institute recognizes the significance of the extracurricular activities in a students' life. Hence well equipped games and sports facilities are provided within the hostels premises, in other convenient locations and the Student Activity Centre (SAC). Hostels are facilitated with indoor games facilities. The SAC building is also used as an indoor stadium. A well maintained play ground with fencing is used for all types of outdoor games, athletic events and track events. Besides these, students, faculty and staff have been provided with facility of Tennis court, Basketball court, Volleyball court, Badminton court etc. Inter-hostel cricket, football and volleyball events are regularly conducted in the institute. A gymnasium with all types of modern body building equipment is also available inside the campus.

## 2.12 Staff Position

### (i) Chief Academic & Executive Officer

Position	Name
Director	Prof. N. V. Deshpande

### (ii) Administrative Staff:

Name of the post	Sanctioned Strength	Staff in Position.
Registrar	01	---
Dy. Registrar (A/C & Admin.)	02	01
Asst. Registrar	04	03
Senior Medical Officer	01	---
Medical Officer	01	01
Executive Engineer	01	---
Engineer	02	01
Librarian	01	01
Deputy Librarian	01	---
Asst. Librarian	01	01

Name of the Post	Sanctioned Strength	Staff in Position.
Sr. Technical Officer	01	01
Technical Officer	01	01
SAS (Sports & Counsellor)	02	01
Security Officer	01	---
<b>Total</b>	<b>20</b>	<b>11</b>

**(iii) Academic Staff :**

Name of the Post	Sanctioned Strength	Staff in Position
Professor	22	20 (including 1 Lien)
Associate Professor	44	20
Assistant Professor	87	68
<b>Total</b>	<b>153</b>	<b>108</b>

**(iv) Faculty Position : (Department –wise break up)**

Name of Deptt.	Professor		Associate Professor		Assistant Professor		Total
	Sanctioned Strength	In Position	Sanctioned Strength	In Position	Sanctioned Strength	In Position	
Civil Engg.	04	07	07	05	12	06	23
Mech. Engg.	04	04 (1 lien)	07	05	12	11	23
Elect. Engg.	04	04	07	03	12	09	23
ECE	03	02	07	03	13	12	23
CSE	03	---	06	01	13	10	22
E & I	---	---	01	---	06	04	07
Physics	01	01	02	01	04	03	07
Chemistry	01	01	02	---	04	05	07
Maths	01	---	03	02	07	05	11
HSS	01	01	02	---	04	03	07
<b>Total</b>	<b>22</b>	<b>20 (1 Lien)</b>	<b>44</b>	<b>20</b>	<b>87</b>	<b>68</b>	<b>153</b>

**(v) Administrative Staff :**

Sl No	Name of the Post	Sanctioned Strength	Staff in Position
1.	Superintendent (SG – I)	1	1
2.	Superintendent / Secretary (SG – II)	2	1
3.	Sr. Supdt./Sr. Accountant/Sr. Secretary	2	1

Sl No	Name of the Post	Sanctioned Strength	Staff in Position
4.	Supdt./Accountant/Secretary	5	0
5.	Assistant (SG – I)	24	24
6.	Assistant (SG – II)	2	2
7.	Sr. Assistant	2	2
8.	Stenographer (SG – I)	5	5
9.	Sr. Stenographer	1	1
	<b>Total</b>	<b>44</b>	<b>37</b>

**(vi) Technical Staffs & Other Grade – IV Technical Staff :**

Sl No	Name of the Post	Sanctioned Strength	Staff in Position
1.	Assistant Engineer	1	1
2.	Tech. Asstt. / SAS Asstt. / AE (SG – II)	7	2
3.	Sr. Tech. Asstt / Sr. SAS Asstt / AE	10	0
4.	Tech. Asstt. / SAS Asstt. / Jr. Engg.	18	0
5.	Assistant (SG – I) Library	1	1
6.	Pharmacist (SG – II)	1	1
7.	Work Assistant (Nurse)	1	1
8.	Laboratory Assistant (SG – I)	1	1
9.	Technician (SG – I)	19	19
10.	Technician (SG – II)	5	5
11.	Sr. Technician	4	4
12.	Technician	3	3
13.	Work Assistant (SG – I)	2	2
14.	Work Assistant (SG – II)	1	1
15.	Sr. Work Assistant	1	1
16.	Attendant (SG – I)	12	12
17.	Attendant (SG – II)	15	15
18.	Sr. Attendant	7	7
	<b>Total</b>	<b>109</b>	<b>76</b>

**(vii) Supporting Grade – IV Staff :**

Sl No	Name of the Post	Sanctioned Strength	Staff in Position
1.	Attendant (SG – I)	16	16
2.	Attendant (SG – II)	56	56
3.	Sr. Attendant	10	10
4.	Attendant	4	4

SI No	Name of the Post	Sanctioned Strength	Staff in Position
5.	Mali (SG – I)	2	2
	<b>Total</b>	<b>88</b>	<b>88</b>

**(viii) Fresh Appointments Teaching (Contractual)**

SI No	Name	Designation	Date of Joining
1.	Ms. Saroj Yadav	Asstt. Prof. (Mech.)	19.06.12
2.	Mr. Swapnil Vijay Choudhary	Asstt. Prof. (Mech.)	06.07.12
3.	Ms. Pallabi Das	Asstt. Prof. (Management)	17.07.12
4.	Ms. Madhudeepa Dey	Asstt. Prof. (Chem.)	17.07.12
5.	Mr. Pradip Deb Nath	Asstt. Prof. (Maths)	17.07.12
6.	Ms. Nibedita Das	Asstt. Prof. (Elect.)	18.07.12
7.	Dr. Ranjith G. Nair	Asstt. Prof. (Phy.)	19.07.12
8.	Ms. Juthika Mahanta	Asstt. Prof. (Maths)	25.07.12
9.	Mr. Tapan Kumar Pradhan	Asstt. Prof. (Mech.)	19.07.12
10.	Mr. Rupesh Kumar Khuty	Asstt. Prof. (Mech.)	25.07.12
11.	Mr. Chanchal Naskar	Asstt. Prof. (Elect.)	25.07.12
12.	Mr. Kalim Uddin Mondal	Asstt. Prof. (E & I)	27.07.12
13.	Mr. Nabajyoti Medhi	Asstt. Prof. (CSE)	27.07.12
14.	Mr. Susil Kumar	Asstt. Prof. (CSE)	01.08.12
15.	Mr. Deepak Puthal	Asstt. Prof. (CSE)	07.08.12
16.	Mr. Chandra Shekhar Nishad	Asstt. Prof. (Maths)	08.08.12
17.	Mr. Zahir Alam Zakaria	Asstt. Prof. (HSS)	14.08.12
18.	Ms. Ashima Choudhury	Asstt. Prof. (HSS)	16.08.12
19.	Mr. Gyanendra Kr. Verma	Asstt. Prof. (CSE)	17.08.12
20.	Ms. Arpita Dutta	Asstt. Prof. (Management)	21.08.12
21.	Mr. Saibal Kr. Saha	Asstt. Prof. (Management)	21.08.12
22.	Mr. Badal Soni	Asstt. Prof. (CSE)	28.08.12
23.	Mr. Tushar Bachhar	Asstt. Prof. (E & I)	04.09.12
24.	Mr. Tanuj Mathur	Asstt. Prof. (Management)	02.01.13
25.	Mr. Ujjwal Kanti Paul	Asstt. Prof. (Management)	02.01.13
26.	Mr. Sahid Ahmed Laskar	Asstt. Prof. (Management)	08.01.13
27.	Mr. Amit Kumar Trivedi	Asstt. Prof. (CSE)	08.01.13
28.	Mr. Saptarshi Chakraborty	Asstt. Prof. (CSE)	23.01.13

**(ix) Fresh Appointments Non-Teaching (Contractual)**

SI No	Name	Designation	Date of Joining
1.	Dr. (Mrs.) Pompa Das	Medical Officer	02.04.12

SI No	Name	Designation	Date of Joining
2.	Mr. Sabyasachi Roy	T & P Officer	09.04.12
3.	Ms. Moni Akura	Medical Attendant	25.04.12
4.	Mr. Swapan Das Baishnab	Jr. Engg. (Elect.)	26.04.12
5.	Mr. Dhruvajyoti Chakraborty	Jr. Engg. (Civil)	26.04.12
6.	Mr. Anjan Das	Jr. Engg. (Civil)	26.04.12
7.	Mr. Tapan Kr. Roy	Jr. Engg. (Elect)	21.05.12
8.	Mr. Pulak Nath	Office Assistant	24.05.12
9.	Mr. Kalyan Das	Office Assistant	25.05.12
10.	Mr. Samyadeep Das	Office Assistant	28.05.12
11.	Ms. E. Memtombi Devi	Office Assistant	01.06.12
12.	Ms. Jayashree Chowdhury	Office Assistant	01.06.12
13.	Ms. Monideepa Nath	Office Assistant	01.06.12
14.	Mr. Satya Saran Biswas	Tech. Asstt (ECE)	11.07.12
15.	Mr. Sandip Biswas	Tech. Asstt (ECE)	11.07.12
16.	Mr. Mishal Deb	Tech. Asstt (ECE)	11.07.12
17.	Mr. Panchannan Chakraborty	Tech. Asstt (ECE)	11.07.12
18.	Mr. Pankaj Ghosh	Tech. Asstt (Mech.)	11.07.12
19.	Mr. Manjit Singha	Tech. Asstt (Elect.)	11.07.12
20.	Ms. Sulekha Bhattacharjee	Tech. Asstt (Elect.)	11.07.12
21.	Dr.(Mrs.) Ritamoni Goswami	Dental Surgeon	11.07.12
22.	Ms. Lipi Mohanta	Tech. Asstt (Phy.)	11.07.12
23.	Mr. Jayanta Bhattacharjee	Tech. Asstt (Civil)	12.07.12
24.	Ms. Sagarika Das	Tech. Asstt (CSE)	12.07.12
25.	Mr. Deepraj Paul	Tech. Asstt (Mech)	12.07.12
26.	Mr. Natraj Nath	Tech. Asstt (Mech)	12.07.12
27.	Mr. Raju Singha	Tech. Asstt (Mech)	12.07.12
28.	Mr. Rahul Amin Laskar	Tech. Asstt (Inst.)	12.07.12
29.	Mr. Abdul Muktedir	Tech. Asstt (Elect)	13.07.12
30.	Ms. Dipshika Das	Tech. Asstt (Civil)	16.07.12
31.	Mr. Prodyut Paul	Tech. Asstt (CSE)	16.07.12
32.	Mr. Sajal Choudhury	Tech. Asstt (CSE)	17.07.12
33.	Mr. L. Jhon Tonsing	Lib. & Info. Asstt.	17.07.12
34.	Mr. Somyajyoti Brahmachary	Tech. Asstt (Civil)	17.07.12
35.	Mrs. Rupashree Paul	Lib. & Info. Asstt.	17.07.12
36.	Mr. Jayanta Das	Tech. Asstt (Chem)	18.07.12
37.	Mrs. Priyalaskshmi Goswami	Tech. Asstt (Phy.)	18.07.12
38.	Mr. Dilip Chandra Das	Attendant	19.07.12

SI No	Name	Designation	Date of Joining
39.	Ms. Deepshika Sen	Library Trainee	20.07.12
40.	Mr. Hemanta Gogoi	Lib. & Info. Asstt.	23.07.12
41.	Mr. Biraj Chitrakar	Tech. Asstt (ECE)	23.07.12
42.	Mr. H. Chiglen Singha	OSD	26.07.12
43.	Mr. S. Gournitai Singha	OSD	27.08.12
44.	Mr. Kumud Sankar Das	Purchase Officer	06.08.12
45.	Mr. Santanu Chakraborty	OSD	13.08.12
46.	Mr. Enaobi Singha	Supervisor	13.08.12
47.	Mr. Santosh Paul	Tech. Asstt (ECE)	16.08.12
48.	Mr. Arnab Kr. Singha	Jr. Engg. (Civil)	23.08.12
49.	Mr. Debojyoti Deb	Jr. Engg. (Civil)	23.08.12
50.	Mr. Avishek Choudhury	DEO	23.08.12
51.	Mr. Rahul Suklabaidya	Jr. Engg.(Civil)	24.08.12
52.	Mr. Bipan Kr. Sinha	Jr. Engg. (Elect)	24.08.12
53.	Mr. Rituraj Paul	Trainee	12.11.12
54.	Mrs. Sangeeta Sarma Neog	Warden	26.10.12
55.	Ms. Ratna Nath	Trainee	12.11.12
56.	Ms. Mohul Mitra	Trainee	14.11.12
57.	Ms. Sweta Patoa	Trainee	14.11.12
58.	Ms. Lopamudra Bhattacharjee	Trainee	15.11.12
59.	Ms. Anuradha Bhattacharjee	Trainee	16.11.12
60.	Ms. Deepika Chakraborty	Trainee	19.11.12
61.	Mr. Rajat Kr. Rabidas	Office Assistant	19.11.12
62.	Dr. R. K. Bhattacharjee	Sr. Medical Officer	26.12.12
63.	Mr. L. Prokash Singh	T & P Officer	02.01.13

## 2.13 Retirement / Resignation.

SI No	Name	Designation	Date of Retirement / Resignation
1.	Prof. (Mrs) B. Choudhury	Professor (Physics)	28.02.13
2.	Mr. S.K. Srivastava	Dy. Registrar (A/C)	09.04.12
3.	Mr. J. Barman	Assistant (SG-I)	30.11.12
4.	Mrs. B. Roy Choudhury	Assistant (SG-I)	31.07.12
5.	Mrs. Mamata Das	Assistant (SG-I)	31.08.12
6.	Mr. J.L. Roy		30.04.12

Sl No	Name	Designation	Date of Retirement / Resignation
7.	Mrs. Rita Roy Choudhury	Attendant (SG-I)	31.03.12
8.	Mr. Madhusudhan Kurmi	Attendant (SG-II)	31.10.12
9.	Mr. Ram Abatar Kanu	Attendant (SG-I)	31.10.12
10.	Mr. Ananda Mohan Sarmar	Attendant (SG-I)	30.11.12
11.	Mr. Ashit Chakraborty	Attendant (SG-II)	30.11.12

## 2.14 Death in Harness.

Sl No	Name	Designation	Date of Expiry
1.	Lt. Jay Narayan Verma	Attendant (SG-I)	29.08.12
2.	Lt. Gouranga Roy	Attendant (SG-I)	01.01.13
3.	Lt. Sudhangshu Chakraborty	Attendant (SG-I)	06.08.12

## 2.15 Staff Members (Non-teaching) Deputed / Sponsored for Training / Learning.

Sl No	Name of Staff	Name of Programme	Organizing Institute	Duration
1.	Dr. Asim Roy	Roster Writing and Reservation	CTSR New Delhi	19.12.12 – 20.12.12
2.	Mr. Dipak Roy			
3.	Mr. Pijush Bhattacharjee			
4.	Mr. Sudipta Kr. Bhattacharjee			

## 2.16 Retirement / Pensionary Benefit to the Staff Members of the Institute

During the year under report this institute has come under the purview of CCS Pension rule 1972 as per Govt notification no. 26-9/2005-TS.III dated 11.02.2013. Since inception, Institute was giving gratuity and balance amount in contributory provident fund on retirement to its staff. From the FY 2012-13, all the staff members who joined prior to 1.1.2004 are covered under CSS Pension Rules 1972 and those joined on or after 1.1.2004 under New Pension Scheme.



### 3. DEPARTMENTS: ACADEMIC STAFF AND ITS ACTIVITIES

#### 3.1 Department of Civil Engineering



The Department of Civil Engineering was set up in 1977 and ever since, it has constantly been imparting quality technical education and preparing the students to face challenges to meet national and global needs. The Department has experienced and distinguished faculty pool with diverse specializations, complemented by good laboratory facilities and ambience for research and development.

##### 3.1.1 Academic Staff

<i>Name</i>	<i>Qualification</i>	<i>Specialization Area(s)</i>
<b>HEAD</b>		
Prof. Satyabrata Choudhury	PhD	Structural Engg, Earthquake Engg
<b>PROFESSOR</b>		
Dr. Satyabrata Choudhury	PhD	Structural Engg, Earthquake Engg
Dr. A.K. Dey	PhD	Geotechnical Engg, Soil Dynamics
Dr. P. Choudhury	PhD	Water Resources Engg.
Dr. D. Chakraborty	PhD	Water Resources Engg.
Dr. A.I. Laskar	PhD	Building Science & Construction Management, High Performance Concrete
Dr. A.K. Barbhuiya	PhD	Water Resources Engg.
Dr. M.A. Ahmed	PhD	City Planning, Transportation Planning
<b>ASSOCIATE PROFESSOR</b>		
Dr. A.K. Das	PhD	Geology, Hard Rock
Dr. U. Kumar	PhD	Environmental Engg

<i>Name</i>	<i>Qualification</i>	<i>Specialization Area(s)</i>
Dr. P. Rajbongshi	PhD	Transportation Engg
Dr. A. M. Choudhury	PhD	Building Engg, Beam-column joint
Dr. T. Rahman	PhD	Structural Engg, Microzonation
<b>ASSISTANT PROFESSOR</b>		
Mr. P. J. Roy	MTech	Water Resources Engg.
Mr. P. Das	MTech	Structural Engg
Mrs. N. Borthakur	MTech	Soil Mechanics & Foundation Engg
Mrs. P. Sultana	MTech	Soil Mechanics & Foundation Engg
Mr. N. Ahir	MTech	Earthquake Engineering
Mr. A. Sil	MTech	Earthquake Engineering

### 3.1.2 Research and Development

#### 3.1.2.1 PhD Programme (Specializations)

1. Water Resource Engineering.
2. Geotechnical Engineering.

3. Earthquake Engineering.
4. Environmental Engineering.
5. Transportation Engineering

#### 3.1.2.2 PhD Produced/Ongoing

Completed	Submitted	Ongoing
01	01	21

#### 3.1.2.3 Research Lab/ Workshop

Sl. No	Name of the Lab/Workshop	Purpose/Linkage to an Existing/ New Programme
1	Structural Engineering Lab	Structural Engineering research
2.	Geotechnical Engineering Lab	Geotechnical Engineering research
3.	Soil Dynamics Lab	Geotechnical Earthquake Engineering research
4.	Environmental Engineering Lab	Environmental Engineering research
5.	GIS Lab	GIS and Remote sensing related research
6.	Hydraulics Lab	Water Resources Engineering related research

### 3.1.2.4 Ongoing Sponsored Research Projects

Sl. No	Project Title	Principal Investigator	Funding Agency	Cost of the project (Rs in Lakhs)
1.	Flood Damage Mitigation measures for Barak Valley in South Assam	Prof. P. Choudhury	GOA	60.00
2.	L-moments Based Regional Extreme Rainfall and Flood Frequency Analysis for Hydro-meteorological Sub zones 2(b) and 2(c) of India.	Prof. P. Choudhury	MoES, GOI	30.00
3.	ANN-GA and ANFIS models Development for Flood forecasting with multiple inflows in Barak River.	Prof. P. Choudhury	DST	9.15
4.	Seismic performance of beam-column joint made with geopolymer concrete.	Dr. A.I. Laskar	AICTE	9.00
5.	Scour of bridge pier in cohesive soil	Dr. A.K. Barbhuiya	AICTE	17.00
6.	River bank erosion and its counter measure	Dr. A.K. Barbhuiya	DST	30.235
7.	Utility of Para transit modes in Regional passenger Transportation	Dr. M.A. Ahmed	AICTE	17.50

### 3.1.2.5 Research Papers Reviewed

Sl. No	Faculty Name	Journal Name	No of Papers	Year
1.	Dr. Upendra Kumar	International Journal of Chemical Engineering and Applications	1	2012
		ASME 2012, International Mechanical Engineering Congress & Exposition IMECE2012, November 09-15, 2012, Huston, Texas, USA.	3	2012
		Separation Science and Technology ( <i>Taylor &amp; Francis Journal</i> )	1	2012
		Chem. Biochem. Engg. Journal	1	2013

Sl. No	Faculty Name	Journal Name	No of Papers	Year
2.	Prof. M. A. Ahmed	Proceedings of ENSURE 2012: Environmentally Sustainable Urban Ecosystems, Indian Institute of Technology Guwahati, Assam.	5	2012
3.	Prof. S. Choudhury	Paper in Bulletin of Earthquake Engineering	1	2013
4.	Dr. P. Rajbongshi	<i>Transport</i> , Institution of Civil Engineers (ICE)	2	2012

### 3.1.2.6 Awards & Achievements

Sl. No	Recipient	Name of the Award	Year
1.	Dr. Upendra Kumar	Achievement: Citation of the Research Paper till April 2012: TOTAL = 352 +	2012
2.	S. Choudhury	“ <b>Institution Prize</b> ” by IEI on 14.12.12 for paper: P. Brahmachary and S. Choudhury, “Effect of Infill on Performance of Frame Buildings”, Journal of Institution of Engineers (I), V. 92, May 2011.	2012

### 3.1.2.7 Seminars/Workshops/Conferences Organized

Sl No	Name of the Coordinator	Title	Duration
1.	Dr. P Rajbongshi	Advances in Transportation Engineering	3 days
2.	Dr. P Rajbongshi	Awareness on Hostel management	5 days
3.	Prof. M. Ali Ahmed	Faculty Development Programme on “Effective Teaching”	1 week
4.	Prof. M. Ali Ahmed	Workshop on “Advances in Transportation Engineering”	3 days
5.	Prof. M. Ali Ahmed	Expert lecture on “Project Proposal of DRDO” by Cap. S.K. Thakur, I.N., Joint Director, DIPC, Ministry of Defence, GOI.	3 days
6.	Prof. M. Ali Ahmed	Staff Development Programme on “Improving Efficiency and Behavioral Skill of Office Staffs”	2 days
7.	Prof. M. Ali Ahmed	Two day Interaction Programme On Infrastructure and Resources Management for Five Districts in South Assam	2 days
8.	Prof. M. Ali Ahmed	Expert lecture on “Use of Nano-Technology in Civil Engineering”	1 day

### 3.1.2.8 PhD Thesis

Sl No	Name of the Scholar	Name of the Supervisor	Title of the Thesis
1.	Rajan Bhattacharjee	Dr. A. I. Laskar	Study of rheological behaviour of fly ash based geopolymer concrete

### 3.1.2.9 MTech Thesis

SI No	Name of the Scholar	Name of the Supervisor	Title of the Thesis
1.	Mesanlibor Syiem Tiewsoh	Dr. D. Chakraborty	Optimal Water Distribution Systems Design Using Genetic Algorithm.
2.	Debojit Paul	Prof. P. S. Choudhury	Flood Flow Modeling Of Barak River System With Gauged And Ungauged And Ungauged Watersheds
3.	Shyama Debbarma	Prof. P. S. Choudhury	Sediment Flow Simulation Model For River System
4.	Pritam Das	Dr. T. Rahman	Site Specific Seismic Study Of A Kanor Tunnel In Jiribum Imphal B.G. Line
5.	Sonali Bhowmik	Dr. A. M. Choudhury	Study on Size Effect of RC Structure Strengthened with Coconut Fibre
6.	Saddique N K Khan	Dr. M. A. Ahmed	Parking Study and Management Case Study Silchar
7.	Hindola Saha	Dr. P. Rajbongshi	Effect Of Aggregates Gradation on The Mix Parameters
8.	Nipa Chanda	Dr. M. A. Ahmed	Performance Analysis of Intersection
9.	Aparna Reang	Dr. P. Rajbongshi	Effect of Mix Characteristics on Layer Thickness of Flexible Pavements
10.	Tanwee Mazumder	Prof. A. K. Dey	Study of Yield Surfaces on Locally Available
11.	Samar Jyoti Kalita	Prof. A. K. Dey	A Study on Micropiles
12.	Ruhul Amin Mozumder	Prof. A K Dey	Dynamic Soil Structure Interaction in Pile
13.	Siyaram Chauhan	Prof. M. A. Ahmed	Assessment Of The Role of Paratransit in the Regional Passenger Movement Case Study Silchar
14.	Nirmalya Sharma Roy	Dr. A. M. Choudhury	Study of Size Effect on RC Structural Elements Strengthened With Polypropylene Fibre

### 3.1.2.10 Seminars/Workshops/Conferences Attended with their Contribution

SI No	Name of the Faculty	Details of the Programme	Organizing Institute
1.	N. Barthakur	Advances in Transportation Engineering	NIT Silchar
		Emerging Trends in Geotechnical Engineering	IIT
		Seismic Retrofitting of Building	Guwahati
		Faculty Development Programme on Effective Teaching	NIT Silchar

SI No	Name of the Faculty	Details of the Programme	Organizing Institute
2.	P. J. Roy	Faculty Development Programme on Effective Teaching	NIT Silchar
		Awareness on Hostel Management	NIT Silchar
		Recents in Evolutionary Optimization Techniques and Applications	NIT Silchar
		Advances in Transportation Engineering	NIT Silchar
3.	Dr. Upendra Kumar	Creativity & Innovation Techniques and Patenting in India & Abroad	NIT Silchar
		Advances in Transportation Engineering (TEQIP- II)	NIT Silchar
		Effective Teaching	NIT Silchar
		Interactive Workshop on “Challenges & Opportunities in North Eastern Region	NIT Silchar
4.	Dr. A. M. Choudhury	Advances in Transportation Engineering	NIT Silchar
		Awareness on Hostel management	NIT Silchar
5.	Pallab Das	Faculty Development Program in Effective Teaching	NIT Silchar
		Workshop on Advances in Transportation Engineering	NIT Silchar
6.	Prof. M. A. Ahmed	Application of Mathematics in Science and Engineering	NIT Silchar
		Geotechnical Earthquake Engineering	NIT Silchar
		Seismic Retrofitting of Buildings	NIT Silchar
		Recents in Evolutionary Optimization Techniques and Applications	NIT Silchar
		Awareness of Hostel Management	NIT Silchar
		FDP on Effective Teaching	NIT Silchar
		Advances in Transportation Engineering, NIT Silchar	NIT Silchar
		Creativity & Innovation Techniques and patenting in India and Abroad	NIT Silchar
Solar Energy and its Applications	NIT Silchar		

### 3.1.2.11 Research Publications

#### 3.1.2.11.1 International/National Journals

1. Rajbongshi P., Critical Temperature Stress Evaluation in Asphalt Pavements, *Transport, Institution of Civil Engineers (ICE)*, 165(3) (2012) 167-173.
2. Rajbongshi P., Kunal Kachru and Das A., Sampling Strategy for Road Distress Survey: A Case Study,

*Transport, Institution of Civil Engineers (ICE)*, 165(2) (2012) 131-138.

#### 3.1.2.11.2 International/National Conferences

1. Anindita Das and A. K. Dey (2012), “Risk Analysis of Silchar Saurashtra Mahasadak at some vulnerable points”, Proc. of Indian Geotechnical Conference, IIT Delhi, Vol I.

2. Sadrita Dutta and A. K. Dey (2012), "Effectiveness of clay dampers in control of vibration", Proc. of Indian Geotechnical Conference, IIT Delhi, Vol I.
3. Sharmistha Paul, A. I. Laskar and A. K. Dey (2012), "Application of Geopolymer in foundations", Proc. of Indian Geotechnical Conference, IIT Delhi, Vol I.
4. Barbhuiya, A. K. and Mazumder, M. H. (2012), "Live-Bed Local Scour around Wing-wall Abutments", Proceedings of the 6th International Symposium on Advances in Science and Technology (SASTech 2012), Malaysia.
5. Begum, S. A., Fujail, A.K.M. and Barbhuiya, A. K. (2012), "Artificial Neural Network to Predict Equilibrium Local Scour Depth around Semicircular Bridge Abutments", Proceedings of the 6th International Symposium on Advances in Science and Technology (SASTech 2012), Malaysia.
6. A.M. Choudhury (2012), "Experimental study on energy dissipation with emphasizing on size effect for plain and retrofitted beam-column joint under cyclic loading", 4th International conference on structural stability and dynamics, Jaipur.
7. A.M. Choudhury (2012), "Study on size effect of RC deficient beam-column joints with and without retrofitting under cyclic loading", 6th International symposium on advances in science and technology, Malaysia.
8. N. Ahir and G.I. Prajapati (2012), "Effect of Foundation Soil on Structural Economics of Earthquake Resistant Design of RC Buildings", ISET Symposium, Roorkee, Paper No. C007.
9. M. Ali (2012) "Google – Earth: a better solution for Topo-Maps", Proceedings of ENSURE 2012: Environmentally Sustainable Urban Ecosystems, Indian Institute of Technology Guwahati, Assam, INDIA, PID 287.
10. M. Ali (2012), "Road Category wise Use of Modes in Guwahati, Assam", Proceedings of (SAS Tech:) 6th International Symposium on Advances in Science and Technology, Kuala Lumpur, Malaysia, PID: 6-24-12-9000.
11. M.K. Sharma, Z. Ahmed, P. Bhardwaj and S. Choudhury (2012), "A Parametric Study of an Intze Type Tank", Second International Conference of Structural and Civil Engineering (SCE 2012), Bangalore, 3-4 August 2012.
12. Z. Ahmed, R. Agarwal and S. Choudhury (2012), "Concrete Mix Design: A Deeper Look into IS 10262-1982", Second International Conference of Structural and Civil Engineering (SCE 2012), Bangalore, 3-4 August 2012.
13. U. Kumar and J. Acharya, "SEM-EDAX study of rice husk for the sorption of Cu(II) from wastewater", Proceedings of the ASME 2012 International Mechanical Engineering Congress & Exposition IMECE2012-86726, Huston, Texas, USA.
14. U. Kumar and J. Acharya, "Sorption of Lead from Wastewater by Pretreated Rice Husk", Proceedings of the National Seminar on Environmental Protection & Sustainable Development at RIT-Raipur, 16th Feb, 2013.
15. Choudhury.P; Th. Arti Devi (2012) Extreme Rainfall Frequency Analysis for Hydro-meteorological Sub-zones 2<sup>o</sup> of India using L-moments. Intl. Conf. on Recent Advances in Science and Engineering: ICRASE-2012, 30-31 Oct, 2012, Taj, Deccan; Hyderabad, India organized by Association of Scientists and Professionals (asp), pp 76-80.
16. Ullah, N., Choudhury, P. and Nongthombam J. (2012), "Flood Stage-Damage Modeling in a River System", International Conference on Engineering, Technology and Management (ICETM, 2012), WAIRCO, Hyderabad, India

## 3.2 Department of Mechanical Engineering



The Mechanical Engineering Department is one of the oldest and finest Departments in the region. The workshops of the Department contains highly sophisticated machines presenting a unique and unparalleled quality. Various research & development activities undertaken by the Department put the students on busy schedules enabling them to blend to the modern industry requirements.

### 3.2.1 Academic Staff

Name	Qualification	Specialization Area(s)
<b>HEAD</b>		
Prof. R.D. Misra	PhD	Thermal Engineering, Refrigeration & Air Conditioning, Alternative Fuels, IC Engine
<b>PROFESSOR</b>		
Dr. K.M. Pandey	PhD	Combustion, IC Engine, CFD, Gas Dynamics, Numerical Methods
Dr. A.C. Paul (Retd. on 31-03-2013)	PhD	Design
Dr. R.D. Misra	PhD	Thermal Engineering, Refrigeration & Air Conditioning, Alternative Fuels, IC Engine
Dr. R. Gupta (On Lien)	PhD	Fluid Mechanics, Power Plant Engineering, CFD, Productivity Analysis
<b>ASSOCIATE PROFESSOR</b>		
Dr. K. Chakraborty	PhD	Machine Tools, Material Science
Mr. D.H. Das	MTech	Thermal Engineering
Dr. K.K. Sharma	PhD	Machine Design, Renewable Energy Systems
Dr. P.K. Patowari	PhD	Non-Traditional & Micro Manufacturing
Mr. P.L. Choudhury	MTech	Design



<i>Name</i>	<i>Qualification</i>	<i>Specialization Area(s)</i>
<b>ASSISTANT PROFESSOR</b>		
Mr. L. Roy	MTech	Tribology, Vibration, Kinematics
Mr. S. K. Pattanayak	ME	Production Engg.
Dr. S. Chatterjee	PhD	Applied Mechanics, Energy, Alternative Fuels
Dr. Agnimitra Biswas	PhD	Thermal Engg, Fluid Mechanics, Wind Turbines
Ms. Sumita Debbarma	MTech	Thermal Engg, Bio-diesel, I.C. Engine
Dr. Sudipta Halder	PhD	Composite Materials, Adhesive Joining Technology, Fracture Mechanics of Composite Materials, Hard Magnetic Materials, Production of Biodiesel using heterogeneous process, Titanium Pigment process
Dr. Debasish Dutta	PhD	Design & Manufacturing
Dr. Ravi Kumar Gupta	PhD	CAD, Geometric Modelling, Product Design, Computer Aided Prototyping, Product Lifecycle Management
Mr. Sumit Bhowmik	MME	Design, Fracture Mechanics, Material Properties
Mr. Dipankar Bhanja	ME	Production Engg, Thermal Engg, Heat Transfer through constructal fin, porous surface, analytical methods, electronic cooling
Dr. Amitava Ray	PhD	Production Engg, Operation Management, Applied Soft Computing, Cost Engineering
Ms Saroj Yadav (Cont.)	MTech	Fluids & Thermal Engg.
Mr. S. V. Choudhary (Cont.)	MTech	Design of Thermal System, Refrigeration, Automobile, Renewable Energy, Power Plant Engg.
Mr. T. K. Pradhan (Cont.)	MTech	Thermal Science, CFD

### 3.2.2 Research and Development

#### 3.2.2.1 PhD Programme (Specializations)

1. Renewable Energy
2. Alternative Fuels
3. Combustion
4. Computational Fluid Dynamics
5. Thermo-Fluid
6. Energy, productivity & quality management
7. Micro Machining
8. Advanced Manufacturing Process

**3.2.2.2 PhD Produced/Ongoing**

<b>Completed</b>	02	<b>Submitted</b>	01	<b>Ongoing</b>	16
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**3.2.2.3 Research Lab/ Workshop**

Sl. No	Name of the Lab/Workshop	Purpose/Linkage to an Existing/ New Programme
1.	Energy (Petroleum) Engg. Lab	Alternative Fuels Research, IC Engine fuel Research
2.	Gas Dynamics Lab.	Wind Tunnel, Air-flow Bench, Fluid Mechanics Laboratory
3.	Advanced Manufacturing Lab	Research on Non-traditional and Advanced Manufacturing Processes
4.	IC Engine Lab	Engine Research
5.	Micro Nano Manufacturing Lab	Micro-Nano Manufacturing

**3.2.2.4 Ongoing Sponsored Research Projects**

Sl. No	Project Title	Principal Investigator	Funding Agency	Cost of the Project (₹ Lakhs)	Duration
1.	Energy. Quality and Productivity audit of KVIC based industries of Barak Valley of Assam	Dr. K.M. Pandey	KVIC	5.106	2010-2013
2.	Extraction of pineapple fibres for making commercial products	Dr. K.M. Pandey	KVIC	5.681	2010-2013
3.	Development of an Enzymatic Process for Production of Microalgaeal Bio diesel	Dr. S. Chatterjee	AICTE	10.4	2012-2014
4.	Regional Test Centre (RTC)-cum technology back up unit for solar thermal devices	Dr. A. Biswas	MNRE	73.86	2013-2017
5.	Refrigeration and Air-Conditioning Lab	Dr. R. D. Mirsa	AICTE	15.00	2012-2013
6.	Heat Transfer Lab	Dr. R. D. Mirsa	AICTE	8.00	2012-2013

**3.2.2.5 Research Papers Reviewed**

Sl. No	Faculty Name	Journal Name	No of Papers	Year
1.	Dr. P. K. Patowari	International Journal of Advanced Manufacturing Technology, Publisher: Springer	4	2012-13
2.	Dr. R.K. Gupta	Computer Aided Design Journal, Publisher: Elsevier	5	2012-13

Sl. No	Faculty Name	Journal Name	No of Papers	Year
3.	Dr. K. M. Pandey	Asme Heat Transfer Summer International Conference held during July 14-19, at Minneapolis, MN, USA	2	Feb '13
		IMECE 2012 held during November 9-15, 2012, at Houston, Texas USA, organized by ASME 2013 International Mechanical Engineering Congress and Exposition.	4	August '12
		5th International Congress of Environmental Research (ICER-12), 22-24 November, 2012, Centre for Socioeconomic Development, Universiti Malaysia Terengganu (UMT).21030, Kuala Lumpur, Terengganu (Malaysia).	4	July-Aug '12
4.	Dr. A. Biswas	Journal of Urban and Environmental Engineering, ISSN 1982-3932	1	Mar' 2013

### 3.2.2.6 Chairing of any Technical Section

Sl No	Faculty Name	Details
1.	Dr. P.K. Patowari	4th Int. and 25th AIMTDR 2012 Conference at Jadavpur University, Kolkata, December 14-16, 2012

### 3.2.2.7 Seminars/Workshops/Conferences Organized

Sl No	Name of the Coordinator	Title	Duration
1.	Dr. P.K. Patowari	One week Faculty Development Program (FDP) on "Effective Teaching (Under TEQIP-II)	April-May, 2012
		Special Lecture on Project Proposals of DRDO (Under TEQIP-II)	May 2012
2.	Mr. S.K. Pattanayak	Recents in Evolutionary Optimization Techniques and Applications (REOTA-2012)	June 2012
3.	Dr. R.D. Misra	One day lecture series on Mechanical Engineering in October, 2012	October 2012
4.	Dr. K.M. Pandey	Acted as Co-ordinator in International Congress of Environmental Research, Centre for Socioeconomic Development, Universiti Malaysia Terengganu (UMT).21030, Kuala Lumpur, Terengganu	22-24 November 2012

**3.2.2.8 PhD Thesis**

SI No	Name of the Scholar	Name of the Supervisor	Title of the Thesis
1.	A.P. Singh	Dr. K.M. Pandey	Numerical Investigation of Combustion Phenomena in Supersonic and Hypersonic Flow Regimes
2.	M.S. Murty	Dr. R.D. Misra	Soapnut Oil as a Biofuel Source for Compression Ignition Engine: A Feasibility Investigation through Engine Performance, Emission, and Thermodynamic Analysis

**3.2.2.9 MTech Thesis**

SI No	Name of the Scholar	Name of the Supervisor	Title of the Thesis
1.	N.K. Sarma	Dr. A. Biswas & Dr. R.D. Misra	Experimental and Computational Investigation of Savonius Water Turbines
2.	S.S. Bashyam	Mr. D.H. Das	Numerical Analysis of a Cylindrical Heat Pipe with Extended Surfaces at the Condenser End
3.	R.L. Mohanty	Mr. D.H. Das	Numerical Analysis of a Double Pipe Heat Exchanger Using Heat Transfer Augmentation Techniques
4.	S. Das	Dr. S. Chatterjee	CFD Analysis of Fluid Flow and Heat Transfer of Some Hollow Cylindrical Components in Thermal Power Plant
5.	Ms S. Das	Dr. R.D. Misra	Performance Evaluation of CI Engine Fuelled with Water Emulsified Diesel Oil
6.	Ms R. Saikia	Dr. R.D. Misra	Comparative Evaluation of CI Engine Performance and Emission Characteristics Using Preheated Karanja Oil Blends and Its Corresponding Biodiesel Blend
7.	Ms S. Deb	Dr. K.M. Pandey	2D CFD Analysis of Combustion in 6 and 8 Legged Star Shaped Perforation in Ammonium Perchlorate Composite Propellant With HTPB Binder
8.	R. Kannojiya	Dr. K.K. Sharma & Dr. K.M. Pandey	Performance Study of Savonius and Bach Type Rotors with Variation in Blade Shape Factor and Overlap
9.	D. Sharma	Dr. K.M. Pandey	Studies on 3D CFD Steady State Heat Transfer in Nuclear Fuel Rods for Sub Channels of Carbon Di Oxide Flow at a Pressure Above the Critical Value
10.	B. Nath	Dr. K.M. Pandey	CFD Analysis of a Hydrogen Fuelled Scramjet Combustor Using Strut Injectors with Variations in Mach Number

SI No	Name of the Scholar	Name of the Supervisor	Title of the Thesis
11.	A. DebBarma	Dr. K.M. Pandey	CFD Analysis of Flow and Heat Transfer in Sub-Channels of High Performance Nuclear Reactor with Light Water as Coolant
12.	V. S. Doke	Dr. R.D. Misra	Effect of Organic Element in Bio fuels on CI Engine Performance and Emissions Through Exergetic Analysis
13.	A.K. Singh	Dr. A. Biswas & Dr. R.D. Misra	Computational and Experimental Investigation of Self-Starting and Performance of a New VAWT
14.	A. Sengupta	Dr. S. Chatterjee	Optimization of Some Process Parameters of Transesterification for Production of Biodiesel From Vegetable Oil Using Soft Computing Technique
15.	K.O. Reddy	Dr. K.M. Pandey	Burnback Analysis of 3D Star Grain Solid Propellant and CFD Simulation of Core Flow
16.	R. Ghosal	Dr. K. Chatraborty	Some Studies on The Effects of Machining Parameters on Hydrostatic Stress, Flow Stress and Friction Behaviour of Material During Metal Machining
17.	C. Bhagat	Mr. P.L. Choudhury	Steady State Thermo-Hydrodynamic Analysis of Multilobe Oil Journal Bearings
18.	S. Das	Mr. P.L. Choudhury	Suppression of Free Edge Mixed Mode Delamination in Laminated Composite Structures Using ANSYS
19.	N. Devarani	Dr. P.K. Patowari	Surface Modification of Graphite Using Powder Metallurgical Green Compact Tool Electrode in EDM
20.	T. Biswas	Dr. P.K. Patowari	Micro Hole Drilling on Thin Sheet Metals by Micro-EDM
21.	M. Debnath	Dr. D. Dutta	A Study on Inventory Problems in Fuzzy and Stochastic Environments
22.	S.S. Singh	Dr. P.K. Patowari	Texturing of External Cylindrical Surface of Rotational Component by Machining and Deposition in EDM
23.	Nasir Hasan S.K.	Dr. S. Chatterjee	Stress Analysis of Typical Process Piping Using ANSYS
24.	M.K. Rout	Mr. S.K. Pattanayak	Formulation and Analysis of Aggregate Production Planning in Multi-Product System: A Case Study
25.	I.B. Laskar	Mr. S.K. Pattanayak	Bio-Ethanol From Rotten Potato in Barak Valley: A Socio-Economic Perspective
26.	P. Biswal	Mr. S.K. Pattanayak	Development and Illustration of a Simulation Model for Determining the Optimal Size of Buffer in a Multi-Product System
27.	H.B. Prusty	Mr. S.K. Pattanayak	Formulation and Comparison of Outsourcing Models in Product-Mix Problem

**3.2.2.10 Seminars/Workshops/Conferences Attended with their Contribution**

Sl No	Name of the Faculty	Details of the Programme	Organizing Institute
1.	Dr. P.K. Patowari	4th Int. and 25th AIMTDR 2012 Conference at Jadavpur University, Kolkata	Jadavpur University, Kolkata, India
2.	Dr. K.M. Pandey	International Conference on Advances in Computer Science and Engineering (ICACSE 2013)	Lords Institute of Engineering and Technology, Vidya Vikas Institute of Technology, Hyderabad, India
3.	Mr. P. L. Choudhury	International Conference on Advances in Computer Science and Engineering (ICACSE 2013)	Lords Institute of Engineering and Technology, Vidya Vikas Institute of Technology, Hyderabad, India
4.	Dr. S. Halder	ICRACM 2013	IIT BHU at Goa, India
5.	Dr. P.K. Patowari	Fifth SERC School on "New Developments in Micro-fabrication"	RRCAT Indore, India

**3.2.2.11 Books/Chapter**

Sl. No	Author	Title	Publisher
1.	A. Biswas & R. Gupta	Aluminum- Silica Gel Metal Matrix Composite (MMC)	Lap Lambert Academic Publishers, ISBN: 978-3-659-33206-7
2.	K.M. Pandey	Chapter-3: Recent advances in nanomaterials of defence applications	Nanotechnology Defence Applications, Studium Press LLC, pp 35-53, Vol.5, Series ISBN: 1-62699-000-X, Houston, TX 77072- USA

**3.2.2.12 Research Publications****3.2.2.12.1 International/National Journals**

1. Geeta Kumari, Vittesh Bahuguna and K.M.Pandey, Studies on job satisfaction in engineers India limited, *Global Journal of Business and Management* (2012) published from USA.
2. Sukanta Roga, K. M. Pandey and A. P. Singh, Computational analysis of supersonic combustion using wedge shaped strut with turbulent non-premixed combustion model, *International Journal of Soft Computing and Engineering (IJSCE)*, 2(2) (2012)31-40 (IF 0.52).
3. Geeta Kumari, Vittesh Bahuguna and K.M.Pandey, Studies on job satisfaction: a case study of Engineers India limited, *Journal of Applied Management and Investment*, 1(2) (2012).
4. J.P. Kalita, K.M. Pandey and A.P. Singh, Computational analysis of combustion chamber using cavity based fuel injector with non – premixed combustion model, *Global journal*

- of Reseaches in Engineering, Mechanical and Mechanics Engineering*, 12 (3) (2012) 40-51.
5. K. Deb, K.M. Pandey and A.P. Singh, Computational analysis of combustion chamber using cavity based fuel injector with non – premixed combustion model, *Global journal of Reseaches in Engineering, Mechanical and Mechanics Engineering*, 12(3) (2012) 40-51.
  6. K.M. Pandey and Bidesh Roy, CFD Analysis of Intake Valve for Port Petrol Injection SI Engine, *Global journal of Reseaches in Engineering, Mechanical and Mechanics Engineering*, 12(5) (2012).
  7. K. M Pandey, N. K. Saha, E. Ahmed, 3D CFD analysis of helicopter rotor at Higher Rotational Speeds, *International Review of Aerospace Engineering*, 5(2) (2012) (IF 6.5).
  8. K.M. Pandey, Gaurav Kumar and Anand Surana, 3D CFD analysis of airbus a380 during take-off, cruising and landing modes and comparison with low reynolds number, high lifts1223 airfoil, *International Review of Aerospace Engineering*, 5(3) (2012) (IF 6.5).
  9. K.M.Pandey and P. Bose, Star Shape Solid Propellant Grain for Multi Barrel Rocket Launcher Application, *International Review of Aerospace Engineering*, 5(4) (2012) (IF 6.5).
  10. P. Bose, K.M.Pandey, Analysis Of Anisotropy And Viscoelastic Properties Of Composite Solid Propellant And Its Suitability For Use In Solid Rocket Under Field Deployment, *International Review of Aerospace Engineering* 5(5) (2012) (IF 6.5).
  11. P. Bose, K.M.Pandey and K.O. Reddy, Numerical Analysis of Comparison of Solid Fuel Scramjets with Viscous Model and Turbulence Chemistry Model at Mach 2, *International Review of Aerospace Engineering* , 5(6) (2012)(IF 6.5).
  12. P Bose and K.M. Pandey, Neutral burning grain geometry of composite propellant for solid rockets of multi barrel rocket launcher, *International Review of Aerospace Engineering*, 5(6) (2012) (IF 6.5).
  13. K.M. Pandey, Deepak Sharma, K. Obula Reddy, Oveepsa Chakraborty, CFD analysis of cavity based combustion of hydrogen at Mach number 1.4, *Current Trends in Technology and Sciences*, 1(3) (2012) 215-223.
  14. Ajay Kumar Pandey, G.P.Pandey, K.M. Pandey, Mass media exposure of the respondents: A case study of Latehar district of Jharkhand state in India, *ShivShakti International Journal in Multidisciplinary and Academic Research (SSIJMAR)*, 1(4) (2012).
  15. K.M.Pandey and R.Kannojiya, A review on extraction of pine apple fibers for making commercial products, *Journal of Environmental Research and Development (JERAD)* (accepted) (2013).
  16. Deepak Sharma and K.M. Pandey, Energy quality and productivity audit of KVIC based industries in Barak valley region of Assam state in India, *Journal of Environmental Research and Development (JERAD)* (accepted) (2013).
  17. K.M. Pandey and K.O.Reddy, Recent advances in India in solving the problems of food security, *Journal of Environmental Research and Development (JERAD)* (accepted) (2013).
  18. Ajoy Debbarma and K.M. Pandey, Environmental impact assessment and management: Protecting ecology in North-East, India, *Journal of Environmental Research and Development (JERAD)* (accepted) (2013).
  19. R. Debnath, P. L. Choudhury and K.M. Pandey, Influence of fiber orientation and laminate

- stacking sequence on out-of plane and in-plane bending natural frequencies of laminated composite, *Journal of Environmental Research and Development (JERAD)* (2012) (IF 0.603)
20. P. Bose and K.M. Pandey, Mathematical modelling of propellant grain geometry suitable for solid rockets used in multi barrel rocket launcher application, *Journal of Environmental Research and Development (JERAD)* (2013)
  21. T. Ashutosh, R. Thakur, A.Hazarika and K.M. Pandey, CFD analysis of the flow over a National Advisory Committee for Aeronautics (NACA) 0009 airfoil, *International Review of Aerospace Engineering*, 5(6)(2013) (IF 6.5).
  22. A.Hazarika, R. Thakur, T.Ashutosh and K.M Pandey "CFD Analysis of Flow over Airfoil with Variation in Inlet Velocity, *International Review of Aerospace Engineering*, 5(6) (2013) (IF 6.5).
  23. Sukanta Roga, K.M.Pandey and K.K.Sharma, Computational Analysis of Combustion Chamber Using Diamond Shaped Injector with Non-Premixed Combustion Model, *International Review of Aerospace Engineering*, 5(7) (2013) (IF 6.5).
  24. Sukanta Roga, K.M.Pandey and K.K.Sharma, "Computational Analysis of supersonic combustion chamber with non premixed combustion model, *International Review of Aerospace Engineering*, 5(7) (2013) (IF 6.5).
  25. Geeta Kumari, Vitesh Bahuguna and K.M. Pandey, Studies on job satisfaction: a case study of engineers India limited, *Journal of Applied Management and Investment*, 1(2) (2012).
  26. A.K.Pandey, G.P.Pandey and K.M. Pandey, Mass Communication and Rural Development: A study of Palamau Commissionery of Jharkhand state, *Shiv Shakti International Journal in Multidisciplinary and Academic Research*, 1(2) (2012)1-12
  27. A.K.Pandey, G.P.Pandey and K.M.Pandey, Traditional Media of Communication as tool for effective Rural Development and Health awareness: A case study of Garhwa district and village dalko of Jharkhand state, *Shiv Shakti International Journal in Multidisciplinary and Academic Research*, 1(3) (2012)1-15.
  28. Krishna M. Pandey, Sukanta Roga, CFD Analysis of Supersonic Combustion using Diamond-Shaped Strut Injector with k- $\omega$  Non-Premixed Combustion Model, *Transaction on Control and Mechanical Systems(TCMS)*, 1(3) (2012) 114-124.
  29. K.M.Pandey, Virendra Kumar and Prateek Srivastava, CFD Analysis of Twin Jet Supersonic Flow with Fluent Software, *Current Trends in Technology and Science, an International Journal*, 1(2) (2012)84-91.
  30. Subhankar Das, P.L. Choudhury, K.M. Pandey, Reduction of Stress Concentration at Delaminated Composite Laminate, *International Journal of Advanced Trends in Computer Science and Engineering*, 2(1) (2013) 224-234.
  31. K.M. Pandey and Sunita Deb, Computational Fluid Dynamics Analysis Of Combustion In Two Dimensional Star Shaped Perforated And Circular Perforated Ammonium Perchlorate Composite Propellant With HTPB Binder, *International Journal of Advanced Trends in Computer Science and Engineering*, 2(1) (2013) 235-244.
  32. K Obula Reddy, K M Pandey, Burn back Analysis of 3-D Star Grain Solid Propellant, *International Journal of Advanced Trends in Computer Science and Engineering*, 2(1) (2013) 215-223.
  33. K.M. Pandey and S. Roga , Computational Analysis of Supersonic Combustion Using Ramp Injector with Standard K- $\omega$  Turbulence Model, *International Journal of Advanced Trends in Computer Science and Engineering*, 2(1) (2013).



34. K.M. Pandey and Binita Nath, CFD Analysis of Supersonic Combustion using wedge shaped strut having circular inlet with standard K- $\epsilon$  Non premixed turbulence model, *International Journal of Advanced Trends in Computer Science and Engineering*, 2(1) (2013)205-214.
35. A.P. Singh, K.M. Pandey, Arun Burman, Mohit Sharma and Navneet Tyagi, Numerical Analysis of Hpersonic Combustion without Cavity Based Injection with Finite rate Chemistry Model, *International Journal of Advanced Trends in Computer Science and Engineering*, 2(1) (2013) 60-66.
36. Misra R.D. and Murthy M.S., The Application of Energy and Exergy Analyses to Identify Suitable Blend of Karanja Biodiesel and Diesel for Usage in Compression Ignition Engine, *International Journal of Engineering Science and Research (IJESR)*, 3 (1) (2012) 627-632.
37. Misra R.D., Jena, J., Murthy M.S. Energy and Exergy analysis of a CI Engine fuelled with Palm Biodiesel based on Experimental Data, *Int. Journal of Exergy* (2013).
38. Gupta R., Deb B., Misra R.D. Performance Analysis of a Helical Savonius Rotor without Shaft at 45° Twist Angle Using CFD. *Journal of Urban & Environmental Engg.* 7(1) (2013).
39. Gupta R., Deb B., Misra R.D. Performance Analysis of a Helical Savonius Rotor with Shaft at 45° Twist Angle Using CFD. *Mechanical Engineering Research journal*, 3(1) (2012).
40. Gupta R. & Sharma K.K, Flow Physics of a combined Darrieus-Savonius rotor using Computational Fluid Dynamics (CFD), *Int. Research Journal of Engineering Science, Technology and Innovation*, 1(1) (2012) 1-13.
41. Dey S.K. and Gupta R. Development of Safety and Productivity Correlation Model for Tea Industries of Barak Valley, Assam. *IOSR Journal of Engineering*, 2(12) (2012).
42. Gupta R., Gautam R., Deka S.S., Das R. CFD analysis of a two-bucket Savonius rotor for various overlap conditions, *ISESCO Journal of Science and Technology*, 8(13) (2012) 67-74.
43. Deb B., Gupta R. Fluid Flow Analysis of Savonius Rotor at Different Rotor Angle Using CFD. *ISESCO Journal of Science & Technology*, 8(14) (2012) 35-42.
44. Gupta R., Dey S.K. and Sinha A. Analysis of Tea Withering Process through Fuzzy Logic Approach. *Global Advanced Research Journal of Engineering, Technology and Innovation (GARJETI)*, 1(1) (2012) 008-015.
45. P. K. Patowari, M. M. Nath, A. S. Bharali, C. K. Singh, Comparative Study of Different Micro-Thermal Actuators for MEMS Application, *Journal of Advanced Manufacturing Systems*, 11(1) (2012) 17–26.
46. Subhankar Das, P.L. Choudhury, K.M. Pandey, Reduction of Stress Concentration at Delaminated Composite Laminate, *International Journal of Advanced Trends in Computer Science and Engineering*, 2(1) (2013) 224-234.

### 3.2.2.12.2 International/National Conferences

1. Sunita Deb, K M Pandey and Gaurav Joshi, A review on direction of work by Khadi and Village Industries Commission in context with food security of India accepted in International Scientific and Practical conference on Strategy of Economic Development of the Food Industry and Ensuring Food Security of Country, Odessa National Academy of Food Technologies, Ministry of Education and Science, Youth and Sport of Ukraine, October 29-31, 2012.
2. Saurabh Jangid, Geeta Kumari, K M Pandey, Recent advances in Khadi and Village Industries Commission work for development of food

- materials for rural poor community of India-accepted in International Scientific and Practical conference on Strategy of Economic Development of the Food Industry and Ensuring Food Security of Country, Odessa National Academy of Food Technologies, Ministry of Education and Science, Youth and Sport of Ukraine, October 29-31, 2012.
3. Saurabh Jangid, Geeta Kumari, K M Pandey, Food security in north-eastern India and some suggestions for Khadi and Village Industries Commission of India: A critical analysis-accepted in International Scientific and Practical conference on Strategy of Economic Development of the Food Industry and Ensuring Food Security of Country, Odessa National Academy of Food Technologies, Ministry of Education and Science, Youth and Sport of Ukraine, October 29-31, 2012.
  4. M. Manik, K M Pandey and N. V. Deshpande, A review on food culture of people in north-eastern India- accepted in International Scientific and Practical conference on Strategy of Economic Development of the Food Industry and Ensuring Food Security of Country, Odessa National Academy of Food Technologies, Ministry of Education and Science, Youth and Sport of Ukraine, October 29-31, 2012.
  5. K.M Pandey, R.K Gupta and A.R Jaiswal, Numerical analysis of the isolated aircraft wing with variation of angle of attack at 0.4 Mach cruising speed using fluent software, ICER-12, 5th International Congress of Environmental Research, 22-24 November, 2012, Centre for Socioeconomic Development, Universiti Malaysia Terengganu (UMT)., 21030, Kuala Terengganu, Terengganu (Malaysia). (www.umat.edu.my)
  6. K. M. Pandey and R.Kannojiya , A review on extraction of pine apple fibers for making commercial products, ICER-12, 5th International Congress of Environmental Research, 22-24 November, 2012, Centre for Socioeconomic Development, University Malaysia Terengganu (UMT)., 21030, KUALA Terengganu, Terengganu (MALAYSIA). (www.umat.edu.my)
  7. Deepak Sharma and K. M. Pandey, Energy quality and productivity audit of KVIC based industries in Barak valley region of Assam state in India, ICER-12, 5th International Congress of Environmental Research, 22-24 November, 2012, Centre for Socioeconomic Development, University Malaysia Terengganu (UMT)., 21030, Kuala Terengganu, Terengganu (Malaysia). (www.umat.edu.my)
  8. K.M.Pandey and K.O.Reddy, Recent advances in India in solving the problems of food security ICER-12, 5th International Congress of Environmental Research, 22-24 November, 2012, Centre for Socioeconomic Development, University Malaysia Terengganu (UMT)., 21030, Kuala Terengganu, Terengganu (Malaysia). (www.umat.edu.my)
  9. Ajoy Debbarma and K. M. Pandey, Environmental impact assessment and management : Protecting ecology in North-East, India, ICER-12, 5th International Congress of Environmental Research, 22-24 November, 2012, Centre for Socioeconomic Development, University Malaysia Terengganu (UMT)., 21030, Kuala Terengganu, Terengganu (Malaysia). (www.umat.edu.my)
  10. R. Debnath, P. L. Choudhury and K.M.Pandey, Influence of fiber orientation and laminate stacking sequence on out-of plane and in-plane bending natural frequencies of laminated composite ICER-12, 5th International Congress of Environmental Research, 22-24 November, 2012, Centre for Socioeconomic Development, University Malaysia Terengganu (UMT)., 21030, Kuala Terengganu, Terengganu (Malaysia). (www.umat.edu.my)

11. P. Bose and K. M. Pandey, Mathematical modelling of propellant grain geometry suitable for solid rockets used in multi barrel rocket launcher application, ICER-12, 5th International Congress of Environmental Research, 22-24 November, 2012, Centre for Socioeconomic Development, University Malaysia Terengganu (UMT), 21030, Kuala Terengganu, Terengganu (Malaysia). ([www.umat.edu.my](http://www.umat.edu.my)).
12. K. M. Pandey and Binita Nath, CFD Analysis of Supersonic Combustion using wedge shaped strut having circular inlet with standard K- $\epsilon$  Non premixed turbulence model, Proceeding of the International Conference on Advances in Computer Science and Engineering (ICACSE 2013), Lords Institute of Engineering and Technology, Vidya Vikas Institute of Technology, Hyderabad, India in association with World Academy of Research in Science and Engineering (WARSE), 7-8 January 2013, PP.437-442.
13. K. M. Pandey and S. Roga, Computational Analysis of Supersonic Combustion Using Ramp Injector with Standard K- $\omega$  Turbulence Model, Proceeding of the International Conference on Advances in Computer Science and Engineering (ICACSE 2013), Lords Institute of Engineering and Technology, Vidya Vikas Institute of Technology, Hyderabad, India in association with World Academy of Research in Science and Engineering (WARSE), 7-8 January 2013, PP.31-36.
14. K. Obula Reddy, K. M. Pandey, Burn back Analysis of 3-D Star Grain Solid Propellant, Proceeding of the International Conference on Advances in Computer Science and Engineering (ICACSE 2013), Lords Institute of Engineering and Technology, Vidya Vikas Institute of Technology, Hyderabad, India in association with World Academy of Research in Science and Engineering (WARSE), 7-8 January 2013, PP.443-448.
15. A.P. Singh, K.M. Pandey, Arun Burman, Mohit Sharma and Navneet Tyagi, Numerical Analysis of Hypersonic Combustion without Cavity Based Injection with Finite rate Chemistry Model, Proceeding of the International Conference on Advances in Computer Science and Engineering (ICACSE 2013), Lords Institute of Engineering and Technology, Vidya Vikas Institute of Technology, Hyderabad, India in association with World Academy of Research in Science and Engineering (WARSE), 7-8 January 2013, PP.56-62.
16. K.M. Pandey and Sunita Deb, Computational Fluid Dynamics Analysis Of Combustion In Two Dimensional Star Shaped Perforated And Circular Perforated Ammonium Perchlorate Composite Propellant With HTPB Binder, Proceeding of the International Conference on Advances in Computer Science and Engineering (ICACSE 2013), Lords Institute of Engineering and Technology, Vidya Vikas Institute of Technology, Hyderabad, India in association with World Academy of Research in Science and Engineering (WARSE), 7-8 January 2013, PP.449-454.
17. Subhankar Das, P.L. Choudhury and K.M. Pandey, On reduction of Stress Concentration at Delaminated Composite Laminate, Proceeding of the International Conference on Advances in Computer Science and Engineering (ICACSE 2013), Lords Institute of Engineering and Technology, Vidya Vikas Institute of Technology, Hyderabad, India in association with World Academy of Research in Science and Engineering (WARSE), 7-8 January 2013, PP.455-458.
18. P.L. Choudhury, Subhankar Das, K.M. Pandey, "On Reduction of Stress Concentration at Delaminated Composite Laminate, Proceedings

of the International Conference on Advances in Computer Science and Engineering (ICACSE 2013)", Lords Institute of Engineering and Technology, Hyderabad, India, January 7-8, 2013.

19. P. K. Patowari, M. Eswara Krishna, Shubhajit Das and Sourav Nath, Performance of Powder Metallurgy Tools in EDM for Surface Modification, Proceedings of 4<sup>th</sup> International and 25<sup>th</sup> AIMTDR 2012 held at Production Engineering Department, Jadavpur University, Kolkata,- 700032, during December, 14-16 2012 pp 792-795.
20. Shubhajit Das, P. K. Patowari and M. Eswara Krishna, Surface Modification of Aluminium Using Tungsten-Copper Powder Metallurgical Compact Electrodes in EDM, Proceedings of Symposium Processing and Fabrication of Advanced Materials XXI, held at IIT Guwahati during December 10-12, 2012.

### 3.3 Department of Computer Science & Engineering



Computer science (or Computing Science) is the study of the Theoretical foundations of information and computation, and of practical techniques for their implementation and application in computer systems. It is frequently described as the systematic study of algorithmic processes that create, describe and transform information.

#### 3.3.1 Academic Staff

<i>Name</i>	<i>Qualification</i>	<i>Specialization Area(s)</i>
<b>CO – ORDINATOR</b>		
Mr. Samir Kumar Borgohain	MTech	Natural Language Processing, Artificial Immune Systems
<b>ASSOCIATE PROFESSOR</b>		
Dr. Biswajit Purakayastha	PhD	Soft computing, Image Processing
<b>ASSISTANT PROFESSOR</b>		
Dr. Arup Bhattacharjee	PhD	Computer Network
Ms. Ujwala Barua	MTech	Speech Processing
Ms. Pinki Roy	MTech	Speech Processing, Artificial Intelligence, Network Security
Mr. Samir Kumar Borgohain	MTech	Natural Language Processing, Artificial Immune Systems
Mr. Biswanath Dey	MTech	Computer network ,wireless sensor network, soft computing
Mr. Pantha Kanti Nath	MTech	Human computer Interaction, Computer network, Optical Network
Mr. Prabhakar Sharma Neog	MTech	Distributed and Ubiquitous system and information Security

<i>Name</i>	<i>Qualification</i>	<i>Specialization Area(s)</i>
Mr. Saroj Kumar Biswas	MTech	Decision Support System: Case-based Reasoning, Pattern Recognition and Neural Network
Mr. Dalton Meitei Thounaojam	MTech	Image and Video Processing
Mr. Gyanendra verma (Cont.)	MTech	Image Processing
Mr. Nabajyoti Medhi (Cont.)	MTech	Wireless Sensor network
Ms. Arpita Dutta (Cont.)	MTech	Pattern Recognition
Mr. Badal Soni (Cont.)	MTech	Image Processing, Pattern Recognition and Audio Watermarking
Mr. Amit Kumar Trivedi (Cont.)	MTech	Computer Vision, Image Processing, Soft Computing
Mr. Saptarshi Chakraborty (Cont.)	MTech	Image Processing and Pattern Recognition
<b>TEACHING ASSISTANT</b>		
Mr.Sushil Kumar	MTech	Data Mining
Mr.Deepak Puthal	MTech	Computer Network

### 3.3.2 Research and Development

#### 3.3.2.1 PhD Produced/Ongoing

<b>Completed</b>	01	<b>Submitted</b>	01	<b>Ongoing</b>	4
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#### 3.3.2.2 Research Lab Works

Sl. No	Name of the Lab/Workshop	Purpose/Linkage to an Existing/ New Programme
1	Computer Vision Lab	MTech

#### 3.3.2.3 Ongoing Sponsored Research Projects

Sl. No	Project Title	Principal Investigator	Funding Agency	Cost of the Project (₹ in Lakhs)	Duration
1.	Development of Speech based multi-level person authentication system	Ujwala Baruah	DIT, MHRD, GOI	57.93	3 years

#### 3.3.2.4 Awards & Achievements

Sl. No	Recipient	Name of the Award	Year
1.	Mr. Samir Kumar Borgohain	IBM Shared University Research (SUR) award to support the NLP research augmentation for Spoken Web project	2012

### 3.3.2.5 PhD Thesis

Sl No	Name of the Scholar	Name of the Supervisor	Title of the thesis
1.	Dr. Arup Bhattacharjee	Prof. Sukumar Nandi	Traffic engineering in connectionless service paradigm

### 3.3.2.6 Seminars/Workshops/Conferences Attended with their Contribution

Sl No	Name of the Faculty	Details of the Programme	Organizing Institute
1.	Ms. Ujwala Baruah	A DST Sponsored one Week Short Term Training Program on Recents in Evolutionary Optimization Techniques and Applications	NIT-Silchar / DST
		One Week Faculty Development Program on Effective Teaching	NIT-Silchar / TEQIP-II
		Workshop on Analog/Mixed Signal Design	NIT-Silchar / TEQIP-II
		One week Short Term Training Program on Application of Statistics in Engineering, Management & Applied Sciences	NIT-Silchar / TEQIP-II
2.	Dr. Arup Bhattacharjee	One week Short Term Training Program on Application of Statistics in Engineering, Management & Applied Sciences	NIT-Silchar / TEQIP-II
3.	Mr. Biswanath Dey		
4.	Mr. Pantha Kanti Nath		
5.	Mr. Saroj Kumar Biswas		
6.	Mr. Badal Soni		
7.	Mr. Sushil Kumar		
8.	Mr. Gyanendra verma		
9.	Ms. Arpita Dutta		
10.	Mr. Samir Kumar Borgohain	One Week Faculty Development Program on Effective Teaching	NIT Silchar / TEQIP-II
11.	Mr. Saroj Kumar Biswas	One Week Faculty Development Program on Effective Teaching	NIT Silchar /TEQIP-II
		Workshop on Analog/Mixed Signal Design	NIT-Silchar / TEQIP-II
12.	Mr. Pantha Kanti Nath	One Week Faculty Development Program on Effective Teaching	NIT-Silchar / TEQIP-II
13.	Mr. Dalton Meitei Thounaojam	Work shop on Nanotechnology and its Application in Science and Engineering (NASE-2013)	NIT-Manipur
		One week workshop on Computational information Processing	Assam University Silchar
		National Conference on Research and Higher education in information technology	Assam University Silchar

### 3.3.2.7 Research Publications

#### 3.3.2.7.1 International/National Conferences

1. Himangshu Ranjan Borah, Rakesh Kr. Sharma and Samir Borgohain, "*A hybrid model of Naïve classifier and scale invariant feature transform for improving automatic image annotation*", international conference ICECT, 2012.
2. Onkar Krishna, Rajib Jha, Anil Tiwari, **Badal Soni** "Noise Induced Segmentation of Noisy Color Image" National conference on communication (NCC-2013), page 1-5. 15-17 Feb. 2013.



Campus View @ NIT Silchar



### 3.4 Department of Electronics & Communication Engineering



The Department of Electronics & Communication Engineering offers a 4-year BTech Degree, 2-year MTech degree in Microelectronics & VLSI Design & PhD in various areas of the discipline. Keeping in mind the great potential and demand for new communication technologies, the Department aims at imparting its students with the latest knowledge in the field.

#### 3.4.1 Academic Staff

<i>Name</i>	<i>Qualification</i>	<i>Specialization Area(s)</i>
<b>HEAD</b>		
Mrs. Madhumita Paul	MTech	Radio physics and Electronics, Nano Technology, Communication Engg. Etc.
<b>PROFESSOR</b>		
Dr. F. A. Talukdar	PhD	Energy, Analog Circuit Design for Soft Computing, Power Electronics and Drives
Dr. S. Baishya	PhD	Semiconductor Devices Physics, MOS Modeling, VLSI, MEMS
<b>ASSOCIATE PROFESSOR</b>		
Mr. P.K. Paul	MTech	Analog VLSI Design
Mrs. M. Choudhury	MTech	Automation & Control
Mrs. M. Paul	MTech	Radio physics and Electronics, Nano Technology, Communication Engg. Etc
<b>ASSISTANT PROFESSOR</b>		
Mr. K.L. Baishnab	MTech	Mobile and Wireless Communication System Design, Digital Signal Processing Analog CMOS Circuit Design
Mr. R.H. Laskar	MTech	Signal Processing

Name	Qualification	Specialization Area(s)
Ms. B. Bhowmick (Shome)	MTech	Power Electronics, Solid State Device
Dr. J. Mehedi	ME	Communication Engineering
Mr. Koushik Guha	MTech	Microwave, Antenna & RF Circuit
Mr. Wasim Arif	ME	Communication System & MEMS
Dr. T.R. Lenka	PhD	Microelectronics & VLSI Design
Dr. Ashraf Hossain	PhD	Wireless Sensor Network, Communication Engineering
Mr. Debasis Mitra	MTech	Electromagnetic
Mrs. J. Chakraborty	MTech	Digital Image Processing, Medical Image Processing, Pattern Recognition
Mr. Avinash Sahoo	MTech	Microelectronics & VLSI

### 3.4.2 Research and Development

3. Power Electronics & MEMS

#### 3.4.2.1 PhD Programme (Specializations)

4. Mobile Communication

1. Semiconductor Device Modeling and Simulation

2. Microelectronics & VLSI Design

#### 3.4.2.2 PhD Produced/Ongoing

Completed	Submitted	Ongoing
00	01	13

#### 3.4.2.3 Research Lab/ Workshop

Sl. No	Name of the Lab/Workshop	Purpose/Linkage to an Existing/ New Programme
1.	Basic Electronics Lab	To conduct Lab classes of UG/PG student.
2.	Microprocessors and instrumentation lab	To conduct Lab classes of UG/PG student
3.	VLSI Lab	For UG Lab class /Research work of PG/Ph.D student
4.	Advance Communication Lab	For UG lab and for wireless research, Rf Design etc.
5.	Digital Signal Processing lab	For Lab classes and for development of Video and image processing system
6.	Advance Electronics Lab	Design Lab ( Circuit and PCB Design)
7.	Computational Lab	For Simulation /Design/Computation
8.	TCAD Lab	For Device simulation
9.	Speech & Signal Processing Lab	Speech Processing system development purpose

### 3.4.2.4 Ongoing Sponsored Research Projects

Sl. No	Project Title	Principal Investigator	Funding Agency	Cost of the Project (₹ in Lakhs)	Duration
1.	National MEMS Design Center	Prof. S. Baishya	DRDO	--	2009 onwards
2.	Investigation of some binary Metal Oxide material for Resistive Switching Memory Applications	Prof. F. A. Talukdar	AICTE	18.40	Upto 2013
3.	Development of speech based multilevel person authentication system	Mr. R.H. Laskar	DIT, MHRD	57.93	2012-2014
4.	SMDP-III	Mr. K. L. Baishnab	DIT, MHRD	50.00	2006-2013

### 3.4.2.5 Research Papers Reviewed

Sl. No	Faculty Name	Journal Name	No of Papers	Year
1.	S. K. Gupta	IEEE Students' Conference on Electrical, Electronics and Computer Science 2012 (SCEECS 2012)	3	2012
2.	S. Baishya	IEEE Transactions on Electron Devices	1	2012

### 3.4.2.6 Invited Lectures

Sl No	Faculty Name	Details
1.	F. A. Talukdar	<ol style="list-style-type: none"> <li>Delivered the keynote address as Chief Guest in the National Conference on Research and Higher Education in Information Technology organized by Assam University, February 2013</li> <li>Participated in the Plenary Session of Conference on Education Reforms- A changing paradigm organized by IIM Kashipur at India Habitat Centre, New Delhi and delivered a lecture on Technical Education- Issues &amp; Concern, March 2013</li> </ol>

### 3.4.2.7 Chairing of any Technical Section

Sl No	Faculty Name	Details
1.	F. A. Talukdar	Chaired a plenary session in the Conference on Education Reforms- A changing paradigm organized by IIM Kashipur at India Habitat Centre, New Delhi on the theme National Experiences in Education Reforms. Speakers in the plenary were Prof. Wang Li from China, Prof. Kuldeep Agrawal, Director, NIOS, New Delhi and Prof. H C Pokhriyal, Director, SOL, Delhi University. March 2013

**3.4.2.8 Seminars/Workshops/Conferences Organized**

Sl No	Name of the Coordinator	Title	Duration
1.	M. Choudhury, B. Shome, Jishan Mehedi	Application of Embedded System in Various Field of Electronics	28.09.13 – 30.09.13
2.	K. L. Baishnab	one day talk on “CMOS Circuit Design for Bio-Medical applications” under TEQIP-II on	13.12.12

**3.4.2.9 PhD Thesis**

Sl No	Name of the Scholar	Name of the Supervisor	Title of the Thesis
1.	R. H. Laskar	F. A. Talukdar	Voice Conversion by mapping the speaker-specific Acoustic Features.

**3.4.2.10 MTech Thesis**

Sl No	Name of the Scholar	Name of the Supervisor	Title of the Thesis
1.	Bankriskhem Khojglh	S. Baishya	Back gate engineering for fully depeleted silicon on insulator transistors with thin buried oxide for short channel effect and improved device performance.
2.	Binay Komar	K. L. Baishnab	Design and Analysis of CMOS Image Sensor(CIS) Based On Shared Active Pixel Structure(SAPS) With Low Power Consumption
3.	Palungbm Roji Chanu	S. K. Gupta	Dual material gate oxide stack symmetric double gate MOSFET for improving short channel effects and analog performance.
4.	Monalisa Das	B. Bhowmick	A Simulation study of SiGe heterogate raised buried oxide drain Tunnel FET and analysis of effect of temperature on electrical parameters
5.	Samrat D. Choudhury	S. Baishya	Design and simulation of MEMS based comb-type, inter-digitated capacitive accelerometer

**3.4.2.11 Seminars/Workshops/Conferences Attended with their Contribution**

Sl No	Name of the Faculty	Details of the Programme	Organizing Institute
1.	Koushik Guha	Professional Development Programme on “Achieving Excellence in Engineering Education”	
2.	Jishan Mehedi		

SI No	Name of the Faculty	Details of the Programme	Organizing Institute
3.	R. H. Laskar	1. Workshop on Image and speech processing December 2017 2. WISSAP 2013 FEB 22-25	IIT Hyderabad IIT Madras
4.	F. A. Talukdar	Reform in Technical education-New area /challenges 25-26 March 2013	New Delhi
5.	K. L. Baishnab	India chip programme of SMDP-II 11 <sup>th</sup> -19 <sup>th</sup> May 2012	IIT Kharagpur

### 3.4.2.12 Research Publications

#### 3.4.2.12.1 International/National Journals

- Koushik Guha, S.K. Gupta, S. Baishya, Simulation and Modeling of Double Material Double Gate Surround Gate (DMDG-SG) MOSFETs, *ICGST-PDCS Journal*, 12 (1) (2012).
- J. Chakraaborty, RM Rangayyan, S. Banik, S. Mukhopadhyay, J.E.L. Desautels, Statistical Measures of Orientation of Texture for the Detection of Architectural Distortion in Prior Mammograms of Interval Cancer, *Journal of Electrical imaging (SPIE)*, 21, no. 3, 033010, Aug-2012.
- M. Das, B. Bhowmick, Effect of temperature on SiGe Heterogate Raised Buried Oxide Drain Tunnel FET Electrical Parameters, *Lecture notes in Electrical Engineering (Springer)*, 130 (2013) 283-289.
- Hossain Ashraf, Chakraborty S., Biswas P.K., Equal Energy Dissipation in Wireless Image Sensor Network: A Solution to Energy-Hole Problem, *Computers and Electrical Engineering (CAEE) Journal (Elsevier)*, doi: 10.1016/J. complacent 2013.01.012. (2013).
- Hossain Ashraf, Boundary Effect in Node Deployment: Coverage Fraction and Information Generation in Wireless Sensor Network, *IACSIT International Journal of Engineering and Technology (IJET)*, 4 (6) (2012) 794-797.
- Hossain Ashraf, Chakrabarti S, Biswas P.K., Impact of Sensing Models on Wireless Sensor Network Coverage, *IET Wireless Sensor Systems*, 2 (3) (2012) 272-281.
- Jishan Mehedi, M.K. Naskar, A Fuzzy Based Distributed Algorithm for Maintaining Connected Network Topology in Mobile Ad-Hoc Networks Considering Freeway Mobility Model, *Journal of Computing and Information Technology*, 20 (2012) 69-84.
- R. H. Laskar, D. Chakraborty, F. A. Talukdar, K. S. Rao and K. Banerjee, Comparing GMM and ANN in voice conversion framework, *Applied Soft Computing Journal (Elsevier)*, 12, (11) (2012) 3332– 3342.
- R. H. Laskar, K. Banerjee, F. A. Talukdar and K. S. Rao, A pitch synchronous approach to design voice conversion system, *International Journal on Speech Technology (IJST) (Springer)*, 15 (3) (2012) 419-431.
- S.K.Gupta and S.Baishya, Novel characteristics of junction Less dual Metal Cylindrical Surround gate, *Research journal of recent science*, 2 (1) (2013) 44-52.
- S. K. Gupta and S. Baishya, Analog and RF Performance Evaluation of Dual Metal Double Gate High-k Stack (DMDG-HKS) MOSFETs, *Journal of Nano- and Electronic Physics*, 5 ( 3) (2013) 030081-8.
- S. K. Gupta and S. Baishya, A TCAD Simulation Study of Cylindrical Gate All Around MOSFETs, *Global Journal of Researches in Engineering-F (GJRE)*, 12 (9) (2012) 20-24.

13. S.K. Gupta and S. Baishya, Modeling and Simulation of Triple Metal Cylindrical Surround MOSFETs for reduced Short Channel Effects, *International Journal of Soft Computing and Engineering (IJSCE)*, 2 (2) (2012) 214-221.

#### 3.4.2.12.2 International/National Conferences

1. Koushik Guha, Professional Development Programme on "Achieving Excellence in Engineering Education", Organized by Engineering Staff College of India, Hyderabad from 27-29 June, 2012.
2. M. Paul, NR Das, B. Kumar, "Improvement in Performance of Optical Communication Receivers using Second Harmonic Generation Effect of Spherical Quantum Dots" pp-1129-1133, 8th International Conference on Microwaves, Antenna, Propagation & Remote Sensing, ICMARS-2012, Jodhpur, INDIA, Dec. 11-15, 2012.
3. T.R. Lenka, G.N. Dash, A.K. Panda, "2DEG Transport in Gate Recessed AlGaIn/GaN HEMT," IEEE International Conference on EDSSC 2013, Hong Kong, China, 3-5 June 2013 (Accepted for presentation).
4. S. Baishya, B. Bhowmick, "Mixed mode analysis of Raised Buried Oxide Tunnel FET", Accepted in International Conference World Congress on engineering, U.K. London, pp. 971-974, 4-6 July, 2012.
5. J. Chakraborty, S. Mukhopadhyay, A. Sadhu, R.M. Rangayyan, P.M. Azevedo Marques, "Automatic localization of the nipple in mammograms using Gabor filters and the Radon transform", In Proceedings of SPIE Medical Imaging 2013: Computer Aided Diagnosis, Florida, February 9-14m 2013.
6. J. Chakraborty, RM Rangayyan, S. Banik, S. Mukhopadhyay, JEL Desautels, "Detection of architectural distortion in prior mammograms using statistical measures of orientation of texture", In Proceedings of SPIE Medical Imaging 2012: Computer Aided Diagnosis, vol. 8315m San Diego, CA, February, 2012, pp. 831521-831521-8.
7. J. Chakraborty, M. Jas, S. Mukhopadhyay, "An Atlas Based Approach to Segmenting MLO View Mammograms", In Proceedings of International Conference of Informatics, Electronics & Vision, Dhaka, Bangladesh, pp7-11, May 18-19, 2012.
8. J. Chakraborty, S. Mukhopadhyay, V. Singla, N. Khandelwal, RM Rangayyan, "Detection of Masses in Mammograms Using Region Growing Controlled by Multilevel Thresholding", 25th IEEE International Symposium on Computer based Medical System, Rome, Italy, June 20-22, 2012.
9. J. Chakraborty, RM Rangayyan, S. Banik, S. Mukhopadhyay, JEL Desautels, "Detection of Architectural Distortion Using Coherence in Relation to the Expected Orientation of Breast Tissue", 25th IEEE International Symposium on Computer based Medical System, Rome, Italy, June 20-22, 2012.
10. B. Bhowmick, S. Baishya, J. Sen, "Mixed mode analysis of Raised Buried Oxide Tunnel FET", Proceedings of International Conference World Congress on Engineering, WCE 2012, UK, London 4-6 July, 2012.
11. B. Bhowmick, S. Baishya, J. Sen, "Optimization and length scaling of Raised Drain Buried Oxide SOI Tunnel FET", Accepted in TENCON 2013 (IEEE), Sydney Australia 16-17 April, 2013.
12. B. Bhowmick, K. Jena, S. Baishya, "Digital circuit performance of SiGe pocket high-k gate dielectric SOI Tunnel FET", Accepted in Fourth International Conference on Control, Communication and Power Engineering (Springer), Bangalore, India, 2013.
13. Hossain Ashraf, "On the Impact of Node Failure on Network Coverage in Wireless Sensor Network", Proceedings of the 5th International Conference on Computers and Devices for Communication (CODEC 2012), Hyatt Regency, Kolkata, India, December 17-19, 2012.

### 3.5 Department of Electrical Engineering



The Department was established in 1977 along with the establishment of Institute. In order to keep pace with ever changing industry requirements, the course for Electrical Engineering has been designed to meet the demands of the competitive market. It also includes courses in communication, computer architecture, signal processing and integrated VLSI Design.

#### 3.5.1 Academic Staff

<i>Name</i>	<i>Qualification</i>	<i>Specialization Area(s)</i>
<b>HEAD</b>		
Prof. A. K. Roy	PhD	Machines and drives
<b>PROFESSOR</b>		
Dr. A. K. Roy	PhD	Machines and drives
Dr. A. K. Sinha	PhD	Power System protection
Dr. N. Sinha	PhD	Power System, Optimization, Soft Computing Techniques and Applications, Image Processing
<b>ASSOCIATE PROFESSOR</b>		
Dr. B. K. Roy	PhD, LLB	Control Systems, Fault Detection and Diagnosis, Industrial Automation, Virtual Instrumentation
Dr. S. Choudhury	PhD	Low Power VLSI Design, Optimization, Synthesis, leakage minimization
<b>ASSISTANT PROFESSOR</b>		
Dr. N. B. Dev Choudhury	PhD	Deregulated Power System, Power System Economics, Power Policy
Dr. L. C. Saikia	PhD	Power System
Mr. T. Malakar	ME	Power System

Name	Qualification	Specialization Area(s)
Dr J. P. Mishra	PhD	Energy Mgmt.; Power Electronics & Electric Drives
Mr D. C. Das	MTech	Power and Energy System
Mr C. Bhattacharjee	MTech	Machines and Power System
Dr A. K. Goswami	PhD	Power System
Mr P. K. Tiwari	MTech	Power Sector Deregulation, FACTS Devices and Renewable Energy Sources.
Mr P. Roy	MTech	Control System
Mr Bhanu Pratap	MTech	Control System

### 3.5.2 Research and Development

#### 3.5.2.1 PhD Programme (Specializations)

- Control & Automation
- Control Systems, Fault Detection and Diagnosis, Industrial Automation
- Power Electronics and Energy Systems
- Power system Interconnection and control (Automatic generation control)
- Power System Economics
- Leakage Minimization in CMOS VLSI
- CNT FET based circuits for VLSI Applications
- Single-Electron Transistors for Sensor Applications
- Image Processing

#### 3.5.2.2 PhD Produced/Ongoing

Completed	01	Submitted	0	Ongoing	23
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#### 3.5.2.3 Research Lab/ Workshop

Sl. No	Name of the Lab/Workshop	Purpose/Linkage to an existing/ new programme
1.	Up-gradation of Process Control Lab	Creating the scope of real life implementation
2.	Up-gradation of Control Lab	Creating the scope of real life implementation of BTech/ MTech and PhD projects
3.	Power Electronics and Electric Drives	MTech and PhD student project works; dSPACE ACEKit 1103_PX4 with CLP, PCs, TMS-DSP Kits and Microcontroller Kits, Power Electronics converters (IPM modules), different types of Electric Machines etc.



Sl. No	Name of the Lab/Workshop	Purpose/Linkage to an existing/ new programme
4	Power system lab with Real time	It is proposed to set up the lab with real time electrical systems simulator for application of embedded controls, artificial intelligent control, smart grids, elective drives, power electronics and power systems.
5.	Virtual Nanolab	For perusing research in nanotechnology (specially in nanotubes, nanowires and SET devices)
6.	Embedded Systems	To strengthen PG infrastructure and promote research in real-time Embedded Systems and Applications
7.	Power System Protection Lab	This lab is part of new syllabus for UG and PG (PES)
8.	SCADA Laboratory	For PG and research in Power System.

#### 3.5.2.4 Ongoing Sponsored Research Projects

Sl. No	Project Title	Principal Investigator	Funding Agency	Cost of the Project (₹ in Lakhs)	Duration
1.	Modernization of Power Electronics Lab	Dr N. Sinha	AICTE	10.00	2010-2013 (Completed)
2.	The National Mission Project on Education through ICT on 'Developing suitable pedagogical methods for various classes, intellectual calibers and research in e-learning'	Dr B. K. Roy as Co-Developer of Control Systems course	MHRD	---	2009- 14
3.	Intelligent controller for hybrid energy system	Mr Dulal Das & Dr N. Sinha	AICTE	15.00	2012-14
4.	Design, Simulation and Implementation of Carbon Nanotube based FET devices for VLSI Applications	Dr Saurabh Chaudhury	AICTE	8.00	2012 – 14
5.	Automatic generation control of autonomous hybrid generation system	Mr D. C. Das	AICTE	15.00	2012 – 14
6.	Design & Implementation of pure sine wave inverter for residential solar power system in India	Dr A. K. Goswami	AICTE	15.00	2012-14
7.	Power Quality Assessment and Improvement in Barak Valley	Dr A. K. Goswami	DST	9.87	2012-14
8.	Modernization of Power Electronics Lab	Dr N. Sinha	AICTE	10.00	2010-2013 (Completed)

## 3.5.2.5 Research Papers Reviewed

Sl. No	Faculty Name	Journal Name	No of Papers	Year
1.	Dr. A. K. Sinha	International Journal of Electrical Engineering, Elsevier	2	2012-13
2.	Dr. N. Sinha	IEEE Trans. on Power System	3	2012-13
		IEEE Trans. on Power Delivery	2	
		IEEE Trans. on Evolutionary Computation	2	
		International Journal of Electrical Power and Energy Systems, Elsevier	1	
		IET Trans of Generation, Transmission and Distribution	1	
3.	Dr. B. K. Roy	IEEE Trans of Instrumentation and Measurement	1	2012
4.	Dr. S. Chaudhury	Solid State Electronics, Elsevier	1	2013
		Physical Review and Research International	1	2013
5.	Dr. L. C. Saikia	International Journal of Electrical Power and Energy Systems, Elsevier	4	2012-13
6.	Dr. J. P. Misra	Journal of Power Electronics (JPE)	1	2012
7.	Mr. T. Malakar	Swam and Evolutionary Computation, Elsevier	1	2012
8.	Dr. A. K. Goswami	Electrical Power Components and Systems, Taylor and Francis	1	2012-13
		International Journal of Electrical Power and Energy Systems, Elsevier	1	
		IET Trans of Generation, Transmission and Distribution	1	
		European Transaction on Electrical Power, Wiley	1	
		International Journal of Electrical Power System and Research, Elsevier	1	
9.	Mr. P. K. Tiwari	IET Generation, Transmission and Distribution	1	2012

## 3.5.2.6 Awards &amp; Achievements

Sl. No	Recipient	Name of the Award	Year
1.	Dr. B. K. Roy	Received the "Best Paper Award" in the International Conference on Computing and Control Engineering, Chennai, India, 12-13 April. 2012	2012
2.	Dr. A.K. Goswami	POSOCO power System Award(PPSA)	2013
3.	Mr. P.K. Tiwari	POSOCO power System Award(PPSA)	2013

### 3.5.2.7 Invited Lectures

Sl No	Faculty Name	Details
1.	Dr. N. Sinha	Delivered expert lecture on “Case Base Reasoning – a tool for medical diagnosis” National Conference on “Research and higher education in Information Technology” Feb 03-04, 2013.
		Delivered lecture on “Evolutionary programming techniques – varieties, challenges, opportunities and trends” in DST Workshop on “Recents in Evolutionary Optimization Techniques and Applications”, 1 <sup>st</sup> to 7 <sup>th</sup> June 2012
2.	Dr. B. K. Roy	Delivered lectured on ‘Home away from home’ and ‘Infrastructure management and planning’ during Short term course on Awareness on Hostel management, 22 <sup>nd</sup> May to 28 <sup>th</sup> May, 2012 at NIT Silchar

### 3.5.2.8 Chairing of Technical Section

Sl No	Faculty Name	Details
1.	Dr B. K. Roy	Session Chair for the session on “Recent Advances in MIC and their Applications” during 31 <sup>st</sup> IASTED held at Phuket, Thailand, 2 <sup>nd</sup> to 4 <sup>th</sup> April 2012

### 3.5.2.9 Seminars/Workshops/Conferences Organized

Sl No	Name of the Coordinator	Title	Duration
1.	Dr B. K. Roy	Two days workshop on “Introduction to Application on ELVIS II+”	26.06.12 - 27.06.12
		One week short term training programme on Graphical System Design – an interactive approach	01.07.12 - 06.07.12
		Three days Short Term Training Programme on ‘LabVIEW basics – a preparatory course for CLAD examination	16.09.12 - 18.09.12
		A workshop on “Animation using LabVIEW”	26.09.2012
		A Short term training programme on Basics of LabVIEW	10.11.12 - 12.11.12
2.	Dr A. K. Goswami, Dr N. B. D. Choudhury & Dr J.P. Mishra	Workshop on “Creativity & Innovation Techniques and Patenting in India & Abroad”	06.04.12
3.	Dr N. B. D. Choudhury	Spiritual Intelligence for managerial excellence	31.08.12 - 01.09.12

**3.5.2.10 PhD Thesis**

Sl No	Name of the Scholar	Name of the Supervisor	Title of the Thesis
1.	L. C. Saikia	Dr N. Sinha, Dr J. Nanda	Some Studies on Automatic Generation Control Under Both Conventional and Deregulated Environment

**3.5.2.11 MTech Thesis**

Sl No	Name of the Scholar	Name of the Supervisor	Title of the Thesis
1.	Rituparna Dutta (10-2-3-106)	Prof. A. K Roy	Facts –based optimum reactive power planning & dispatch for power system loss reduction using soft computing techniques
2.	Sayani Basu (10-2-3-115)	Dr A. K. Sinha	Modeling and power management of PMSG-based wind energy conversion and storage system connected to grid.
3.	Poulomi Ganguly (10-2-3-116)	Dr B. K. Roy	Improvement of power quality in a grid connected AC Microgrid connected with hybrid sources
4.	Chitragada Roy (10-2-3-114)	Dr J. P. Mishra	Dynamic reactive power compensation connected DFIG based wind energy conversion systems using STATCOM under fault.
5.	Kuruva Hari Krishna (10-2-3-111)	Dr B. K. Roy	Energy management and power control of a hybrid active wind generator for distributed power generation and grid integration.
6.	Soumyabrata Das (10-2-3-104)	Dr J. P. Mishra	Vector control of DFIG based variable speed wind energy conversion system using matrix converter.
7.	P C Srikanth (10-2-3-108)	Mr D. C. Das	Design of optimal Fuzzy logic-PID controller using genetic algorithm for frequency regulation in an isolated wind-diesel system
8.	Subhasish Deb (10-32-3-117)	Dr A. K. Goswami	Generator rescheduling for congestion management using soft computing techniques
9.	Debapriya Das (09-2-3-108)	Mr C. Bhattacharjee	Analysis of UPFC controlled power quality improvement in WECS connected to the grid.
10.	Sourav Bose (10-2-3-107)	Mr C. Bhattacharjee	Power quality improvement of wind,solar based distributed system in a isolated rural network
11.	Ramesh Kumar (10-2-3-109)	Dr A. K. Sinha	Unified power quality conditioner (UPQC) controller for enhancement of power system voltage stability.
12.	Anirban Sengupta (10-2-3-105)	Dr S. Chaudhury	Some studies of power line communication and designing an adaptive filter bank for eliminating noises in power line communication channel.
13.	Sambit Kr. Karan (10-2-3-103)	Prof. N. Sinha	Modified DE based ATC enhancement using facts devices.
14.	Smriti Dey (10-2-3-102)	Dr A. K. Goswami	Network rental components determination in a competitive electricity market.

3.5.2.12 Seminars/Workshops/Conferences Attended with their Contribution

Sl No	Name of the Faculty	Details of the Programme	Organizing Institute
1.	Dr. N. Sinha	Workshop on “Nanofabrication technologies”	IIT, Guwahati, and IISc Bangalore
		Creativity & Innovation Techniques and Patenting in India & Abroad, 6 <sup>th</sup> April to 8 <sup>th</sup> April, 2012	NIT Silchar
2.	Dr. B. K. Roy	Advances in Transportation Engineering , 16 <sup>th</sup> to 18 <sup>th</sup> April 2012	Dept of CE, N I T Silchar
		Recents in Evolutionary Optimization Techniques and Applications, 1 <sup>st</sup> to 7 <sup>th</sup> June 2012	Dept of Maths & ME, N I T Silchar
		Application of Mathematics in Science and Engineering, 2 <sup>nd</sup> Aug to 4 <sup>th</sup> Aug, 2012	Dept of Maths, NIT Silchar
		Application of Embedded System in Various Field of Electronics, 28 <sup>th</sup> to 30 <sup>th</sup> Sep 2012	Dept of ECE, NIT Silchar
		Applications of Statistics in Engineering, management & Applied Sciences, 11 <sup>th</sup> to 15 <sup>th</sup> Oct 2012	Dept of Maths, NIT Silchar
		Control System Design, 4 <sup>th</sup> to 8 <sup>th</sup> Dec 2012	Dept of Avionics, IIST, Trivandrum
		Creativity & Innovation Techniques and Patenting in India & Abroad, 6 <sup>th</sup> April to 8 <sup>th</sup> April, 2012	Dept of EE, NIT Silchar
		Effective Teaching , 30 <sup>th</sup> April to 4 <sup>th</sup> May, 2012	NIT Silchar
		Philosophy of Research Methods, 24 <sup>th</sup> to 27 <sup>th</sup> July 2012	NIT Silchar
		Professional development programme on spiritual intelligence for managerial excellence, 31 <sup>st</sup> Aug to 1 <sup>st</sup> Sep, 2012.	NIT Silchar
3.	Dr. S. Chaudhury	Creativity & Innovation Techniques and Patenting in India & Abroad	NIT Silchar
		Advances in Transportation Engineering	NIT Silchar
		Effective Teaching	NIT Silchar
		Short Term Training Programme on “Graphical System Design – an interactive approach”, 1 <sup>st</sup> July to 6 <sup>th</sup> July, 2012	EE Dept., NIT Silchar, Silchar
4.	Dr N. B. Dev Choudhury	A two day Management Capacity Enhancement Programme on Spiritual Intelligence for Managerial Excellence.	TEQIP II, NIT Silchar

SI No	Name of the Faculty	Details of the Programme	Organizing Institute
		A Short term course on Awareness on Hostel management.	TEQIP II, NIT Silchar
		Workshop on Creativity & Innovation Techniques and Patenting in India & Abroad.	TEQIP II, NIT Silchar
		Faculty Development Program (FPD) on Effective Teaching	TEQIP II, NIT Silchar
		Short Term Training Programme on “Lab View Basic – A Preparatory Course for CLAD Examination”	Electrical Engg. Dept., NIT Silchar
		Short Term Training Programme on “Graphical System Design – an interactive approach”	Electrical Engg. Dept., NIT Silchar
		Advances in Transportation Engineering	NIT Silchar
		Solar energy and its applications	EE and ME Dept, NIT Silchar
5.	Dr. L. C. Saikia	A two day Management Capacity Enhancement Programme on Spiritual Intelligence for Managerial Excellence.	TEQIP II, NIT Silchar
		A Short term course on Awareness on Hostel management.	TEQIP II, NIT Silchar
		Workshop on Creativity & Innovation Techniques and Patenting in India & Abroad.	TEQIP II, NIT Silchar
		Faculty Development Program (FPD) on Effective Teaching	TEQIP II, NIT Silchar
		Advances in Transportation Engineering	NIT Silchar
		Solar energy and its applications	EE and ME Dept, NIT Silchar
		Application of Mathematics in Science and Engineering	Dept of Maths, NIT Silchar
6.	Mr T. Malakar	Creativity & Innovation Techniques and Patenting in India & Abroad	NIT Silchar
		Solar Energy and its Applications	NIT Silchar
		Effective Teaching	NIT Silchar
		Applications of Statistics in Engineering, management & Applied Sciences	Dept of Maths, NIT Silchar

SI No	Name of the Faculty	Details of the Programme	Organizing Institute
7.	Mr D. C. Das	Three workshops on Application of Embedded System in Various field of Electronics, 28 <sup>th</sup> Sep to 30 <sup>th</sup> Sep,2012.	TEQIP II, NIT Silchar
		A two day Management Capacity Enhancement Programme on Spiritual Intelligence for Managerial Excellence, 31 <sup>st</sup> Aug to 1 <sup>st</sup> Sep, 2012.	TEQIP II, NIT Silchar
8.	Mr D. C. Das	Short Term Course on Graphical System Design-an interactive approach., 1 <sup>st</sup> July to 6 <sup>th</sup> July,2012	TEQIP II, NIT Silchar
		QIP Short term course on “Power Transformer: Trends in Design, Analysis, Protection and Condition Monitoring” (AICTE Sponsored), 4 <sup>th</sup> June to 8 <sup>th</sup> June, 2012	IIT Roorkee, Uttarakhand
		A Short term course on Awareness on Hostel management, 22 <sup>nd</sup> May to 28 <sup>th</sup> May, 2012.	TEQIP II, NIT Silchar
		Workshop on Creativity & Innovation Techniques and Patenting in India & Abroad, 6 <sup>th</sup> April to 8 <sup>th</sup> April, 2012	TEQIP II, NIT Silchar
		Faculty Development Program (FPD) on Effective Teaching , 31 <sup>st</sup> April to 4 <sup>th</sup> May, 2012	TEQIP II, NIT Silchar
8.	Dr J. P. Mishra	Short Term Training Programme on “Lab View Basic – A Preparatory Course for CLAD Examination”, 16 <sup>th</sup> Sep to 18 <sup>th</sup> Sep 2012	EE. Dept., NIT Silchar, Silchar
		Short Term Training Programme on “Graphical System Design – an interactive approach”, 1 <sup>st</sup> July to 6 <sup>th</sup> July, 2012	EE Dept., NIT Silchar, Silchar
		A short Term Course on “Awareness on Hostel Management, 22 <sup>nd</sup> May to 28 <sup>th</sup> may, 2012.	Dept. of Civil Engg., NIT Silchar
		“Spiritual Intelligence for Management Excellence”, 31 <sup>st</sup> Aug to 1 <sup>st</sup> sep, 2012.	NIT Silchar, Silchar, Assam
		“Effective Teaching”, 30 <sup>th</sup> April to 4 <sup>th</sup> May, 2012	NIT Silchar, Silchar, Assam
		Workshop on “Applications of Mathematics in Science & Engineering”, 2 <sup>nd</sup> Aug to 4 <sup>th</sup> Aug, 2012.	Dept. of Maths, NIT Silchar
		Workshop on “Creativity & Innovation Techniques and Patenting in India & Abroad”, 6 <sup>th</sup> April to 8 <sup>th</sup> April, 2012	Dept. of Electrical Engg., NIT Silchar

Sl No	Name of the Faculty	Details of the Programme	Organizing Institute
9.	Mr C. Bhattacharjee	Spiritual Intelligence for managerial excellence, 31 <sup>st</sup> Aug to 8 <sup>th</sup> Sep, 2012.	NIT Silchar, Silchar, Assam
		Creativity and innovation techniques in India and Abroad,	Dept. of EE, NIT Silchar,
		Solar energy and its applications	EE and ME Dept, NIT Silchar
		Applications of Statistics in engineering, management	Maths Dept, NIT Silchar
10.	Dr A. K. Goswami	Creativity & Innovation Techniques and Patenting in India & Abroad	NIT Silchar
		Advances in Transportation Engineering	NIT Silchar
		Effective Teaching	NIT Silchar
		Awareness on Hostel Management	NIT Silchar
		Geotechnical Earthquake Engineering	NIT Silchar
		Application of Statistic in Engineering, Management & Applied Sciences.	NIT Silchar

### 3.5.2.13 Books/Chapter

Sl. No	Author	Title	Publisher
1.	Dr B. K. Roy	An intelligent flow measurement technique by venturi flowmeter using optimized ANN	Special Issue of the International Multi Conference of Engineers and Computer Scientists 2012 Series: Lecture Notes in Electrical Engineering, Vol. 186, Springer



### 3.5.2.14 Research Publications

#### 3.5.2.14.1 International/National Journals

1. N. B. Dev Choudhury & S. K. Goswami, Transmission Loss Allocation in a Power Market using Artificial Neural Network, *Journal of Electrical Engineering (Springer)*, 86 (5) (2012).
2. N. B. Dev Choudhury & S. K. Goswami, Transmission Loss Allocation using Combined Game Theory and Artificial Neural Network, *International Journal of Electrical Power and Energy System (Elsevier)*, 43 (1) (2012) 554-561.
3. T. Malakar & S. K. Goswami, Active and Reactive Dispatch with Minimum Control Movements, *International Journal of Electrical Power and Energy Systems*, 44(1) (2013) 78-87.
4. A K Goswami, C P Gupta & G K Singh, Voltage sag assessment in a large chemical industry 48 (5) (2012) 1739-46.
5. Santhosh K V & B K Roy, An Intelligent Pressure Measurement Technique by Capacitance Pressure Sensor Using Optimized ANN, *International Journal on Electrical and Power Engineering*, 4 (1) (2013) 28-33.
6. Nalin Kumar Sharma & B K Roy, Control Strategies for Advanced Thermal Management System in IC Engine - An Overview, *International Journal of Engineering and Research Technology*, 6 (3) (2013) 225 – 231.
7. Santhosh K V & B K Roy, An Intelligent Flow Measurement Technique using Ultrasonic Flow meter with Optimized Neural Network, *International Journal of Control and Automation*, 5 (4) (2012) 185-196.
8. Santhosh K V & B K Roy, An Intelligent Temperature Measurement Technique Using J Type Thermocouple with an Optimal Neural Network, *Sensors and Transducers Journal*, 147 (12) (2012) 6-14.
9. Santhosh K V & B K Roy, An Improved Intelligent Temperature Measurement by RTD using Optimal ANN, *International Journal of Advancements in Electronics and Electrical Engineering*, 1 (1) (2012) 14-18.
10. Nalin Kumar Sharma, B K Roy, Santhosh K V, Advanced Optimized Cooling System For Air Cooled and Coolant Cooled IC Engines Using Fuzzy Logic, *International Journal of Advancements in Electronics and Electrical Engineering*, 1 (1) (2012) 25-28.
11. Santhosh KV & B K Roy, An Intelligent Displacement Measurement Technique using LVDT with an Optimized ANN, *International Journal of Artificial Intelligent Systems and Machine Learning*, 5 (7) (2012).
12. Santhosh K. V. and B. K. Roy, An Intelligent Flow Measurement Technique Using Orifice, *International Journal of Applied Physics and Mathematics*, 2 (3) (2012) 165-168.
13. Santhosh K V, B K Roy & Pankaj Kumar Bhowmik, Inline Monitoring of Bottle filling Process Using Image Processing, *International Journal on Engineering Science and Management*, 2 (1) (2012) 33-38.
14. Santhosh K V & B K Roy, A Robust Level Measuring Technique using Capacitance Level Sensor, *International Journal of Instrumentation Science and Engineering*, 2 (1) (2012) 1-12.
15. D. C. Das, A. K. Roy, N Sinha. GA based frequency controller for solar thermal–diesel–wind hybrid energy generation/energy storage system, *Int J Electr Power Energy Syst*, 43 (2012). 262-279.
16. Lalit Chandra Saikia, Nidul Sinha, J.Nanda , Maiden Application of Bacterial Foraging Based Fuzzy IDD Controller in AGC of a Multi-area Hydrothermal System, *International Journal of Electrical Power & Energy Systems*, 45 (1) (2013) 98-106.

17. Sanjoy Debbarma, Lalit Chandra Saikia & Nidul Sinha, AGC of a multi-area thermal system under deregulated environment using a non-integer controller, *Electric Power System Research*, 95 (2013) 175-183.
18. Prashant Kumar Tiwari & Yog Raj Sood, An Efficient Approach for Optimal Allocation and Parameters Determination of TCSC with Investment Cost Recovery under Competitive Power Market, *IEEE Transactions on Power Systems*, (2013) (accepted).
19. P.K. Tiwari & Y. R. Sood, Efficient and Optimal Approach for Location and Parameter Setting of Multiple Unified Power Flow Controllers for a Deregulated Power Sector, *IET Generation, Transmission & Distribution*, 6 (10) (2012) 958-967.
20. Naveen Kumar Sharma, Prashant Kumar Tiwari & Yog Raj Sood, Solar energy in India: Strategies, policies, perspectives and future potential, *Renewable & Sustainable Energy Reviews (Elsevier)*, 16 (1) (2012) 933-941.
21. Naveen Kumar Sharma, Prashant Kumar Tiwari & Yog Raj Sood, A comprehensive analysis strategies, policies and development of hydropower in India: Special emphasis on small hydropower, *Renewable & Sustainable Energy Reviews (Elsevier)*, 18 (2013) 460-470.
22. Prashant Kumar Tiwari & Yog Raj Sood, An Efficient Approach for Optimal Placement of TCSC in Double Auction Power Market, *International Journal of Electronics and Electrical Engineering (IJEEE)*, 6 (2012) 321-326.
2. A. K. Sinha, Rakesh Singh, "An Optimal PMU Placement for the Topological Observability of a part of NER Grid of India." IEEE International Conference on Circuits, Power and Computing Technologies (ICCPCT-2013), vol., no., pp.142,146, 20-21 March 2013.
3. A. K. Sinha et al." "Minimizing the cost of generation for future Smart Grids," IEEE International Conference on Circuits, Power and Computing Technologies (ICCPCT 2013), vol., no., pp.87,92, 20-21 March 2013
4. A. K. Sinha Rakesh Singh Oinam and Ramesh Kumar, "A Proposed Optimum Placement of Phasor Measurement Units for Manipur and Nagaland State of North eastern India Power Grid", IEEE International Conference On Research And Development Prospects On Engineering And Technology -2013 (ICRDPET-2013), 29 - 30th, March - 2013.
5. A. K. Sinha ""On line monitoring of transmission line", *Renewable Energy & Power Quality Journal (RE&PQJ)* No.11, March 2013, ISSN 2172-038X.
6. A. K. Goswami, C. P. Gupta and G. K. Singh, "Cost-Benefit Analysis of Voltage Sag Mitigation Methods in Chemical Industry" ECTICON 2012, Hua Hin Thailand, 16-18 May 2012.
7. N. B. Dev Choudhury, D. Prajapati, R. Kakati, "Identification of Transmission loss in trading of power using tracing of power flow", IEEE ECTICON 2012, Hua Hin Thailand, 16-18 May 2012.
8. Subhasish Deb, A. K. Goswami, "Mitigation of Congestion by Generator Rescheduling using Particle Swarm Optimization" IEEE ICPEN 2012 held in NERIST, Arunachal Pradesh Dec 2012
9. Subhasish Deb, A. K. Goswami, "Congestion Management by Generator Rescheduling Using Artificial Bee Colony Optimization Technique" IEEE INDICON 2012 held in Kochi Kerala, 7-9 Dec 2012

#### 3.5.2.14.2 International/National Conferences

1. R. Kumar, A. K. Sinha, "Unified Power Quality Conditioner Controller for Enhancement of Power System Voltage Stability using State Vector Modulation", IEEE INDICON-12, Kochi, pp. 891 – 896, Dec 2012

10. Tanaya Choudury, Sristi Mitra and A. K. Goswami, "Reliability Model for a Distribution System Incorporating Snowfall as a Severe Weather Event, Power System" IEEE PICONF 2012 held in DCM Murthal , Dec 2012.
11. Santhosh K. V. & B. K. Roy, "An Adaptive Calibration Circuit for Level Measurement Using Optimized ANN", International Conference on Communication and Electronics System Design, Jaipur, India, 28-30 Jan 2013.
12. Santhosh K. V. & B. K. Roy, "An Adaptive Calibration Circuit for Ultrasonic Flow Sensor Using Optimized ANN", International Conference on recent trends in computer and computational sciences, Bangalore, India, 11-13 Jan 2013.
13. Santhosh K. V. & B. K. Roy, "An Adaptive Calibration Circuit for Level measurement Using Capacitance Level Sensor", International Conference on Innovations in Communication, Information and Computing, Vijayamangalam, India, 9-11 Jan 2013.
14. Santhosh K. V. & B. K. Roy, "An Adaptive Calibration Circuit for Flow Measurement Using Venturi", International Conference on Computer Communication and Informatics (ICCCI -2013), Coimbatore, India, Jan 04–06, 2013.
15. Santhosh K. V. & B. K. Roy, "An Adaptive Calibration Circuit for RTD Using Optimized ANN", IEEE International Conference on Intelligent Systems and Controls (ISCO2013), Coimbatore, India, Jan 04-05, 2013.
16. B. K. Roy, Prakash Nayak, Santhosh K. V., "Quantitative Measurement of Anulom Vilom Pranayam by Color Patch Detection", IEEE International Conference on Intelligent Systems and Controls (ISCO2013), Coimbatore, India, Jan 04-05, 2013.
17. Santhosh K. V. & B. K. Roy, "An Adaptive Calibration Circuit for Temperature Measurement Using Thermistor", International Conference on Instrumentation, Communication, Control, and Automation (ICICCA-2013), Krishnakoil, India, Jan 03-05, 2013.
18. B. K. Roy, Prakash Chandra Nayak, Santhosh K. V., "Quantitative Measurement of Pranayam Using Audio Analysis", International Conference on Instrumentation, Communication, Control, and Automation (ICICCA-2013), Krishnakoil, India, Jan 03-05, 2013.
19. Santhosh K. V. & B. K. Roy, "An Intelligent Capacitance Level Measuring Technique Using Optimal ANN", IEEE INDICON2012, Kerala, India, 7-9, December 2012.
20. Santhosh K. V. & B. K. Roy, "An Adaptive Calibration Circuit for Pressure Measurement Using Optimized ANN", International Conference on Intelligent Infrastructure, Kolkata, India, 1-2, December 2012.
21. Santhosh K. V. & B. K. Roy, "Extension of Linearity Range of Linear Variable Displacement Transducer Using an Optimal ANN", International Conference on Computing and Control Engineering, Chennai, India, 12-13 April 2012.
22. Santhosh K. V. & B. K. Roy, "An Intelligent Temperature Measuring Technique Using Thermocouple" 4th IEEE International Conference on Conference on Electronics Computer Technology, Kanyakumari, India, 6-8 April 2012.
23. B. K. Roy, Prakash Chandra Nayak, Santhosh K. V., "Quantitative Analysis of Kapal Bhati Pranayam Using Piezoelectric Sensors", 4<sup>th</sup> IEEE International Conference on Conference on Electronics Computer Technology, Kanyakumari, India, 6-8 April 2012.
24. Santhosh K. V. & B. K. Roy, "An Intelligent Flow Measuring Scheme Using Ultrasonic Flow Meters", 31<sup>st</sup> IASTED International Conference on Modelling, Identification and Control, Phuket, Thailand, 4-6 April 2012.

25. Santhosh K. V., B. K. Roy, Pankaj Kumar Bhowmik, "Oxygen Level Monitoring in an Oxygen Cylinder", IEEE International Conference on Advances in Engineering, Science and Management, Nagapattinam, India, 30-31 March 2012.
26. Santhosh K. V. & B. K. Roy, "An Intelligent Flow Measuring Technique Using Venturi", IAENG International Conference on Control and Automation, Hongkong, 14-16 March, 2012.
27. L. C. Saikia, "AGC of a three area thermal system using MLPNN controller: A preliminary study", 9th International Conference on Electrical Engineering/Electronics, Computer, Telecommunications and Information Technology (ECTI-CON), 2012, Page(s): 1 - 4
28. Lalit Chandra Saikia, A. Bharali, O. Dixit, T. Malakar, B. Sharma, S. Kouli, "Automatic Generation Control of Multi-area Hydro System Using Classical Controllers", 1<sup>st</sup> IEEE International Conference on Power and Energy, December 28-29, 2012, Arunachal Pradesh, India, 2012, Page(s): 1 - 6
29. Sanjoy Debbarma & Lalit Chandra Saikia, "Automatic Generation Control of Multi-Area System Using Non-Integer Order I<sup>AD</sup> Controller», 1<sup>st</sup> IEEE International Conference on Power and Energy, December 28-29, 2012, Arunachal Pradesh, India, 2012, Page(s): 1 - 6
30. L. C. Saikia, S. Debbarma, M. Pathak, D. J. Borah, K. K. Kumar, M. Kumar, "Automatic Generation Control of an Interconnected Thermal System Using a New Classical Controller: A Preliminary Study", 1<sup>st</sup> IEEE International Conference on Power and Energy, December 28-29, 2012, Arunachal Pradesh, India, 2012, Page(s): 1 - 6
31. Debbarma, Sanjoy ; Saikia, L. C., "Bacterial foraging based FOPID controller in AGC of an interconnected two-area reheat thermal system under deregulated environment", International Conference on Advances in Engineering, Science and Management (ICAESM), 2012, Page(s): 303 - 308
32. N. K. Sharma, P. K. Tiwari, Y. R. Sood, "Promotion of Renewable Energy in Indian Power Sector Moving Towards Deregulation", 2012 International IEEE Student's Conference on Electrical Electronics and Computer Sciences (SCEECS-2012), MANIT Bhopal (M.P.).
33. N. K. Sharma, P. K. Tiwari, Y. R. Sood, "Current status, policies and future perspectives of Indian Power Sector Moving Towards Deregulation", 2012 International IEEE Student's Conference on Electrical Electronics and Computer Sciences (SCEECS-2012), MANIT Bhopal (M.P.).
34. N. K. Sharma, P. K. Tiwari, Y. R. Sood, "Renewable Energy Status in Indian Restructured Power Sector: Future Aspects", International Conference on Renewable Energy, organized by Eternal University, Baru Shib, Sirmour (H.P.), May 5-6, 2012.
35. Naveen Kumar Sharma, Prashant Kumar Tiwari, Yog Raj Sood, "Renewable Energy: Indian Competitive Electricity Marketplace and Future Aspects", IEEE International Conference on Power Electronics (IICPE 2012), Delhi Technical University (DTU), Delhi, pp. 1-6, December 6-8, 2012.
36. Saurabh Chaudhury and Anirban Sengupta, "Designing a Digital Filter Bank and an Adaptive Filtering Technique to Eliminating Noises in power Line Communication", In the Proc. of IEEE PEAM 2012, Wuhan, China 14-16 Sept. 2012.
37. Sanjeet Kumar Sinha and Saurabh Chaudhury, "Analysis of Quantum Capacitance for Single-Gate MOSFET, Double-Gate MOSFET, Silicon Nanowire MOSFET and CNTFET Devices in Nanometre Regime with varied Oxide Thickness" In Proc. of NANOCON 2012, Pune, pp. 1133-1143, 16-18 Oct. 2012.
38. Suman Deb and Saurabh Chaudhury, "High Speed Comparator Architectures for Fast Binary Comparison," Accepted for publication in Int. Conf. CSI-EAIT, Kolkata, Dec. 2012.

39. Sanjeet Kumar Sinha and Saurabh Chaudhury, "Quantum capacitance: The deciding factor in nanometre regime for CNTFET," In Proc. of IEEE Int. Conf. Advanced Communication Control and Computing Technologies 2012, Ramanathapuram, Tamilnadu, pp. 243-247, 23-25 August, 2012.
40. Sanjeet Kumar Sinha and S. Chaudhury," Advantage of Carbon Nanotube Field Effect Transistor (CNTFET) over Double-Gate MOSFET in Nanometre Regime," IEEE National Conference on Computing and Communication Systems (NCCCS-2012), Durgapur, India, pp.1-5, 21-22 Nov. 2012.
41. Sanjeet Kumar Sinha and S. Chaudhury, " Oxide thickness effect on Quantum Capacitance in single gate MOSFET and CNTFET devices," 2012 Annual IEEE India Conference (INDICON-2012), Ernakulam, Kerala, India, pp. 042-046, 7-9 Dec. 2012.
42. Sanjeet Kumar Sinha and S. Chaudhury, "Simulation and Analysis of Quantum Capacitance in Single-Gate MOSFET, Double-Gate MOSFET and CNTFET devices for Nanometre Regime," IEEE International Conference on Communication, Devices and Intelligent Systems : (CODIS 2012), Jadavpur University (JU) , Kolkata, India, pp. 157-160, 28-29 December, 2012.
43. C. Bhattacharjee, A. K. Roy, B. K. Roy,"Improvement of available voltage for a constant speed WECS by fuzzy controlled D-STATCOM, ICHQP, pp-637-641, June 17-20, 2012, Hong Kong.

**3.5.2.15 Visits to Abroad**

Name of the Faculty	Name of the Conference	Place	Date
Dr B. K. Roy	IAENG International Conference on Control and Automation	Hong Kong	25.03.12 – 27.03.12
Dr B. K. Roy	31 <sup>st</sup> IASTED International Conference on Modelling, Identification and Control	Phuket, Thailand	04.04.12 – 06.04.12
Dr S. Chaudhury	IEEE PEAM -2012	Wuhan, China	14.09.12 – 16.09.12
Dr N. B. Dev Choudhury	International Conference on Electrical Engineering /Electronics, Computer, Telecommunication and Information Technology (ECTI-CON)-2012	Hua Hin, Thailand	16.05.12 – 18.05.12
Dr L. C. Saikia	International Conference on Electrical Engineering /Electronics, Computer, Telecommunication and Information Technology (ECTI-CON)-2012	Hua Hin, Thailand	16.05.12 – 18.05.12
Mr C. Bhattacharjee	International Conference on Harmonics and Quality of Power	Hong Kong	17.12.12 – 20.12.12
Dr A. K. Goswami	International Conference on Electrical Engineering /Electronics, Computer, Telecommunication and Information Technology (ECTI-CON)-2012	Hua Hin, Thailand	16.05.12 – 18.05.12



### 3.6 Department of Electronics & Instrumentation Engineering



The Department of E&I Engineering is a multi-disciplinary branch started in 2009. Instrumentation includes measurement, monitoring and control of a process. The aim of the department is to produce graduate engineers capable of handling design, construction, and maintenance of modern instrumentation systems, thereby improving system productivity, reliability, safety optimization and stability.

#### 3.6.1 Academic Staff

<i>Name</i>	<i>Qualification</i>	<i>Specialization Area(s)</i>
<b>HEAD</b>		
Mr. S.H.Laskar	MTech	Instrumentation & Control, Transducers, Measurement & Acquisition of Signals, Power Quality Monitoring, Biomedical Signal Processing
<b>PROFESSOR</b>		
Nil		
<b>ASSOCIATE PROFESSOR</b>		
Mr. S.H.Laskar	MTech	Instrumentation & Control, Transducers, Measurement & Acquisition of Signals, Power Quality Monitoring, Biomedical Signal Processing
<b>ASSISTANT PROFESSOR</b>		
Dr. Rajdeep Dasgupta	PhD	Instrumentation, Biomedical Instrumentation
Dr. Sougata Kumar Kar	PhD	Instrumentation, Analog VLSI, Sensor Interfacing Electronics
Ms. Jupitara Hazarika	MTech	Bioelectronics
Mr. Lalu Seban	MTech	Process Control & Instrumentation
Ms. Nivedita Das (Cont)	MTech	Instrumentation Engineering
Mr. Kalimuddin Mondal (Cont)	MTech	Instrumentation & Control
Mr. Tushar Bachhar (Cont)	MTech	Instrumentation Engineering



### 3.6.2 Research and Development

#### 3.6.2.1 PhD Programme (Specializations)

1. Transducers & Sensors
2. Microelectronics & VLSI Design
3. Biomedical Signal Processing

4. Instrumentation, Industrial Instrumentation
5. Data acquisition
6. Process Control

#### 3.6.2.2 Research Lab/ Workshop

Sl. No	Name of the Lab/Workshop	Purpose/Linkage to an Existing/ New Programme
1.	Instrumentation& Automation Lab	For Laboratory work & Research activities
2.	Process Control Instrumentation Lab	For Laboratory work & Research activities
3.	Circuit & Network Lab	For Laboratory work & Research activities
4.	Software & Simulation Lab	For Laboratory work & Research activities
5.	Analog & Digital Electronics Lab	For Laboratory work & Research activities
6.	DSP & Communication Lab	For Laboratory work & Research activities
7.	Microcontroller & Embedded System Lab	For Laboratory work & Research activities
8.	VLSI laboratory	Evaluation cum Development Processing, Image Processing and Live Video Processing

#### 3.6.2.3 Awards & Achievements

Sl. No	Recipient	Name of the Award / Achievement	Year
1.	Mr. S.H.Laskar	Elected as IEEE Senior member	2012

#### 3.6.2.4 Seminars/Workshops/Conferences Attended with their Contribution

Sl No	Name of the Faculty	Details of the Programme	Organizing Institute
1.	Mr. S.H.Laskar	IEEE International Symposium on Sustainable Systems and technology (ISSST 2012) during 16 – 18 May 2012	IEEE & University of Arizona, USA
2.	Mr. Lalu Seban	Introduction to Research Methodology Workshop (25 <sup>th</sup> June to 4 <sup>th</sup> July 2012)	IIT - Bombay
3.	Mr. Lalu Seban	One week PLC and DCS training (September 2012)	Yokogawa India Ltd.
4.	Mr. Lalu Seban	Aakash for Education Workshop (10 – 11 November 2012)	IIT Bombay

### 3.6.2. 5 Research Publications

#### 3.6.2. 5.1 International/National Journals

1. S.J. Arif, Imdadullah and S. H. Laskar, Instantaneous Angular Speed Measurement for Low Speed Machines, *IISTE journal on Innovative Systems design & Engineering (USA)*, 3(5) (2012) ISSN 2222-1727.
2. S.H. Laskar and Mohibullah, Power Quality Issues and Need of Intelligent PQ Monitoring in the Smart Grid Environment, *Int. Journal of Emerging Technology and Adv. Engineering (IJETAE)*, 2(9) (2012) 63-69.
3. S. Kar and S. Sen, Linearity Improvement of Source Degenerated Transconductance Amplifiers, *Analog Integrated Circuits and Signal Processing (Springer)*, 74 (2) (2013) 399-407.
4. S. Kar, K. B. M. Swamy, B. Mukherjee and S. Sen, Testing of MEMS Capacitive Accelerometer Structure Through Electro-static Actuation,

*Microsystem Technologies (Springer)*, 19(1) (2013) 79-87.

5. S. K. Kar and S. Sen, A Highly Linear Transconductance Amplifier in 180 nm CMOS Process Technology, *Analog Integrated Circuits and Signal Processing*, 72(1) (2012) 163-171.

#### 3.6.2. 5.2 International/National Conferences

1. S.H.Laskar, Sanaullah and Mohibullah, Power quality monitoring in sustainable energy systems, published in the proc. of IEEE International Symposium on Sustainable Systems and Technology (ISSST 2012), held at Boston (USA) during 16-18 May 2012.
2. D. Juneja, Sougata Kar, P. Chatterjee and S. Sen, SOI MEMS Based Over-Sampling Accelerometer Design with  $\Delta\Sigma$  Output, International Symposium on VLSI Design and Test, VDAT-2012, BESU, Howrah, July 1-4, 2012

## 3.7 Department of Physics



The Department of Physics is actively involved in the experimental research in the emerging areas of science and technology. MSc and PhD programmes are going on in the department. Broad areas of expertise available in the department are Solid State Gas Sensors, Carrier Transport in Thin Films, Solar Energy Materials, Interface States Characterization in Solid State Devices, Liquid Crystals, Nano-materials etc.

### 3.7.1 Academic Staff

<i>Name</i>	<i>Qualification</i>	<i>Specialization Area(s)</i>
<b>HEAD</b>		
Dr. Asim Roy	PhD	Materials Science
<b>PROFESSOR</b>		
Dr. ( Mrs.) Basana Choudhury	PhD	Liquid Crystal
<b>ASSOCIATE PROFESSOR</b>		
Dr. Asim Roy	PhD	Materials Science
<b>ASSISTANT PROFESSOR</b>		
Dr. Ayon Bhattacharjee	PhD	Liquid Crystal
Dr. Smiritishika Bal	PhD	CNT
Dr. Subrat Kumar Barik	PhD	Ferroelectrics and Multiferroics
Dr. Ranjith G. Nair (Contractual)	MPhil, BEd, PhD	Solar Energy Materials

### 3.7.2 Research and Development

#### 3.7.2.1 PhD Programme (Specializations)

1. Binary oxide for RRAM, Thin Films, Semiconductor nanostructures

2. Liquid Crystals

3. Ferroelectrics and Multiferroics

## 3.7.2.2 PhD Produced/Ongoing

Completed	0	Submitted	0	Ongoing	13
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## 3.7.2.3 Research Lab/ Workshop

Sl. No	Name of the Lab/Workshop	Purpose/Linkage to an Existing/ New Programme
1.	State-of-art nanostructures characterization lab	Already department is actively involved in synthesis of ultra-thin film and nanostructures materials. For further enhancement in research activities in this area, set up of new lab for low dimensional materials characterization is now priority.
2.	Microscience & Nanophysics	RF Sputtering System for growth of precise thin film, Horizontal quartz tube Furnace, for annealing and synthesis semiconductor nanostructures by chemical vapor deposition ( CVD) method De-ionized water plant Thermal evaporation technique and electrical characterization set up for electrical properties of materials
3.	Multifunctional Materials	High temperature Muffle furnace, Low temperature furnace, DC resistivity set up
4.	Liquid crystals	Polarizing Microscope for detecting phase of liquid crystal and LCR meter for dielectric properties of Materials

## 3.7.2.4 Ongoing Sponsored Research Projects

Sl. No	Project Title	Principal Investigator	Funding Agency	Cost of the Project (₹ in Lakhs)	Duration
1.	Study of Bi-Layered Perovskite oxide: Thin Film for Nonvolatile ferroelectric memory applications	Dr. Asim Roy	AICTE	17.5	2 Years
2.	Modernization of thin film laboratory	Dr. Asim Roy	AICTE	10.00	2 Years
3.	Synthesis & characterization of BST-BFO composites for devices	Dr. S. K. Barik	AICTE	16.00	2 Years
4.	Development of carbon nanotube reinforced polymer composites for naval applications	Dr. S. Bal	DRDO (NRB)	19.38	3 Years

### 3.7.2.5 Research Papers Reviewed

Sl. No	Faculty Name	Journal Name	No of Papers	Year
1	Dr. Ayon Bhattacharjee	Materials Science and Engineering B (Elsevier)	1	2012
		Infrared Physics and Technology (Elsevier)	1	2012
		Journal of Chemical Engineering and Material Science (JCEMS)	1	2012
		Indian Journal of Physics	1	2012
		International Journal of Physical Sciences	1	2013

### 3.7.2.6 Awards & Achievements

Sl. No	Recipient	Name of the Award	Year
1.	Dr. Asim Roy	SERC Visiting Fellowship (Under DST)	2013

### 3.7.2.7 Seminars/Workshops/Conferences Organized

Sl No	Name of the Coordinator	Title	Duration
1.	Dr. Ayon Bhattacharjee	Use of FOSS Based Software in Science teaching in collaboration with i-CAT, IGNOU	16.01.2013 - 18.01.2013

### 3.7.2.8 Seminars/Workshops/Conferences Attended with their Contribution

Sl No	Name of the Faculty	Details of the Programme	Organizing Institute
1.	Dr. Asim Roy	Roster Writing and Reservation in services Government Policy for SCs, STs, OBCs and PWDs	Centre for Training & Social research
		NBA Workshop at Delhi	Delhi Technological University, New Delhi
2.	Dr. S. K. Barik	Workshop on Creativity & Innovation Techniques and Patenting in India and abroad	NIT Silchar
		Faculty Development Programme on Effective Teaching	NIT Silchar
		Awareness on Hostel Management	NIT Silchar
		STC on Recents in Evolutionary Optimization Techniques and Applications	NIT Silchar
		Spiritual Intelligence for Managerial Excellence	NIT Silchar
STTP on Applications of Statistics in Engineering, Management & Applied Sciences	NIT Silchar		

### 3.7.2.9 Research Publications

#### 3.7.2.9.1 International/National Journals

1. K.D. Thingujam, S.D. Sarkar, B. Choudhury and A. Bhattacharjee; Effect of Temperature on the Refractive Indices of Liquid Crystals and Validation of a Modified Four-Parameter Model, *Acta Physica Polonica A*, 122(4) (2012) 754-757.
2. N. Kumari, A. Ghosh, S. Tewari and A. Bhattacharjee, Structural, electrical and optical properties of sintered SnO<sub>2</sub> pellets, *Material Science in Semiconductor Processing*, 16(3) (2013) 905–914.
3. Kiranmala Devi Thingujam, Parameswara Rao Alapati, Basana Choudhury and Ayon Bhattacharjee, Optical studies of a liquid crystalline compound 6O.6, *Liquid Crystals*, <http://dx.doi.org/10.1080/02678292.2013.783132>, 2013.
4. S. Bal, J.P. Borah and C. Bergheim, Microscopic analysis of mechanical properties of aligned carbon nanotube/epoxy composite, *Advanced Nanomaterials and Nanotechnology, Springer Proceedings in Physics*, 143 (2013) 347-365.
5. Bruno Boury, Ranjith G. Nair, Sanjoy K. Samdarshi, Tahereh Makiabadi, P. Hubert Mutin, Non-hydrolytic synthesis of hierarchical TiO<sub>2</sub> nanostructures using natural cellulosic materials as both oxygen donors and templates, *New J. Chem.*, 36, (2012) 2196-2200.
6. Ranjith G. Nair, Jetendra K. Roy, S.K. Samdarshi, A.K. Mukherjee, Mixed phase V doped titania shows high photoactivity for disinfection of Escherichia coli and detoxification of phenol, *Solar Energy Materials and Solar Cells*, 105(2012)103–108.
7. Ranjith G. Nair, A.M. Tripathi, S.K. Samdarshi, Impact of Ti-V ratio on the crystalline phase/visible light activity of TiV-oxide photocatalyst, *Environmental Progress & Sustainable Energy*, 31(1) (2012) 107–113.

## 3.8 Department of Chemistry



The Chemistry Department was established in 1977 along with the establishment of the Institute. It has been one of the best departments in terms of infrastructural facilities and faculties. It has got many well equipped labs with modern equipment ranging from the highly equipped chemistry Lab to the latest PCs in the chemistry Labs.

### 3.8.1 Academic Staff

<i>Name</i>	<i>Qualification</i>	<i>Specialization Area(s)</i>
<b>HEAD</b>		
Prof. A.K. Sil	PhD	Inorganic Chemistry
<b>PROFESSOR</b>		
Dr. A.K. Sil	PhD	Inorganic Chemistry
<b>ASSOCIATE PROFESSOR</b>		
NIL		
<b>ASSISTANT PROFESSOR</b>		
Dr. S.S. Dhar	PhD	Inorganic Chemistry
Dr. Ahmaruzzaman	MTech, PhD	Energy and Environment.
Dr. P. Barman	PhD	Organic Chemistry
Dr. R. Rano	PhD	Organic Chemistry
Dr. B.H. Shambharkar	PhD	Inorganic Chemistry

### 3.8.2 Research and Development

#### 3.8.2.1 PhD Programme (Specializations)

1. Environmentally methodologies for developing of existing/newer reagents and their application in selected organic transformation.
2. Water treatment, adsorption
3. Synthesis of organo-sulfur compounds and their applications
4. Adsorption and its application for removal of toxics materials from water
5. Chemical and biological synthesis of nano materials and their applications

## 3.8.2.2 Ph. D. Produced/Ongoing

Completed	2	Submitted	0	Ongoing	13
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## 3.8.2.3 Research Lab/ Workshop

Sl No	Name of the Lab/Workshop	Purpose/Linkage to an Existing/ New Programme
1.	Inorganic and analytical Laboratory	To develop a novel technique for preparation of newer catalyst/ materials and investigation of their efficacy for a variety of organic reactions
2.	Environmental Chemistry Laboratory	To develop new methods and materials for separation of toxic materials present in water environment
3.	Organic and Analytical Laboratory	To develop new methods and techniques for the synthesis of new compounds with special reference to biological and medicinal applications

## 3.8.2.4 Ongoing Sponsored Research Projects

Sl. No	Project Title	Principal Investigator	Funding Agency	Cost of the Project (₹ in Lakhs)	Duration
1.	Studies of cooperative Assistance to nucleophilic substitution reactions at disulfide bridge.	Dr. Pranjit Barman	AICTE	10.00	2011-2013
2.	Development of surface modified adsorbents for the removal of Iron (iii) and Chromium (iii) from waste water.	Dr. A. Zaman	AICTE	10.00	2011-2013

## 3.8.2.5 Research Papers Reviewed

Sl. No	Faculty Name	Journal Name	No of Papers	Year
1.	Dr. Pranjit Barman	Journal of Molecular Structure	1	2012
		Synthetic communications	1	2012
2.	Dr. Md. Ahmaruzzaman	Environmental Progress and Sustainable Energy	1	2012
		Environmental Science and Technology	1	2012
		Industrial and Engineering Chemistry Research	1	2012

## 3.8.2.6 Awards &amp; Achievements

Sl. No	Recipient	Name of the Award	Year
1.	Dr. Siddhartha S Dhar	"High Quality Article (Top 20) Author Award 2011" by Editorial office of Chinese Chemical Letters (Elsevier)	2012



### 3.8.2.7 PhD Thesis

Sl. No	Name of the Scholar	Name of the Supervisor	Title of the Thesis
1.	Ms. S Laxmi Gayatri	Dr. M Ahmarruzaman	Performance and Characterization Studies of Selected Adsorbents for Abatement of Phenolic Compounds from Aqueous Phase
2.	Ms. Madhudeepa Dey	Dr. Siddhartha S Dhar	Novel Green Synthesis of Substituted Benzimidazoles and Organic Ammonium Tribromides (OATBs) and Application of OATBs towards Selected Organic Transformations

### 3.8.2.8 MSc Thesis

Sl. No	Name of the Scholar	Name of the Supervisor	Title of the Thesis
1.	Mr. Satyananda Behera 10-2-8-106	Dr. P. Barman	Studies on the synthesis, characterization and antibacterial activity of aromatic sulphides
2.	Mr. Namita Devi 10-2-8-102	Dr. P. Barman	Synthesis of biologically active cinnoline derivative from aromatic hydrazines involving hydrazones as synthetic precursors.
3.	Mr. Kuldip Sarma 10-2-8-101	Dr. P. Barman	Synthesis and characterization of Ni(ii),Cu(ii) and Fe(iii) complexes with 2-benzylsulfanyl aniline
4.	Mr. Rinku Moni Barman 10-2-8-105	Dr. S. S. Dhar	Synthesis and Characterization of Metal Ehtylacetoacetate Complexes of Copper(II), Nickel(II), Cobalt(II) and Iron (III)
5.	Mr. Abhiram Panigrahi 10-2-8-103	Dr. S. S. Dhar	Synthesis and Characterization of Some Oxoperoxo complexes of V(V), Mo(VI) and W(VI) using a series of N, and N, O donor ligands
6.	Mr. Debajit Acharjee 10-2-8-104	Dr. M. A. Zaman Dr. A. K. Sil	A study to assess the generation of solid waste in and around Silchar town and to perform the feasibility study on their application.
7.	Mr. Jayanta Das 10-2-8-107	Dr. M. A. Zaman Dr. A. K. Sil	Analysis of physio-chemical properties of solid waste of paper industry (Cachar Paper Mill) and feasibility study of their utilization.

## 3.8.2.9 Seminars/Workshops/Conferences Attended with their Contribution

Sl No	Name of the Faculty	Details of the Programme	Organizing Institute
1.	Dr. M. A. Zaman	Spiritual Intelligence for Managerial Excellence	NIT, Silchar
		Application of Statistics in Engineering, Management and Applied Sciences	NIT, Silchar
2.	Dr. S. S. Dhar	Creativity& Innovation Techniques and Patenting in India and Abroad	NIT, Silchar
		Effective Teaching	NIT, Silchar
		Seismic Retrofitting of Buildings	NIT, Silchar
		Philosophy of Research Methods	NIT, Silchar
		Spiritual Intelligence for Managerial Excellence	NIT, Silchar
		Application of Statistics in Engineering, Management and Applied Sciences	NIT, Silchar
3.	Dr. P.Barman	Creativity& Innovation Techniques and Patenting in India and Abroad	NIT, Silchar
		A Three-Day Workshop on Solar Energy and Its Applications	NIT, Silchar
		Effective Teaching	NIT, Silchar
		Seismic Retrofitting of Buildings	NIT, Silchar
		Philosophy of Research Methods	NIT, Silchar
		Spiritual Intelligence for Managerial Excellence	NIT, Silchar
		Application of Statistics in Engineering, Management and Applied Sciences	NIT, Silchar

## 3.8.2.10 Research Publications

## 3.8.2.10.1 International/National Journals

1. Modhudipa Dey and Siddhartha S Dhar, Synthesis of quaternary ammonium tribromide. A novel green approach., *Green Chemistry letters and Reviews*, 4 (2012) 639.
2. Modhudipa Dey and Siddhartha S Dhar and Mukul kalita, Novel method of synthesis of quaternary Ammonium tribromides and investigation of catalytic role of Benztrimethyl ammonium Tribromide in oxidation of Alcohol to carboxyl compounds, *Synthetic communication*, 39 (2013) 1734.
3. M.A. Zaman, Application of coal Fly ash in Air Quality Management, *Ind. Engg. Chem. Res*, 51(47) (2012) 15299-15314.
4. B.H. Shambharkar, R.C. Rathod, S.S. Umame, V.K. Didolkar and A.P. Patil, Production and characterization of polyaniline/ TiO<sub>2</sub> nano composites, anticorrosive applications on 316 LNSS, *trans Indian Inst. MET.*, 66(2) (2013) 97-104.
5. P. Gogoi, S.R. Gogoi, M.Kalita, P. Barman, Silver Ion Mediated in Situ Synthesis of Mixed Diary Sulfides from Diaryl Disulfides, *Synlett*, 24 (2013) 873-877.

6. T. Bhattacharjee, P. Gogoi, V.G. Puranik, R.I. Gawade and P. Barman, 1-Benzoyl-3-[(2-benylsulfanyl) phenyl] theoreme, *Acta C*, 68 (2012) 485-487.
  7. N. Ahmed, t. Bhattachrjee, P. Barman, S.K. Bhattachrjee, One –pot catalyst free facile and efficient sulfenylation of electron rich substrates with amid sulfenium carrier azobenzene-2-sulfenyl bromide, *Synthetic Communications*, doi :10.1080/00397911.2012.7333476 (2012).
  3. Ajit Sharma, Prasanta Gogoi and P. Barman, Microwave assisted clean & fast oxidative Transformation of Aryl halides to Disulfides using Indium Oxide nano particles, 15th CRSI national Symposium in chemistry, BHU, Varanasi, 405 (2012) 357.
  4. Ahmed Md. Juned Khanam and Ahmaruzzam M 2<sup>nd</sup>, Adsorptive Desulphurization of Feed diesel on low cost activated carbon prepared by chemical tempregation of agricultural waste, International Science Congress (ISC-2012), Bon Maharaja Engineering College, Vrindavan Mathura, UP. India, (2012)
- 3.8.2.10.2 International/National Conferences**
1. Mukil Kalita, Pranjit barman, Sanjib Karmakar, Synthesis, Spectroscopic characterization and XRD structure of a new Schiff base containing N,s donor set and its bioactivity analysis., NET 2013 National conference, Assam Don Bosco University, p49.
  2. Prasanta Gogoi, P. Barman, Synthesis, characterization & antimicrobial activity of New benzyl thioureas derivatives, 15th CRSI national Symposium in chemistry, BHU, Varanasi, 406 (2013) 358.

### 3.9 Department of Mathematics



The Department of Mathematics was established along with the inception of the Institute. Ever since its establishment, the Department has been striving to provide quality technical education with core support to all engineering departments. It imbibes a sense of professionalism in its students. To achieve such high standards it has got extremely competent faculty members. It has a well equipped computational fluid dynamics (CFD) laboratory. The Department lays special emphasis on research and developmental activities both on the part of the faculty as well as the students.

#### 3.9.1 Academic Staff

<i>Name</i>	<i>Qualification</i>	<i>Specialization Area(s)</i>
<b>HEAD</b>		
Mr. Bijan Nath	MSc (Gold Medalist)	Modern Algebra, Functional Analysis
<b>PROFESSOR</b>		
NIL		
<b>ASSOCIATE PROFESSOR</b>		
Mr. Bijan Nath	MSc	Modern Algebra , Functional Analysis
Dr.P.K.De	BT, MPhil, PhD	Fuzzy Optimization and Decision Making, Operations Research, Fuzzy Mathematics, Fuzzy Logic, Fuzzy Graphs, Mathematical Modelling, Elasto-Dynamics.
<b>ASSISTANT PROFESSOR</b>		
Dr. S. Roy	PhD	Fuzzy Set Theory
Dr. M. Sen	PhD	Fuzzy Set Theory
Dr. G. Ramesh	PhD	Complex Analysis
Dr. K. N. Das	PhD	Graph Theory, Evolutionary Optimization

<i>Name</i>	<i>Qualification</i>	<i>Specialization Area(s)</i>
Dr. D. Choudhury	PhD	Elliptic PDEs, Stokes equation
Dr. Pradip Debnath	PhD	Probabilistic Fuzzy n-normed spaces
Dr. Juthika Mahanta	PhD	Fuzzy Set , Soft Set & Rough Set

### 3.9.2 Research and Development

#### 3.9.2.1 PhD Programme (Specializations)

- |  |   |
|--|---|
| <ol style="list-style-type: none"> <li>1. Fuzzy Optimization</li> <li>2. Evolutionary Optimization</li> <li>3. Fuzzy set &amp; Fuzzy Logic</li> <li>4. Fuzzy Differential Equations</li> <li>5. Fuzzy Probability</li> <li>6. Numerical Optimizations</li> <li>7. Fuzzy Functional Analysis</li> </ol> | <ol style="list-style-type: none"> <li>8. Elasto-Dynamics</li> <li>9. Complex Analysis</li> <li>10. Signal Processing</li> <li>11. Complex Dynamics</li> <li>12. Fractal Geometry</li> <li>13. Uncertainty Modeling</li> <li>14. Elliptic PDEs, Stokes equation</li> <li>15. Fuzzy Numbers</li> </ol> |
|--|---|

#### 3.9.2.2 PhD Produced/Ongoing

<b>Completed</b>	2	<b>Submitted</b>	0	<b>Ongoing</b>	8
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#### 3.9.2.3 Research Lab/ Workshop

<b>Sl. No</b>	<b>Name of the Lab/Workshop</b>	<b>Purpose/Linkage to an Existing/ New Programme</b>
1.	Computational Fluid Dynamic (CFD) Lab.	To facilitate the CFD laboratory facility to all the researchers of NIT Silchar. It is established in August 2012. It has facilities like computers with ANSYS-FLUENT software (25 user), with well furnished equipments.
2.	Soft Computing Laboratory and MSc Laboratory (Soon to start.)	To take lab classes of MSc Program and to make availability of research facility.

## 3.9.2.4 Research Papers Reviewed

Sl. No	Faculty Name	Journal Name	No of Papers	Year
1.	Dr. Santanu Roy	Canadian Research & Development Center of Sciences and Cultures	01	2012
2.		Fasciculi Mathematici	01	2012
3.		International Journal of Modern Mathematical Sciences	01	2013
4.	Dr. Kedar Nath Das	International Journal of Swarm Intelligence (IJSI), Inder Science	01	2013
5.		International Journal of Computational Science and Engineering (IJCSE), Inderscience	03	2012
6.		International Journal on "Memetic Computing", Springer	01	2012
7.		Seventh International Conference on Bio-Inspired Computing: Theories and Application, 2012 (BIC-TA 2012)	01	2012
8.		2nd International Conference on Soft Computing for Problem Solving (SocProS - 2012)	05	2012

## 3.9.2.5 Seminars/Workshops/Conferences Organized

Sl. No	Name of the Coordinator	Title	Duration
1.	Dr. M. Sen & Dr. S. Roy (Co-coordinator)	Workshop on Applications of Mathematics in science & engineering	02.08.12 – 04.08.12
2.	Dr. P. K. De & Dr. S. Roy (Co-cordinator)	Short term Course on Applications of Statistics in Engineering, Management & Applied Sciences	11.10.12 – 15.10.12
3.	Dr. Kedar Nath Das (Coordinator)	DST sponsored one week STTP: 'Recents in Evolutionary Optimization Techniques and Applications (REOTA-2012)'	01.06.12 – 07.06.12

## 3.9.2.6 PhD Thesis

Sl No	Name of the Scholar	Name of the Supervisor	Title of the Thesis
1.	Santanu Roy	Dr. M. Sen	Generalized fuzzy real valued double sequence spaces
2.	Pradip Debnath	Dr. M. Sen	A study on intuitionistic fuzzy n-normed linear spaces

3.9.2.7 Seminars/Workshops/Conferences Attended with their Contribution

Sl No	Name of the Faculty	Details of the Programme	Organizing Institute
1.	Dr. Kedar Nath Das	International conference on Optimization, Computing & Business Analytics (ICOCBA 2012)	Operational Research Society of India (ORSI), Kolkata Chapter.  Sponsored by: TEQUIP-II, NIT Silchar. 20.12.12 – 22.12.12
		Workshop on “Analog/Mixed Signal Design”,	NIT Silchar, 16.01.12 – 20.01.12
		Workshop on “Solar Energy and its Applications”	NIT Silchar, 29.03.12 – 31.03.12
		Workshop on “Transportation Engineering and its Application”	NIT Silchar, 16.04.12 – 18.04.12
		One week Faculty development program on “Effective Teaching”	NIT Silchar, 31.04.12 – 04.05.12
2.	Dr. Ramesh Ganti	Workshop on “Analog/Mixed Signal Design”,	NIT Silchar, 16.01.12 – 20.01.12
		Workshop on “Solar Energy and its Applications”	NIT Silchar, 29.03.12 – 31.03.12
		Workshop on “Transportation Engineering and its Application”	NIT Silchar, 16.04.12 – 18.04.12
		One week Faculty development program on “Effective Teaching”	NIT Silchar, 31.04.12 – 04.05.12
		One week Short term Training Program on Recent in Evolutionary Optimization Techniques & Applications	NIT Silchar, 01.06.12 – 07.06.12
		Applications of Statistics in Engineering, Management & Applied Sciences	NIT Silchar, 11.10.12 – 15.10.12
3.	Dr. S. Roy & Mr. B. Nath	Workshop on Creativity & Innovation Techniques and Patenting in India & Abroad	NIT Silchar, 06.04.12 – 08.04.12
		Workshop on Advances in Transportation Engineering	NIT Silchar, 16.04.12 – 18.04.12
		One week Short term Training Program on Recent in Evolutionary Optimization Techniques & Applications	NIT Silchar, 01.06.12 – 07.06.12
		Workshop on Seismic Retrofitting of Buildings	NIT Silchar, 11.06.12 – 13.06.12

## 3.9.2.8 Books/Chapter

Sl. No	Author	Title	Publisher
1.	Debarjyoti Choudhuri, G. P. Raja Sekhar	Thermocapillary drift on a Spherical drop in a Viscous Fluid	American Institute of Physics
2.	Kusum Deep and Kedar Nath Das	BOOK CHAPTER: Hybrid Binary Coded Genetic Algorithm for Constrained Optimization	LAP LAMBERT Academic Publishing, ISBN-13: 978-3848447084, PP. 177-182, March 2012.
3.	Kedar Nath Das	BOOK CHAPTER: Hybrid Genetic Algorithm: An Optimization Tool	IGI Global publisher, USA. Accepted on 9th Feb. 2013.
4	Kedar Nath Das	BOOK: Hybrid Genetic Algorithm for Optimization: Design and Application	LAP LAMBERT Academic Publishing, ist ein Imprint der/is a trademark of AV Akademikerverlag GmbH & Co. KG, Heinrich-Bocking-Str. 6-8, 66121 Saarbrücken, Deutschland/Germany, ISBN- 978-3-659-24059-1, Oct. 2012.

## 3.9.2.9 Research Publications

## 3.9.2.9.1 International/National Journals

1. Mausumi Sen & Santanu Roy, Some I-convergent double classes of sequences of Fuzzy numbers defined by Orlicz functions, *Thai Journal of Mathematics* (2012) 1-10.
2. Mausumi Sen & P. Debnath, Best approximation in intuitionistic fuzzy n-normed linear spaces, *J. of Nonlinear analysis & Optimization: Theory & Applications*, 3(1) (2012) 45-53.
3. Mausumi Sen, B.C. Tripathy & S. Nath, I convergence in probabilistic n-normed space, *Soft Computing*, Springer, 16 (2012) 1021-1027,.
4. K. Deep and Kedar Nath Das, A Novel Hybrid Genetic Algorithm for Constrained Optimization, *International Journal of System Assurance Engineering and Management*, Springer, 4(1) (2013) 86 – 93.

5. P. K. De & Amita Bhincher, A fuzzy critical path analysis by ranking method, *Advances in Fuzzy Mathematics*, 7 (1) (2012) 25-34.

## 3.9.2.9.2 International/National Conferences

1. Debarjyoti Choudhuri, R. Radha & B. Sri Padmabati, Stokes flow past an arbitrary shaped body with slip – stick boundary conditions, *Applied Mathematics and computation (A.M.C)*, Vol -291, P/5367 – 5367, 2013.
2. K. N. Das and B. Choudhuri, Heuristics to find Maximum Independent Set: An overview, *Proceeding of International conference on Soft computing for Problem solving (SocPros-2011)*, Springer, organized by IIT Roorkee, 20-22nd Dec, 2011; Published in *Advances in Soft Computing 2012*, Vol. 130, pp. 881-892, 2012.
3. K. N. Das and R. Mishra, A Performance Study of Chemo-Inspired Genetic Algorithm on Benchmark



- Functions, Proceedings of Seventh International Conference on Bio-Inspired Computing: Theories and Applications (BIC-TA 2012), Published in Advances in Intelligent Systems and Computing, Springer., Vol. 202, pp 489-501, 2013.
4. K. N. Das and Tapan Kumar Singh, Self Adaptive Hybridization of Quadratic Approximation with Real Coded Genetic Algorithm, Proceedings of Seventh International Conference on Bio-Inspired Computing: Theories and Applications (BIC-TA 2012), Advances in Intelligent Systems and Computing, Volume- 202, pp. 503-513, 2013.
  5. P. K. De & Debarati Das, Ranking of Trapezoidal Intuitionistic Fuzzy Numbers, IEEE ISDA, Cochin, p.184-188, November, 2012.
  6. P. K. De & Apurva Rawat, Optimization of Fuzzy inventory model under fuzzy demand and fuzzy lead time using exponential fuzzy number, IEEE FSKD, China, p.465-467, 29-31 May, 2012.

### 3.10 Department of Humanities & Social Sciences



The HSS Department has an interdisciplinary orientation and expertise in three disciplines of Humanities and Social Sciences, namely, English Language, Economics and Management. The Department has been an integral part of the Institute since its inception as the Regional Engineering College, Silchar

#### 3.10.1 Academic Staff

<i>Name</i>	<i>Qualification</i>	<i>Specialization Area(s)</i>
<b>HEAD</b>		
Prof. Gurudas Das	PhD	International Trade, Regional Development, Area Studies
<b>PROFESSOR</b>		
Dr. Gurudas Das	PhD	International Trade, Regional Development, Area Studies
<b>ASSISTANT PROFESSOR</b>		
Dr. Reena Sanasam	PhD	English Literature
Dr. N B Singh	PhD	Agricultural Economics
Dr. Ashim Kumar Das	PhD	Accounting

#### 3.10.2 Research and Development

##### 3.10.2.1 PhD Programme (Specializations)

1. Society, economy and politics of North Eastern Region
2. North Eastern Region and the neighboring countries
3. Language, literature and gender studies
4. Agriculture, forest and environment
5. Education, governance, conflict management and development

3.10.2.2 PhD Produced/Ongoing

Completed	2	Submitted	0	Ongoing	29
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3.10.2.3 Research Lab/ Workshop

Sl. No	Name of the Lab/Workshop	Purpose/Linkage to an Existing/ New Programme
1.	Language Laboratory	Language training
2.	Computer Laboratory	Computer training

3.10.2.4 Ongoing Sponsored Research Projects

Sl. No	Project Title	Principal Investigator	Funding Agency	Cost of the Project (₹ in Lakhs)	Duration
1.	Agricultural Development and Environmental Issues in North-East Region: A case study of Manipur	Dr. N.B. Singh	ICSSR	6.35	2012-2014

3.10.2.5 Seminars/Workshops/Conferences Organized

Sl. No	Name of the coordinator	Title	Duration
1.	Gurudas Das	Philosophy of Research Methods	4 days

3.10.2.6 PhD Thesis

Sl No	Name of the Scholar	Name of the Supervisor	Title of the Thesis
1.	Mr. Samar Deb	Prof. Gurudas Das	Reforms and Development Response: A study of Assam
2.	Ms. Pallabi Das	Dr. N. B. Singh & Dr. I . G. Singh	Teaching English with Technology: A Case Study of Institute of Technology in North East India

3.10.2.7 Seminars/Workshops/Conferences Attended with their Contribution

Sl No	Name of the Faculty	Details of the Programme	Organizing Institute
1.	Gurudas Das	Innovating for Excellence- Programme for Leaders in Management Education	IIM, Ahmedabad

Sl No	Name of the Faculty	Details of the Programme	Organizing Institute
2.	Ashim Kumar Das	Innovating for Excellence- Programme for Leaders in Management Education	IIM, Ahmedabad
3.	Gurudas Das	International Seminar on Indias Look East policy and north eastern region: Strengthening thre contenatal route	Shillong
4.	Gurudas Das	Second RIIO Conference	Kunming, China

### 3.10.2.8 Books/Chapter

Sl. No	Author	Title	Publisher
1.	Gurudas Das	Security and Development in India's Northeast	Oxford University Press

### 3.10.2.9 Research Publications

#### 3.10.2.9.1 International/National Journals

1. Reena Sanasam, et al., Cosmopolitanism in Amitav Ghosh's Hungry Tide, *Spectrum*, 1(1), (2013) 86-91.
2. Reena Sanasam, et al., Tradition, Nostalgia and Spiritualism in S.K sharma's poems, *Spectrum*, 1(1), (2013) 216-223.
3. Thounaojam Caesar, Soyam Chaningkhombe & Reena Sanasam, Study of Myths in Manipuri Literature and Socio-Religious Rituals, *PRATIDHWANI A Journal of Humanities and Social Science*, 1(2), (2012).
4. Reena Sanasam, *KSH.MEMTHOIBI DEVI*, Clearing the Minefield: The Problem that Women

Encountered, *Journal of Literature, Culture and Media Studies*, 4 (7,8), (2012).

5. Gurudas Das, Identity and Underdevelopment-Conflict and Peace in Developing Countries: A Case Study of Assam in India, *Humanities and Social Sciences Review*, 1(1), (2012) 1-18.

#### 3.10.2.9.2 International/National Conferences

1. Gurudas Das, Cross-Border Cooperation for the Development of Peripheral Regions: The Case of India's North East and Bangladesh", in International Handbook of Academic Research and Teaching (IHART), (online), "Multidisciplinary Foundations and Intellectual Perspectives", organized by Intellectbase International Consortium (IIC), Bangkok, Thailand, Vol 26, PP: 211-220, ISSN 1940-1868, March 14-16, 2013

### 3.10.2.10 Visits to Abroad

Name of the faculty	Name of the conference	Place	Date
Gurudas Das	Second RIIO Conference	Kunming, China	November 29-30, 2012

### 3.11 Department of Management Studies



After decades of pioneering education in Engineering and Science, NIT Silchar has today distinguished itself from its peers by way of not only producing the bright minds but also future business leaders. The Department of Management Studies started its journey with 30 intake capacity. The Mission of the Department of Management Studies is to empower quality education & moral skill through innovation and continuous development of the competencies and transforming the budding youngsters into leaders of tomorrow.

#### 3.11.1 Academic Staff

<i>Name</i>	<i>Qualification</i>	<i>Specialization Area(s)</i>
<b>HEAD</b>		
Dr. Ashim Kumar Das	MCom, MPhil, PhD	Accountancy, Small business management
<b>ASSISTANT PROFESSOR</b>		
Ms. Arpita Dutta	MTech	Electronic Eng.
Mr. Tanuj Mathur	MBA	Finance
Mr. Shidual A Laskar	MBA	Finance
Dr. Pallabi Das	MA, PhD	English
Mr. Ujjwal Paul	MBA	Marketing
Ms. Ashma Choudhary	MBA	HR
Mr. Zahir Zakari	Mass Com	Communication
Mr. Prakash Singh	MBA	General Management
Mr. Shabal Saha	BTech, MBA	Marketing & HR

## 3.11.2 Research and Development

## 3.11.2.1 Research Lab/ Workshop

Sl. No	Name of the Lab/Workshop	Purpose/Linkage to an Existing/ New Programme
1.	Entrepreneur Incubation Center	Integrating NITs BTech programme with MBA programme by introducing five (5) years integrated BTech & MBA (dual degree) programme
2.	PhD Programme	To initiate active research in the contemporary areas of management science

## 3.11.2.2 Seminars/Workshops/Conferences Organized

Sl No	Name of the coordinator	Title	Duration
1.	Prof Gurudas Das	Challenges and Opportunities in the North Eastern Region	One Day

## 4. TEACHING PROGRAMMES

### 4.1 Courses Offered

(i) A four years BTech Programme in the following branches of Engineering and Technology, was offered during period.

- ❖ Civil Engineering
- ❖ Mechanical Engineering
- ❖ Electrical Engineering
- ❖ Computer Science & Engineering
- ❖ Electronics & Communication Engineering
- ❖ Electronics & Instrumentation Engineering

(ii) A two-years MTech & MSc programmes in the following branches of engineering and technology was offered during period.

- ❖ Water Resources Engineering (Under Civil Engineering Department)
- ❖ Geotechnical Engg. (Under Civil Engineering Department)
- ❖ Transportation Engg. (Under Civil Engineering Department)
- ❖ Earthquake Engineering (Under Civil Engineering Department)
- ❖ Power and Energy systems Engineering (Under Electrical Engineering Department)
- ❖ Control & Industrial Automation (Under Electrical Engineering Department)
- ❖ Thermal Engineering (Under Mechanical Engineering Department)

- ❖ Design & Manufacturing (Under Mechanical Engineering Department)
- ❖ Microelectronics & VLSI Design (Under Electronics & Com. Engineering Department)
- ❖ MSc in Applied Chemistry (Under Chemistry Department)
- ❖ MSc in Applied Physics (Under Physics Department)
- ❖ MSc in Mathematics (Under Mathematics Department)
- ❖ MBA (Under Management Studies)

(iii) Enrolment for PhD programme took place in the following departments during reporting year April 2012 & March 2013.

- ❖ Civil Engineering
- ❖ Electrical Engineering
- ❖ Mechanical Engineering
- ❖ Computer Sc. & Engineering
- ❖ Physics
- ❖ Chemistry
- ❖ Humanities and Social Science
- ❖ Electronics & Communication Engineering.
- ❖ Mathematics

### 4.2 BTech Enrolments

The following table shows the semester-wise, course wise enrolment with sex and caste breakup for the period 2012-13.

The Excess Intake (Over and above the Intake Capacity) was Carried Out as Seat Distribution Programme Made by MHRD.

Sem	Branch	Open (Breakup)		OBC (Break up)		SC (Break up)		ST (Breakup)		PH		Total Enrollment
		Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	
1 <sup>st</sup> & 2 <sup>nd</sup>	CE	55	02	23	01	12	01	07	-	1 OPPH	-	102
	ME	52	01	24	-	14	-	06	01	2 OPPH	-	101
	EE	51		20	04	12	-	06	01	1 OPPH	-	102
	ECE	47	05	22	02	13	01	06	01	1 OPPH	-	98
	EIE	12	03	08	-	04	01	02	-	1 OPPH	-	31
	CSE	60	08	22	02	11	03	05	01	1 OPPH	-	113
		<b>277</b>	<b>24</b>	<b>119</b>	<b>09</b>	<b>66</b>	<b>06</b>	<b>32</b>	<b>04</b>	<b>10</b>		<b>547</b>
3 <sup>rd</sup> & 4 <sup>th</sup>	CE	50	02	26	01	13	-	05	02	OPPH-01	-	101
	ME	51	02	25	-	11	03	07	-	OBPH-01	-	101
	EE	39	07	26	01	11	01	06	02	SCPH-01	-	96
	ECE	44	06	25	01	11	03	08	01	OPPH-02	-	100
	EIE	08	02	08	-	04	-	02	-	OPPH-01	-	25
	CSE	43	06	22	02	10	04	06	-	OPPH-01	-	96
		<b>235</b>	<b>25</b>	<b>132</b>	<b>05</b>	<b>60</b>	<b>11</b>	<b>34</b>	<b>05</b>	<b>12</b>		<b>519</b>



Sem	Branch	Open (Breakup)		OBC (Break up)		SC (Break up)		ST (Breakup)		PH		Total Enrolment
		Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	
5 <sup>TH</sup> & 6 <sup>TH</sup>	CE	48	03	30	01	16	01	07	01	-	01OB	108
	ME	50	02	24	01	13	-	08	-	01OBPH	01-OB 02-OP	102
	EE	41	08	24	01	16	01	05	02	-	-	98
	ECE	35	02	27	02	13	02	05	03	01 OPPH	-	90
	EIE	08	-	06	02	02	01	01	-	-	01OP	21
	CSE	31	06	19	04	10	03	04	02	01 OPPH	-	80
			<b>213</b>	<b>21</b>	<b>130</b>	<b>11</b>	<b>70</b>	<b>08</b>	<b>30</b>	<b>08</b>	<b>03</b>	<b>05</b>
7 <sup>TH</sup> & 8 <sup>TH</sup>	CE	34	05	29	01	12	-	06	01	01	-	89
	ME	37	04	31	-	15	-	07	01	04	-	99
	EE	38	05	25	02	10	02	06	-	01	-	89
	ECE	34	07	31	04	09	03	03	03	-	-	94
	EIE	03	-	05	01	02	01	03	-	-	-	15
	CSE	25	01	18	03	04	02	03	01	01	-	58
			<b>171</b>	<b>22</b>	<b>139</b>	<b>11</b>	<b>52</b>	<b>08</b>	<b>28</b>	<b>06</b>	<b>07</b>	<b>-</b>
	Grand Total	<b>896</b>	<b>92</b>	<b>520</b>	<b>36</b>	<b>248</b>	<b>33</b>	<b>124</b>	<b>23</b>	<b>32</b>	<b>05</b>	<b>2009</b>

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

The following is a summary table of the number, BTech Students on the roll of NIT Silchar during 2012-13.

### 4.3 Admission

Year	CE	ME	EE	ECE	CSE	EIE	TOTAL
2 <sup>ND</sup>	102	101	102	98	113	31	547
4 <sup>TH</sup>	101	101	96	100	96	25	519
6 <sup>TH</sup>	108	102	98	90	80	21	499
8 <sup>TH</sup>	89	99	89	94	58	15	444
<b>TOTAL- 2009</b>							

#### Statistics

##### (a) Indian Students Admitted

The following table shows the state-wise and course-wise admission statistics with category breakup for the year -2012-13.

SI No	States	Category	CE	ME	EE	ECE	CSE	EIE	Total
1.	Assam	Open	22	22	23	23	23	7	120
		OBC	12	12	12	12	12	4	64
		SC	7	7	5	7	7	3	36
		ST	3	4	4	3	3	1	18
		OPPH	1	1	1				3
		SCPH			1				1
2.	Rajasthan	OBC	1	1	2	1	2		7
		Open	2	1	7	3	8	1	22
		SC		1	1	1		1	4
		ST	2	2	2	1		1	8
		OPPH		1					1
3.	Bihar	OBC	7	8	7	8	6	4	40
		OBPH		1	1				2
		Open	4	4	2	1	1	2	14
		OPPH				1	1		2
		SC	4	4	3	3	4		18
		ST		1		1	1		3

SI No	States	Category	CE	ME	EE	ECE	CSE	EIE	Total
4.	Uttar Pradesh	OBC	4	1	2	2	2		11
		Open	7	9	2	5	5	1	29
		SC	1	1	2	1	1		6
5.	Andhra Pradesh	OBC			1		1		2
		Open	2	3	1	8	2		16
		SC	1	1		1	1		4
		ST				1			1
6.	Jharkhand	OBC		1	1				2
		Open			1				1
7.	Kerala	OBC		1		1	1		3
8.	Tamilnadu	Open			1				1
9.	Punjab	OPPH						1	1
10.	Manipur	SC				1			1
		ST					1		1
11.	Delhi	Open	2	2	1		5		10
		ST				1			1
12.	Haryana	Open	1	1				1	3
13.	Meghalaya	ST	1						1
14.	Arunachal Pradesh	ST	1		1				2
		Open			2				2
15.	J & K	Open				1			1
16.	Orissa	Open		1					1
		SC						1	1
17.	West Bengal	Open			1				1
		SC			1				1
18.	Madhya Pradesh	Open	1		3	1	1		6
19.	Uttarakhand	Open	1	1					2
		ST					1		1
20.	Maharashtra	Open			1	3	1	1	6
		SC					1		1

SI No	States	Category	CE	ME	EE	ECE	CSE	EIE	Total
21.	Foreign 64	Open	15	9	10	6	22	2	
		<b>Total</b>	<b>102</b>	<b>101</b>	<b>102</b>	<b>98</b>	<b>113</b>	<b>31</b>	<b>547</b>



Foreign PHOTO

**(b) Foreign Students Admitted**

The following table shows the admission statistics of foreign students for the year 2012-13.

Sl. No.	Courses	Admitted
1.	Civil Engineering	15
2.	Mechanical Engineering	09
3.	Electrical Engineering	10
4.	Electronics & Communication Engg.	07
5.	Computer Sc. & Engg.	22
6.	Electronics & Instrumentation Engg.	02
<b>Total</b>		<b>65</b>

64 (sixty four) nos. foreign students: 01 no. Palestine, 19 nos. Srilanka, 06 nos. Kenya, 05 nos. Bhutan, 11 nos. Ethiopia including PG, 05 nos. Afghanistan, 05

nos. Bangladesh, 01 no. Zambia, 03 nos. Cameroon, 01 no. Uganda, 02 nos. Congo, 02 nos. Mongolia, 03 Maldives and 01 no. Burundi.

**Course-Wise Admission Statistics (BTech)-2012-13**

Sl No	Courses	Intake Capacity	Admitted	Remarks
1.	Civil Engineering	92	102	The excess intake (over & above the intake capacity) was carried out as distribution foreign students.
2.	Mechanical Engineering	92	101	
3.	Electrical Engineering	92	102	
4.	Electronics & Communication Engg.	92	98	
5.	Computer Sc. & Engineering	92	113	
6.	Electronics & Instrumentation Engg.	30	31	
<b>Total</b>		<b>490</b>	<b>547</b>	

**4.4 MTech, MSc & PhD Enrolment**

The following table shows course admission statistics of PG programmes (MTech, MSc, MBA and PhD) for the year 2012-13.

Dept	Sanctioned Strength	MTech & MSc Specialization	No. of PG Students	
			MTech/MSc/PhD	Total
CE	25	MTech in water Resource Engg.	15	15
	25	MTech in Earthquake Engg. Engg.	17	17
	25	MTech in Transportation Engg.	10	10
	25	MTech in Geotechnical Engg.	09	09
	-	PhD	08	08
ME	25	MTech in Thermal Engg.	20	20
	25	MTech in Design & Manufacturing	20	20
		PhD	09	09
EE	25	MTech in Power & Energy system Engg.	19	19
	25	Control & Industrial Automation	10	10
		PhD	15	15
ECE	25	MTech in Micro-Electronics & VLSI Design	20	20
	-	PhD	07	07
CSE	25	MTech in Computer Science & Engg.	20	20
		PhD	01	01
PHY	25	MSc in Applied Physics	06	06
		PhD	05	05
CHEM	25	MSc in Applied Chemistry	09	09
	-	PhD	04	04

Dept	Sanctioned Strength	MTech & MSc Specialization	No. of PG students	
			MTech/MSc/PhD	Total
MATH	25	MSc in Mathematics	-	-
		PhD	-	-
HSS	-	PhD only	09	09
MS	30	MBA	30	30
<b>Grand Total (MTech + MSc + MBA+ PhD) =</b>			<b>263</b>	<b>263</b>

CE= Civil Engineering, ME= Mechanical Engineering, EE= Electrical Engineering, ECE= Electronics & Communication Engineering, CSE= Computer Science & Engineering, PHY= Physics, CHEM= Chemistry, MATH= Mathematics, HSS= Humanities & Social Sciences, MS=Management Studies.

The following is a summary table of the number of PG students on the roll of NIT Silchar during 2012-13

Courses	CE	ME	EE	ECE	CSE	PHY	CHY	MATHS	HSS	MBA	TOTAL
MTech	65	69	43	29	20	-	-	-	-	-	226
MSC	-	-	-	-	-	06	16	-	-	-	22
MBA	-	-	-	-	-	-	-	-	-	30	30
PhD	23	17	22	15	06	13	14	09	35	-	154
Total	88	86	65	44	26	19	30	09	35	30	432

CE= Civil Engineering, ME= Mechanical Engineering, EE= Electrical Engineering, ECE= Electronics & Communication Engineering, CSE= Computer Science & Engineering, PHY= Physics, CHEM= Chemistry, MATH= Mathematics, HSS= Humanities & Social Sciences.

## 4.5 Students Strength

The following table shows the total student strength on the roll (course wise) of the year 2012-13 at NIT Silchar.

Courses	Branches	Total Students Strength (Course-wise)
UG (BTech)	Civil Engineering	400
	Mechanical Engineering	403
	Electrical Engineering	385
	Electronics & Communication Engineering	382
	Computer Sc. & Engineering	347
	Electronics & Instrumentation Engineering	92

Courses		Branches	Total Students Strength (Course-wise)
PG	MTech	Postgraduate Course (all engineering department)	226
	MSc	Applied Chemistry/Applied Physics/Mathematics	22
	Management studies	MBA	30
	PhD	All departments (Regular & Part-Time)	154
<b>Total (BTech + MTech + MSc+ MBA + PhD)=</b>			<b>2441</b>



(VIEW OF HOSTELS)

## 4.6 The Hostels

The Institute is essential residential and provides hostel accommodation for students. Separate hostel accommodation is available for girl students. It is mandatory for all the students to stay in the hostels. However, under special and extraordinary cases a student may be permitted to live with his/her parents or local guardian at Silchar. Students permitted to stay outside hostels are exempted from payment of mess charges, electricity and water charges pertaining to hostel charges but liable to pay the hostel establishment charges. The name, full address, office and residence telephone number, designation and willingness of local guardian have to be furnished at the time of admission. The hostel room allotment criteria are quite unique and vital which aims to encourage national integrity and international brotherhood.

It is worth mentioning that recreational and other sports facilities like NCC/NSS/Gyansagar are also available to the students in the Institute.

## 4.7 Scholarship/Assistantship Awarded to the Students During 2011-12:

The students, of this Institute, are awarded various types of scholarships. Institutional Merit and Merit-cum-Means scholarships are awarded by the Institute to 25 per cent of the students admitted in NIT Silchar per year or 25 per cent of intake capacity, whichever is less. Two-third of this 25 per cent receives Merit-cum-means scholarship and the rest one-third receives Merit scholarship. Other than this, students also receive various scholarships offered by various State Governments, PSUs, Charitable Trusts/Organizations. During the period under review 302 no. of students received scholarship/stipend from various sources.

Sl No	Name of the Scholarship	Name of the State	Amount of Scholarship Awarded in 2012-13 (RS)	No. of Students Received the Scholarship
1.	ITDP	Assam	4662860/	98
2.	Govt. of Andhra Pradesh	Andhra Pradesh	489000/	14
3.	Govt. of Bihar	Bihar	667895/	17
4.	NEC	Assam	16 26000/	122
5.	Chhattisgarh	Chhattisgarh	20050/	1
6.	ONGC, Indian oil scholarships	IOS	354000/-	8
7.	National Talent Scholarship	-	6000/	1
8.	NEPCO Scholarship	Arunachal	36000/	1
9.	Doctoral Fellowship ICSSR	ICSSR	64000/	1
10.	Engineers India Ltd	EIL	90000/	4
11.	Minority Scholarship	Assam	987520/	22
12.	Central Sector Scholarship	New Delhi	1075218	13

Apart from the aforesaid Scholarships, guardians of our students also avail reimbursement of educational expenditure from their employers like –BSNL, Railways,

& other Govt. / PSUs on our recommendations. Assistantships (MTech / PhD): Students admitted in the MTech & PhD programme in the institute are



awarded Assistantship as per norms of the Institution. To be eligible for this Assistantship, a student must have cleared GATE/NET/UGC exams & must be a regular non-sponsored student. Railway concession service is also provided to students of NIT Silchar from Dean (SW) Office.

## 4.8 Games and Sports

Apart from academic activities, NITians are very enthusiastic in games and sports. Students are involved with football, volleyball, basketball, cricket and other forms of sports. It is an acknowledged fact that NIT Silchar along with its emphasis on

academics gives no less priority to games and sports. Throughout the year, there are a number of games and sports activities, which give ample opportunities to the students to prove their proficiency. Generally at weekends or during holidays internal competitions are held. Regular events like inter-hostel tournaments in various games took place during the year under review as well. Besides this, students participated in competitions organized on the occasions of Republic Day, etc. Our Institute took the initiative in forming Organization for Inter-NIT Student Activities (O-INSA) that co-ordinates extra-academic student activity of all NITs.



## 4.9. Awards

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

(A) Institute Gold Medal			
Sl.No.	Title of the Medal	Department	Awardees
1.	Best BTech Graduate	Electronics & Communication Engineering	Ms Garima Tulsyan

(B) Institute Silver Medals		
Sl.No.	Title of the Medal	Awardees
1.	Best BTech Graduate in Civil Engineering	Shri Manish Kumar Sharma
2.	Best BTech Graduate in Computer Sc. & Engineering	Smt. Meghali Ajitsaria
3.	Best BTech Graduate in Mechanical Engineering	Shri Anand Surana
4.	Best BTech Graduate Electrical Engineering	Shri Kabi Swagat

(C) Kalikrishna Mrinalini Krori Gold Medal			
Sl.No.	Title of the Medal	Department	Awardees
1.	Best BTech Graduate on overall performance, sponsored by Institute of Engineers (India)	Mechanical Engineering	Dhrubajyoti Deka

## 4.10 Examination Details

- Even semester examinations were held in the month of May/June, 2012 (both BTech & MTech & PhD)
- Odd semester examinations were held in the month of December, 2012 (both BTech & MTech & PhD).

### 4.10.1 Statistics of the Results

#### a) End semester examinations Held in May-June, 2012.

Programme	Branch & Course	Number Appeared	Number Passed	Percentage Passed
MTech	Civil Engg. (water Resources Engg.)	05	05	100%
	Civil Engg. (Earthquake Engg.)	05	05	100%
	Civil Engg.(Transportation)	04	04	100%
	Civil Engg.(Geo-technical)	05	05	100%
	Mech. Engg. (Thermal Engg.)	11	10	91%
	Mech. Engg.(Design & Manufacturing)	09	09	100%

Programme	Branch & Course	Number Appeared	Number Passed	Percentage Passed
	Electrical Engg. (Power & Energy system Engg.)	14	14	100%
	Electronics & Comm. Engg. (Microelectronics & VLDI Design)	05	05	100%
MSc	Chemistry (Applied Chemistry)	07	07	100%
BTech	Civil Engg.	72	71	98.61%
	Mechanical Engg.	98	92	93.88%
	Electrical Engg.	95	76	80.00%
	Electronics & Comm. Engg.	102	97	95.10%
	Computer Sc. & Engg.	83	69	83.13%

**b) List of candidates qualified for the Degree of Bachelor of Technology and Master of Technology after 9<sup>th</sup> Convocation held in 20<sup>th</sup> August, 2011 and before End semester Examination held in May, 2012**

Branch	Appeared	Passed
Mechanical Engineering	02	02
Electrical Engineering	02	02
Electronics & Communication Engineering	01	01
Computer Science & Engineering	02	02
Mechanical (Thermal Engineering )	01	01

**c) Summary of Results**

Programme	Branch & Course	Number Appeared	Number Passed	Percentage Passed
MTech	Civil Engg. (water Resources Engg.)	05	05	100%
	Civil Engg. (Earthquake Engg.)	05	05	100%
	Civil Engg. (Transportation)	04	04	100%
	Civil Engg. (Geotechnical)	05	05	100%
	Mech Engg. (Thermal Engg.)	11	11	100%
	Mech Engg.(Design & Manufacturing)	09	09	100%
	Electrical Engg. (Power & Energy system Engg.)	14	14	100%
	Electronics & Comm. Engg. (Microelectronics & VLDI Design)	05	05	100%

Programme	Branch & Course	Number Appeared	Number Passed	Percentage Passed
MSc	Chemistry (Applied Chemistry)	07	07	100%
PhD	Humanities & Social Sc.	03	03	100%
	Electrical Engineering	01	01	100%
	Mechanical Engineering	02	02	100%
	Chemistry Department	02	02	100%
	Mathematics Department	01	01	100%
	Civil Engineering	01	01	100%
BTech	Civil Engg.	72	71	98.61%
	Mechanical Engg.	100	94	94%
	Electrical Engg.	97	78	80.41%
	Electronics & Comm. Engg.	103	98	95.15%
	Computer Sc. & Engg.	85	71	83.53%



Ninth Convocation

## 5. RESEARCH & DEVELOPMENT

### 5.1 Introduction

Research and development is one of the most vital activities of the Institute since its inception. The Institute encourages R & D works that syncs with the global technical advancements, with special emphasis on development of Northeastern region. The synergy of R & D facilities along with the diverse expertise of the faculty and dedicated students, the Institute is touching new heights of Innovation in terms of research. Recently a Research & Promotion Cell has been established in the campus to identify the young budding researchers and provide a unique platform to promote their innovative ideas. The academic curricula of all the disciplines is designed according to the current Industry needs and an initiative has been taken to establish a research park comprising of different pioneers of the Industry through MoUs.

### 5.2 Research Facilities Available:

#### 5.2.1 Laboratories:

1. Structural Engineering Lab
2. Geotechnical Engineering Lab
3. Soil Dynamics Lab
4. Environmental Engineering Lab
5. GIS Lab
6. Hydraulics Lab
7. Energy (Petroleum) Engg. Lab
8. Gas Dynamics Lab.
9. Advanced Manufacturing Lab
10. IC Engine Lab
11. Micro-Nano Manufacturing Lab
12. Computer Vision Lab
13. LEC
14. DEC
15. Microprocessors
16. VLSI
17. Communication
18. Control
19. DSP
20. Advanced Communication
21. Sub threshold Modeling and Simulation lab
22. VLSI under SMDP-II
23. Speech & Signal Processing ((DSBMPAS Project)
24. Up-gradation of Process Control Lab
25. Up-gradation of Control Lab
26. Power Electronics and Electric Drives
27. Power system lab
28. Power system lab with Real time
29. Virtual Nanolab
30. Embedded Systems
31. Power System Protection Lab
32. SCADA Laboratory
33. Power Electronics and Electric Drives
34. Instrumentation& Automation Lab
35. Process Control Instrumentation Lab
36. Circuit & Network Lab
37. Software & Simulation Lab
38. Analog & Digital Electronics Lab
39. DSP & Communication Lab

40. Microcontroller & Embedded System Lab
41. VLSI laboratory
42. State-of-art nanostructures characterization lab
43. Microscience & Nanophysics
44. Multifunctional Materials
45. Liquid crystals
46. Inorganic and analytical Laboratory
47. Environmental Chemistry Laboratory
48. Organic and Analytical Laboratory
49. Soft Computing Laboratory and MSc Laboratory
50. Language Laboratory
51. Computer Laboratory
52. Entrepreneur Incubation Cen

### 5.2.2 Research Promotion Cell:

Research Promotion Cell (RPC) is established in NIT Silchar in December 2012. It aims to provide research funding to BTech, MTech and MSc students of NIT Silchar. The main objective of this cell is to motivate the students to indulge themselves in research work and to facilitate the students to undertake independent research in newly emerging and frontier areas of Science, Engineering and Technology. The cell comprises of one Laboratory and one Seminar Hall with the facilities like 25 no. of computers, printer,



projector, AC, UPS, LAN connectivity etc. The LAB is open to the students on 24×7 basis. It accommodates most of the important meetings of the institute like Technical Programme Discussion Meeting (TPDM) of BARC; vital presentations in connection with R&D, TEQIP-II, Centre of excellence; Dean-Directors meetings etc.

### 5.2.3 PhD programmes Existing & Proposed:

#### a) Civil Engineering:

1. Water Resource Engineering.
2. Geotechnical Engineering.
3. Earthquake Engineering.
4. Environmental Engineering.
5. Transportation Engineering

#### b) Mechanical Engineering:

1. Renewable Energy
2. Alternative Fuels
3. Combustion
4. Computational Fluid Dynamics
5. Thermo-Fluid
6. Energy, productivity & quality management
7. Micro Machining
8. Advanced Manufacturing Process

#### c) Electronics and Communication Engineering:

1. Semiconductor Device Modeling and Simulation
2. Microelectronics & VLSI Design
3. Power Electronics & MEMS
4. Mobile Communication

**d) Electrical Engineering:**

1. Control & Automation
2. Control Systems, Fault Detection and Diagnosis, Industrial Automation
3. Power Electronics and Energy Systems
4. Power system Interconnection and control (Automatic generation control)
5. Leakage Minimization in CMOS VLSI
6. CNT FET based circuits for VLSI Applications
7. Single-Electron Transistors for Sensor Applications
8. Image Processing

**e) Electronics and Instrumentation Engineering:**

1. Transducers & Sensors
2. Microelectronics & VLSI Design
3. Biomedical Signal Processing
4. Instrumentation, Industrial Instrumentation
5. Data acquisition
6. Process Control

**f) Physics:**

1. Binary oxide for RRAM, Thin Films, Semiconductor nanostructures
2. Liquid Crystals
3. Ferroelectrics and Multiferroics

**g) Chemistry:**

1. Environmentally methodologies for developing of existing/newer reagents and their application in selected organic transformation.
2. Water treatment, adsorption

3. Synthesis of organo-sulfur compounds and their applications
4. Adsorption and its application for removal of toxic materials from water
5. Chemical and biological synthesis of nano materials and their applications

**h) Mathematics:**

1. Fuzzy Optimization
2. Evolutionary Optimization
3. Fuzzy set & Fuzzy Logic
4. Fuzzy Differential Equations
5. Fuzzy Probability
6. Numerical Optimizations
7. Fuzzy Functional Analysis
8. Elasto-Dynamics
9. Complex Analysis
10. Signal Processing
11. Complex Dynamics
12. Fractal Geometry
13. Uncertainty Modeling
14. Elliptic PDEs, Stokes equation
15. Fuzzy Numbers

**i) Humanities and Social Sciences:**

1. Society, economy and politics of North Eastern Region
2. North Eastern Region and the neighbouring countries
3. Language, literature and gender studies
4. Agriculture, forest and environment
5. Education, governance, conflict management and development

## 5.2.5 Details of PhD:

Sl. No.	Department	Completed	Submitted	Ongoing
1.	Civil Engineering	01	01	21
2.	Mechanical Engineering	02	01	16
3.	Computer Science & Engineering	01	01	04
4.	Electronics & Communication Engineering	00	01	13
5.	Electrical Engineering	01	00	23
6.	Electronics & Instrumentation Engineering	00	00	00
7.	Physics	00	00	13
8.	Chemistry	02	00	13
9.	Mathematics	02	00	08
10.	Humanities and Social Sciences	02	00	29
11.	Management Studies	00	00	00
<b>Total</b>		<b>11</b>	<b>04</b>	<b>140</b>

## 5.2.6 Journal / Books / Chapter / Conference Publication Details:

Sl. No.	Department	Books/Chapter	Journals	Conference
1.	Civil Engineering	00	02	16
2.	Mechanical Engineering	02	46	20
3.	Computer Science & Engineering	00	00	02
4.	Electronics & Communication Engineering	00	13	13
5.	Electrical Engineering	00	21	38
6.	Electronics & Instrumentation Engineering	00	05	02
7.	Physics	00	07	00
8.	Chemistry	00	07	04
9.	Mathematics	03	05	06
10.	Humanities and Social Sciences	01	05	01
11.	Management Studies	00	00	00
<b>Total</b>		<b>06</b>	<b>111</b>	<b>102</b>

## 5.2.7 Institute Industry Collaboration:

To keep up with the increasing demand of *Industry Ready Professionals* and establish the Institute as a research oriented centre of excellence, NIT Silchar thrives hard to establish Institute-Industry Collaboration. The Institute-Industry collaborations has been executed in various

modes, such as Testing, Consultancy Project, and Joint Research Project etc. The institute being located in an industrially backward area, in spite of best efforts, it has not been possible to establish substantial interaction with industry during the year under review. However, a few consultancy and testing jobs have been carried



out in this reporting year. Various MoUs have been signed during the session 2012-13 for a fruitful Institute-Industry Collaboration. The Institute has earned Rs.17,97,220.00 as Institute Overhead from different consultancy projects in this reporting year. Department

of Scientific & Industrial Research, Government of India has identified the Institute as TePP Outreach Centre (TUC) under Technoprenuer Promotion Programme (TEPP). Through TUC activities, interaction with industries will improve.

#### List of MOU's with Industry / Research Organization

Sl. No	Name of the Industry/Research Institute	Purpose	Year
1.	National Instruments, Bangalore	To set up National Instruments Centre of Excellence in Instrumentation.	October, 2012
2.	Bhabha Atomic Research Centre, Mumbai	AKRUTI TECH PACK for development in rural sector	November, 2012
3.	National Institute of Technology, Srinagar	To support academic programs and research activities	December, 2012
4.	M/S Brigosha Technologies Pvt. Ltd	To promote the incubation Cell of the institute and accordingly provide a business support and technology transfer initiative for various sectors in the multidisciplinary areas of science and technology.	March, 2013
5.	ETH Limited, Pune	Development of ICT in education KVNIT and develop business model to promote entrepreneurship in students and local community for implementing ICT in education for the improvement of quality education of the region .	March, 2013

## 6. THE COUNCIL, BOG AND SENATE

### 6.1 NIT Council

The Composition of the Council is as under:

1.	Minister in charge, Ministry of Human Resource Development, Govt. of India	Chairman (ex-officio)
2.	Secretary to the Govt. of India, Deptt. of Higher Education, Ministry of Human Resource Development	Vice-Chairman (ex-officio)

3.	The Chairperson of National Institutes of Technology located at – Agartala (Tripura), Allahabad (UP), Bhopal (Madhya Pradesh) Calicut (Kerala), Durgapur (West Bengal), Hamirpur (Himachal Pradesh), Jaipur (Rajasthan), Jalandhar (Punjab), Jamshedpur (Jharkhand) Kurukshetra (Haryana), Nagpur (Maharashtra), Patna (Bihar), Raipur (Chattisgarh), Raourkela (Orissa), Silchar (Assam), Srinagar (J&K), Surat (Gujarat), Surathkal (Karnataka), Tiruchirapalli (Tamil Nadu) and Warangal (Andhra Pradesh)	Member(ex-officio)
4.	Director of every National Institute of Technology	Member(ex-officio)
5.	The Chairman, University Grant Commission	Member(ex-officio)
6.	The Director General, Council for Scientific & Industrial Research	Member(ex-officio)
7.	Secretary, Department of Bio-Technology, Govt. of India	Member(ex-officio)
8.	Secretary, Department of Atomic Energy, Govt. of India	Member(ex-officio)
9.	Secretary, Department of Information Technology, Govt. of India	Member(ex-officio)
10.	Secretary, Department of Space, Govt. of India	Member (ex-officio)
11.	The Chairman, All India Council for Technical Education	Member(ex-officio)
12.	Not less than three, but not more than five persons to be nominated by the Visitor, at least one of whom shall be a women, having special knowledge or practical experience in respect of education, industry, science or technology	Member
13.	Three Members of parliament, of whom two shall be chosen by the House of People and one by the Council of States	Member
14.	Two Secretaries to the State Govt. of Maharashtra, from amongst the Ministries or departments of that government dealing with technical education	Member(ex-officio)
15.	The Financial Advisor, Ministry of Human Resource Development, Govt. of India	Member-Secretary (ex-officio)
16.	Joint Secretary to the Govt. of India (Technical)/Additional Secretary (Technical)/ Department of Higher Education, Ministry of Human Resource Development	Member(ex-officio)

## 6.2 Board of Governors

Sl. No.	Name and Address	Position
1.	Prof. Asis Datta, Professor of Eminence, NIPGR, Delhi	Chairperson
2.	Prof. N.V. Deshpande, Director, NIT Silchar (Ex-officio)	Member
3.	Joint Secretary (Technical), MHRD, Deptt. of Higher Education, Govt. of India, Shastri Bhavan, C-Wing, New Delhi	Member
4.	Financial Adviser & Jt. Secretary, Deptt. of Higher Education, MHRD, Govt. of India, New Delhi	Member

Sl. No.	Name and Address	Position
5.	Principal Secretary, Govt. of Assam, Higher Education (Tech.) deptt., Guwahati	Member
6.	Director of Technical Education, Govt. of Assam, Guwahati	Member
7.	Prof. S.Dhar, Head of Electronics Sciences, University of Calcutta, Kolkata	Member
8.	Prof. Uma Bhattacharya, Deptt. of CSE, B.E.S.U., Sibpur, Howrah	Member
9.	Prof. A.K. Roy, Professor Deptt. of EE, NIT Silchar	Ex-officio Member
10.	Mr. P.L. Choudhury, Assoc. Professor, Deptt. of ME, NIT Silchar	Ex-officio Member
11.	Sri P.K. Paul, Assoc. Professor, Deptt. of CSE, NIT Silchar(w.e.f. 29 <sup>th</sup> Aug'11 to 18 <sup>th</sup> Feb'13) Sri Sanjay Srivastav , Registrar (I/C), (w.e.f. 19 <sup>th</sup> Feb'13 )	Ex-officio Secy

### 6.3 Finance Committee

Sl No	Name and Address	Position
1.	Prof. Asis Datta, Professor of Eminence, NIPGR, Delhi	Chairperson
2.	Prof. N.V. Deshpande, Director, NIT Silchar (Ex-officio)	Member
3.	Director (NITs), Deptt. of Higher Education, MHRD, Shastri Bhavan, C-Wing, New Delhi	Member
4.	Director (Finance), MHRD, Govt. of India, New Delhi	Member
5.	Prof. A.K. Roy, Professor, Deptt. of E.E., NIT Silchar Mr. P.L. Choudhury, Assoc. Professor, Deptt. of M.E., NIT Silchar	Ex-officio Member
6.	Sri P.K. Paul, Assoc. Professor, Deptt. of CSE, NIT Silchar (w.e.f. 29 <sup>th</sup> Aug'11 to 18 <sup>th</sup> Feb'13) Sri Sanjay Srivastav , Registrar (I/C), (w.e.f. 19 <sup>th</sup> Feb'13 )	Ex-officio Member-Secy

### 6.4 Building and Works Committee

Sl. No.	Name and Address	Position
1.	Prof. N.V. Deshpande, Director, NIT Silchar (Ex-officio)	Chairperson
2.	Director (NITs), Deptt. of Higher Education, MHRD, Shastri Bhavan, C-Wing, New Delhi	Member
3.	Supdt. Engineer (Civil) , CPWD, Silchar	Member
4.	Executive Engineer (Elect), CPWD, Silchar	Member
5.	Prof. P.S. Choudhury, Dean (P&D), NIT Silchar	Member
6.	Prof. S. Choudhury, HOD Civil Engg. Deptt. NIT Silchar (w.e.f. )	Member (Nominee)
7.	Sri P.K. Paul, Assoc. Professor, Deptt. of CSE, NIT Silchar(w.e.f. 29 <sup>th</sup> Aug'11 to 18 <sup>th</sup> Feb'13) Sri Sanjay Srivastav , Registrar (I/C), (w.e.f. 19 <sup>th</sup> Feb'13 )	Member-Secy

## 6.5 The Senate

Sl. No.	Name and Address	Position
1.	Prof. N.V. Deshpande, Director, NIT Silchar (Ex-officio)	Chairperson
2.	Prof. A.K. Roy, Deptt. of EE, NIT Silchar	Member
3.	Prof. A.K. Sil, Deptt. of Chemistry, NIT Silchar	Member
4.	Prof. A.K. Sinha, Deptt. of EE, NIT Silchar	Member
5.	Prof. K.M. Pandey, Deptt. of ME, NIT Silchar	Member
6.	Prof. Fazal A. Talukdar, Deptt. of EE, NIT Silchar	Member
7.	Prof. Nidul Sinha, Deptt. of EE, NIT Silchar	Member
8.	Prof. A.K. Dey, Deptt. of CE, NIT Silchar	Member
9.	Prof. Satyabrata Choudhury, HOD, Deptt. of CE, NIT Silchar	Member
10.	Prof. S. Baishya, Deptt. of ECE, NIT Silchar (upto 8 <sup>th</sup> Nov'11)	Member
11.	Prof. P.S. Choudhury, Deptt. of CE, NIT Silchar	Member
12.	Prof. A.C. Paul, Deptt. of ME, NIT Silchar	Member
13.	Prof. R.D. Misra, HOD, Deptt. of ME, NIT Silchar	Member
14.	Dr. Asim Roy, Asst. Prof. & HOD, Deptt. of Physics, NIT Silchar	Member
15.	Dr. Ashim Kr. Das, Deptt. of HSS, NIT Silchar (upto 16 <sup>th</sup> Feb'12)	Member
16.	Prof. Purusottam Bhattacharjee, Deptt. of International Relation, Faculty of Arts, Jadavpur University, Kolkata	Member
17.	Prof. Mita Nasipuri, Deptt. of CSE, Faculty of Engineering & Technology, Jadavpur University, Kolkata	Member
18.	Prof. N.V.S. Rao, Deptt. of Chemistry, Assam University, Silchar	Member
19.	Prof. Gurudas Das, HOD, Deptt. of HSS	Member
20.	Mr. Bijan Nath, Assoc. Prof & HOD, Deptt. of Mathematics	Member
21.	Dr. S. H. Laskar, Assoc. Prof & HOD, Deptt. of E & I	Member

## 7. CONCESSION FOR SC, ST AND HANDICAPPED STUDENTS

### 7.1 Concession Provided for Students

The admission to 1st year of BTech course is made through the All India Engineering Entrance

Examination (AIEEE) conducted by CBSE and reservation of seats for SC, ST and OBC, persons with disability (PwD) category of candidates is followed as per the guidelines framed by Ministry of Human Resource Development, Govt. of India, Department of Secondary and Higher Education. The Institute follows Government of India reservation policy for SC/ST/OBC/PwD as below-

#### Concessions Provided in Admission of Students

Course	Types of Concessions	Category of Students	Magnitude
BTech	Reservation at admission stage	ST	7.5%
		SC	15%
		PwD	3%
		OBC	27%
	Foreign and other category of students	24 seats (over and above sanctioned intake)	
7 (seven) seats are reserved for physically handicapped candidates against Assam quota within the overall seat allotment of Assam			
MTech	Reservation at admission stage	ST	7.5%
		SC	15%
		PH	3%
		OBC	27%

**BTech:** No concession is provided to the SC, ST and PH students for payment of tuition fees.

**MTech and PhD:** ST/SC students are exempted from the payment of tuition fees. Institute faculty joining PhD programmes are exempted from the payment of all fees except a token registration fee of Rs. 100.00 per semester to encourage them to complete their PhD at the earliest.

### 7.2 Concession Provided for Staff

Statutory reservation policy and concession admissible for SC/ST/OBC communities (in line with the Government of India reservation policy) are extended during recruitments at teaching and non-

teaching level posts. Institute faculty joining PhD programmes are exempted from the payment of all fees except a token registration fee of Rs. 100.00 per semester to encourage them to complete their PhD at the earliest.

## 8. FINANCIAL STATUS

### 8.1 Analysis of Plan, Non-Plan and OSC Grants (Rupees in Lacs)

Sl No.	Particulars	Non Plan	Plan
1	Opening balance as on 01.04.2012	-280.48	3137.07
2	Grants-in-aid received from GOI during the year 2012-13	3989.00	9528.00
3	IRG during the year 2012-13	621.62	0
4	Total (1+2+3)	4330.14	12665.07
5	Expenditure during the year 2012-13	3290.01	8615.50
6	Balance as on 01.04.2013	1040.13	4049.57

### 8.2 Sources of Funds

**Plan** Grant-in-Aid sanctioned by the Govt. of India (MHRD on ¼ installments in a financial year

**Non-Plan** (I). Grant-in-Aid sanctioned by the Govt. of India (MHRD) and

(II). Revenue from Institute

**TEQIP-II** During the period under report the institute received a grant of Rs.500 lacs from the Government of India under World Bank assisted Technical Education Quality Improvement Programme (TEQIP-II)

### 8.3 Expenditure Position for Staff

SCHEDULE - 11. ESTABLISHMENT EXPENSES	Rupees in Lacs
Pay & Allowances	<b>1865.83</b>
Pay of Adhoc Staff / Visiting Teachers	88.60
Pay of Muster Roll	90.05
Contribution to CPF	90.79
Medical Expenses including reimbursement	18.58
Leave Salary to Staff	46.48
Bonus	11.61
Contribution to Gratuity fund	100.32
Contribution to New Pension Scheme	7.46
Pension	41.31
L.T.C. Expenditure	16.25
H.T.C. Expenditure	4.98
Security Services	141.36

<b>SCHEDULE - 11. ESTABLISHMENT EXPENSES</b>	<b>Rupees in Lacs</b>
House Keeping	23.90
Professional Development Allowance	21.80
Staff Welfare Expenses	5.77
Children Education Allowance	13.30
<b>TOTAL</b>	<b>2588.39</b>

## **8.4 Technical Education Quality Improvement Programme - Phase-II [TEQIP-II]**

(Rs. in lacs)

<b>Opening Balance as on 01.04.12</b>	<b>177.24</b>
Grants-in-aid received during the year from MHRD, GOI	<b>500.00</b>
Interest Earned during the year	<b>10.41</b>
<b>Expenditure Incurred during the year</b>	<b>175.01</b>
<b>Balance as on 01.04.2013</b>	<b>512.64</b>

### 8.5 Statement of the on-going Project Accounts: (DST/MCIT/DSIR/AICTE PROJECT)

Month & Year	Name of the Project	Name of Project Coordinator	Grants Sanctioned up to 31.03.13	Interest Earned	Total	Expdr. Up to 31.03.13	Refund to Ministry	Balance as on 01.04.2013
<b>MCIT PROJECT:</b>								
Nov, 2005 Oct 2012	SMDP-II	Mr. K.L. Baishnab	4100000	173,481	4,273,481	3,804,361	0	469,120
<b>DST &amp; DSIR PROJECTS:</b>								
Nov, 2007	Management of Soil Land Resources	Dr. D Chakraborty	1100000	120,653	1,220,653	627,410	0	593,243
Apr, 2008 to Aug 2010	ANN-GA-ANFIS Models Dev. For Flood..	Dr. P S Choudhury	600000	29,760	629,760	628,563	0	1,197
Jun, 2008 to Oct 2009	Solvent Free Oxidation & Bromination..	Dr. S.S. Dhar	655000	25,014	680,014	678,174	0	1,840
May, 2009 to Sept 2012	River Bank Erosion & Its Counter..	Dr. A K Barbhuiya	2406300	325,506	2,731,806	2,155,627	0	576,179
Aug, 2009	Energy Quality & Productivity ... KVIC	Dr. K M Pandey	510600	65,038	575,638	223,759	0	351,879
Aug, 2009	Extraction of Pineapple Fibre ... KVIC		568100	65,039	633,139	347,654	0	285,485
Apr, 2010	L-moments Based Regional Extreme	Dr. P S Choudhury	1684000	122,768	1,806,768	680,998	0	1,125,770
May, 2010	Behaviour of Clay Dampers	Dr. A K Dey	2990000	270,850	3,260,850	351,409	0	2,909,441

(Amount in Rs.)



MINISTRY OF DEFENCE ( NRB, GOI)												
Nov' 2011	Development of Carbon Nanotube Reinforced.....	Dr. Smrutisikha Bal	1020000	40,941	1,060,941	446,855	0	0	614,086			
<b>AICTE PROJECTS: (Research Professional Scheme)</b>												
Mar, 2009	Experimental Investigation of Surface ..	Dr P K Patowari	2000000	195,489	2,195,489	1,863,245	332,244	0	0			
Mar, 2009	Subthreshold Modeling & Simulation ..	Dr S Baishya 94355 65856	1000000	112,524	1,112,524	1,112,524	0	0	0			
Mar, 2009	Scour of Bridge Piper in Choshesive	Dr A K Barbhuiya	1700000	203,098	1,903,098	853,813	1,049,285	0	0			
Mar, 2009	Characterisation of Flyash from Paper	Dr Ruma Rano	2000000	245,741	2,245,741	20,275	2,225,466	0	0			
Mar, 2009	Appl. of Intelligent Techniques ...	Dr. N Sinha	500000	60,598	560,598	63,191	497,407	0	0			
Mar, 2009	Non-Conventional Energy Systems	Dr A K Roy	2000000	246,392	2,246,392	1,207,521	1,038,871	0	0			
Mar, 2009	Reduction of Stress Wave Amplitudes	Dr A K Dey	2000000	227,520	2,227,520	970,398	1,257,122	0	0			
Mar, 2009	Industry Institute Partnership Cell	Dr. Gurudas Das	1000000	116,830	1,116,830	566,211	550,619	0	0			
Mar, 2011	Studies of Co-operative Assistance to ...	Dr P Barman	1000000	92,429	1,092,429	41,060	0	1,051,369				
Mar, 2011	Dev of surface Modifies Adsorbents ..	Md. A Zzaman	1000000	92,429	1,092,429	21,560	0	1,070,869				
Mar, 2011	Study of Bi-Layered Perovskite Oxides ..	Dr Asim Roy	1750000	163,193	1,913,193	1,675,854	0	237,339				
Mar, 2011	Seismic Performance of Beam-Column ..	Dr A I Laskar	900000	82,511	982,511	908,091	0	74,420				

(Contd..)

(Continuation)

Month & Year	Name of the Project	Name of Project Coordinator	Grants Sanctioned up to 31.03.13	Interest Earned	Total	Expir. Up to 31.03.13	Refund to Ministry	Balance as on 01.04.2013
Mar, 2011	Investig. of some Binary Metal Oxide	Dr F A Talukdar	1840000	171,414	2,011,414	1,538,880	0	472,534
Apr' 2012	Development of an Enzymatic Process	Mr. Sushovan Chatterjee	1040000	61,978	1,101,978	0	0	1,101,978
Apr' 2012	Design ,Simulation & Implementation....	Dr. Saurabh Choudhury	800000	47,676	847,676	19,299	0	828,377
Apr' 2012	Design & Implementation of Pure Sine	Dr. A. K. Goswami	1500000	89,392	1,589,392	0	0	1,589,392
Apr' 2012	Synthesis & Characterisation of BST-	Dr. Basana Choudhury Dr. S. K. Barik	1600000	95,351	1,695,351	349,652	0	1,345,699
Apr' 2012	Automatic Generation Control for Aotonomous....	Mr. Dulala Chandra Das	1500000	89,391	1,589,391	0		1,589,391
Apr' 2012	Utility of Paratransit Modes in Regional	Dr. M. Ali Ahmed	1750000	104,290	1,854,290	0	0	1,854,290
<b>MCIT (DEIT, GOI)</b>								
April'2012	Development of Speech based Multi- level....	Mr. R.H. Laskar	2792000	166,388	2,958,388	1,309,485	0	1,648,903
<b>ICSSR Project :</b>								
Jun,2012	Agricultural Development and Env.....	Dr. N.B Singh	339825	8,127	347,952	60,081	0	287,871
<b>SERB</b>								
Dec'2012	Power Quality Assessment and Improvement in Barak Valley	Dr. Arup Goswami	706000	0	706,000	251,105	0	454,895

MINISTRY OF NON-RENEWABLE ( GOI)									
Mar'2013	Reginal Test Centre cum Technology Back-up Unit.....	Mr. Agnimitra Biswas	2500000	0	2,500,000	0	0	0	2,500,000
<b>AICTE PROJECTS: (MODROBS)</b>									
Mar, 2009	Power Electronics & Electric Drives Lab	Dr N Sinha	1000000	129,004	1,129,004	998,450	130,554	0	0
Mar, 2009	Mod of DSP and Embedded Lab	Mr. K L Baishnab	1200000	121,267	1,321,267	1,229,000	92,267	0	0
Mar, 2009	Mod of Structural Egg. Lab	Dr A K Dey	1500000	193,554	1,693,554	0	1,693,554	0	0
Mar, 2009	Geotechnical Egg. Lab	Dr A K Dey	1200000	114,748	1,314,748	1,036,788	277,960	0	0
Mar, 2009	Mod of Earthquake Egg. Lab	Dr A K Dey	1500000	144,258	1,644,258	1,292,986	351,272	0	0
Mar, 2009	Mod of GIS Lab under Civil Egg	Dr A K Dey	1500000	193,555	1,693,555	0	1,693,555	0	0
Apr' 2012	Refrigeration & Air Conditioning Lab	Prof. R. D. Mishra	1500000	67,921	1,567,921	0	0	0	1,567,921
Apr' 2012	Modernisation of Thin Film Laboratory	Dr. Asim Roy	1000000	45,281	1,045,281	0	0	0	1,045,281
Apr' 2012	Up- Gradation of Highway Engineering Laboratory	Prof. P. Rajbongshi	1350000	61,129	1,411,129	59,231	0	0	1,351,898
Apr'2012	Heat Transfer Lab	Prof. R. D. Misra	800000	36,224	836,224	0	0	0	836,224
<b>Total Rs.</b>			<b>61,401,825</b>	<b>5,018,752</b>	<b>66,420,577</b>	<b>27,393,510</b>	<b>11,190,176</b>	<b>0</b>	<b>27,836,891</b>

## 9. CENTRAL FACILITIES AND SERVICES

### 9.1 Central Computer Centre

HEAD		
Name	Qualification	Specialization Area(s)
Mr. Kumar Mithilesh (Sr.Technical Officer)	MCA	Networking & server Services
Technical Officer		
Prabodh Meshram	BTech	network

#### 9.1.1 Facilities:

##### a) Internet Facility

For uninterrupted Internet access, Internet Bandwidth services of 16 Mbps leased line along with 1 Gbps NKN Link as well as 64Kbps ERNET link are available for the users to serve the heavy bandwidth demand at NIT Silchar.

##### b) Network Facility

NIT Silchar has a gigabit network with gigabit backbone. The institute network is built with

modern, sophisticated, state of the art fiber optic cable & network switches. The Central Computer centre of the institute acts as the centre of the institute network. The CCC administers and maintains this network. All the departments/offices are connected to this network by edge switches and are configured as separate VLAN's. All the Hostels are also connected to the institute via. dedicated distribution switch and every room is provided with a data outlet.

### 9.2 Central Workshop

Head		
Name	Qualification	Remarks
Prof. P. K. Patowari	PhD	Head, Mech Engg.
Workshop Superintendent		
Mr. S.K. Pattanayak	ME	Faculty-in-charge
Foreman		
Mr. B. K. Nath	Diploma	

#### 9.2.1 Facilities:

The workshop of the Mechanical Engineering Dept. acts as a Central Workshop of the Institute. It is one of the major service sections of the Institute having the following units:

##### a) Machine Shop

- Lathe (GD lathe, Capstan lathe, Turret lathe, Speed lathe, All Geared Sliding Surface Screw Cutting Lathe)

- Milling machine (Horizontal and vertical)
- Surface Grinder
- Shapper
- Double Housing Planner
- Slotter
- Radial Drilling machine

#### b) Fitting Shop

- Bench Drilling machine
- Power Hacksaw
- Fitting Tables with vices
- Wall mounted Grinding machine
- Pedestal Grinder

#### c) Carpentry Shop

- Carpentry Tables with vices
- Wood Turning lathe
- Surface planner
- Thickness planner

#### d) Welding Shop

- Oxy-Acetylene Gas Welding
- Arc Welding
- TIG
- MIG
- Submerged Arc Welding

#### e) Smithy Shop

- Hearth Furnace
- Blower

#### f) Foundry Shop

- Furnace
- Mould making
- Core making
- Pattern making
- Sieve analyzer
- Permeability tester

#### g) Sheet Metal Shop

- Bending machine
- Shearing machine

All the shops are equipped with necessary tools. Common workshop classes are held in the workshop along with workshop classes for higher semesters of Mechanical Engineering branch. Different project works for the undergraduate students are also carried out in the workshop. The workshop is well equipped for the project works of the PG students of the Department. However, continuous efforts are being taken to augment the facilities of the workshop commensurate with the change in technology. The workshop is also used for fabrication work for the Institute.

### 9.3 Central Library

Central Library plays a pivotal role in the academic and research activities of NIT Silchar by providing facilitates for creation and dissemination of knowledge. It acts to be the hub of all research and academic activities by playing significant role for facilitating creation and dissemination of knowledge during the year 2012-13. It aims to provide quality service at par with IITs by providing information support to the institute fraternity and service including references, consultation, membership, circulation, resource

sharing, information alert services, book bank for needy students, user awareness programmes and ICT-enabled web based services to support the institute's learning, teaching and research activities throughout the year.

The Library has developed its collection by acquiring latest information resources during the year. The Central Library is one of the biggest technical libraries in North-East India and its web site address is: <http://www.nits.ac.in/library/library.html#page=default>

The range of services offered by the library is comparable to the best libraries in the eastern zone of India. Library is holding an excellent print collection of

over 85625 volumes of books, journals, thesis, reports, and standards; in addition to that it also provides access to over 5000 electronic books, journals and databases in sciences, engineering, technology, humanities, social sciences and management. The library continued to offer its services to professionals, educational institutes in addition to 2500 members from NIT Silchar. The library has made a significant progress during the year 2011-12 in the aspect of procuring e-journals and databases. Recently, the present Director has taken special interest for the development of library and he has taken keen initiative for extension of the new library building.

The key officers of the Central Library are:

Chairman		
Prof. A.K. Dey	MTech, PhD	Civil Engg
Librarian		
Dr. Kishor Chandra Satpathy	MA (Edu), MLISc, PGDLAN, PhD	Information Management, IT Application in LIS
Asth. Librarian		
Ms. Krishnamati Singha	BSc, MLISc, MBA (HRM)	Library Management

### 9.3.1 Budgetary Details

Central Library received a projected allocation of Rs. 100.00 lacs under Plan-Head and Rs.200.00 lacs under Non-Plan during the financial year 2012-13. Out of the allocation of Plan funds Rs. 51,92,225.00 lacs have been utilized for purchase of books, and out of Non-

Plan grant Rs. 1,26,51,006.00 has been utilized for subscription of printed journals/ e-Books/e-Journals and rest for day-to-day operation of the library.

Below table gives the detailed expenditure incurred on books and journals from 2010-11 to 2012-13:

#### Details Expenditure:

Year	Books	Printed Journals/ Magazine	Online Journals	Contingency	News paper & Magazines
2010-11	54,33,589.00	1,82,539.00	45,78,793.00	34,750.00	9495.00
2011-12	22,92,252.00	54,870.00	1,23,95,726.00	1,18,898.00	14148.00
2012-13	51,92,225.00	1,01,960.00	1,25,49,046.00	2,30,847.00	17086.00

### 9.3.2 Membership Details:

Sl No	Members	2010-11	2011-12	2012-13
1.	BTech	1650	1860	1960
2.	MTech	122	125	150
3.	MBA	0	0	24
4.	MSc	14	14	14
5.	PhD	90	127	162
6.	Academic Staff (Teaching)	86	83	110
7.	Non-Academic	22	20	25
<b>Total</b>		<b>1984</b>	<b>2229</b>	<b>2445</b>

### 9.3.3 Collection Development and Management:

Collection building is one of the important functions of the library, which supports academic and research activities of the students, faculty, staff and other users.

Library collections of central library consist of books, CDs, journals, e-resources, theses, reports, standards, and other reading materials in areas of science, engineering, technology, humanities, social sciences and management.

#### The Total Collection of library as on 31<sup>st</sup> March 2013 Stands as Follows:

Sl No	Name of Resources	Availability as on 31 <sup>st</sup> March 11	Total Number Available as on 31 <sup>st</sup> March 12	Total Number Available as on 31 <sup>st</sup> March 13	No of Documents Added During the Year
1.	Books	78068	81274	85625	4351
2.	Print Journals	141	131	125	
3.	Bound Volumes	4321	4771	4771	
4.	CD-ROMs	3074	3287	3465	178
5.	Databases	20	20	20	
6.	Videos	909	909	909	
7.	ISI Code (Printed)	8627	8627	8627	
8.	Book Bank (General)	8836	8836	8836	
9.	Book Bank (SC/ST)	7743	7810	7895	85
10.	IRC Codes	152	152	152	
11.	Thesis	16	18	20	2
12.	Dissertation (MTech/MSc)	64	67	129	62
13.	Reports/ Annual Reports	213	193	279	86

New arrivals of books, journals, theses and reports etc. can be accessed on the library home page. An email alert is also sent to the requesting faculty member(s) about the arrival of publications requested by them.

Library has taken special care to keep the library stacks neat and clean and also provides facilitate to users to locate the desired document quickly.

### 9.3.4 Book Bank Facility

The library maintains a book bank facility to help students belonging to Scheduled Castes, Scheduled Tribes and economically weaker sections of the society. The book bank mainly consists of the prescribed text books for undergraduate courses and loans up to 5 books each to these students for full semester and sometimes more depending on availability. During the year, 400 students availed this facility and borrowed 3050 books from this collection.

### 9.3.5 Library Services

#### Reference, Consultation & Circulation

Reference service helps users to make full use of library resources and services. It provides necessary assistance to users in locating information or document of their choice. The books circulation activities have been automated and serve the users. The books circulation service is kept open for 40 hours a week. The Library loaned around 56,320 books and other documents to 2200+members during the year 2012-13. In addition to members, 1250 visitors including students, research scholars, engineers and faculty members from several academic and R&D institutions visited the library. It opens from 0900 to 1800 hrs on all working days. "Ask the Librarian" link provided from the library home page for encouragement of library users to avail the resources/services virtually.

### Sharing of Resource and Scan Service

The library maintains excellent relations with libraries of Assam University, and other local college libraries in Southern Assam and also with DELNET for exchange of books, journals, photocopies etc. for the mutual benefit of the users. Library provides scan services for books, back-volumes, journals etc. to students and research scholars with free of cost.

### Information Seeking Services

The library continues to provide the users about the latest information of their interest by:

- List of Additions, new arrivals
- News items display
- Display of Forthcoming conferences, other national and international events, employment opportunities, and prospectus of foreign universities.

Web OPAC (Search Library Catalogue): The entire Library collection including books, journals, etc. can be searched through the web enabled Online Public Access Catalogue (OPAC). Users can access the OPAC to find out the real-time availability of library materials from their own computer terminals. The URL is: <http://192.168.134.2:8080/jopacgw>





### 9.3.6 Digital Library

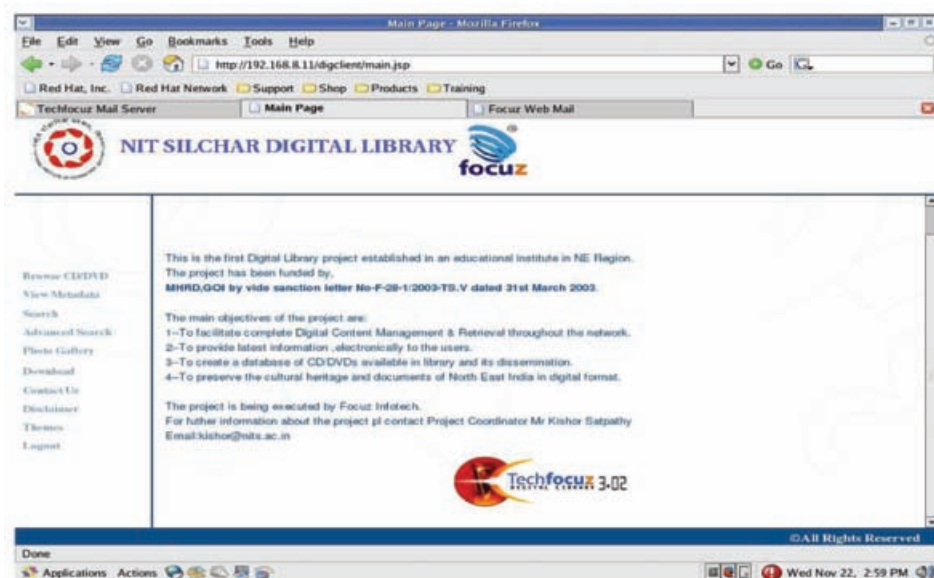
Central Library has created a web portal for e-resource management (<http://122.160.76.157:8081/nitsilchar/>), which provides web-based access to its electronics journals, e-books and databases. It has set up a digital library & e-learning portal for the NIT, Silchar community. The library is a part of the institute-wide network and has adequate computing infrastructure to cater to the needs of the users.

Central Library has successfully completed the digital library & virtual classroom project sponsored

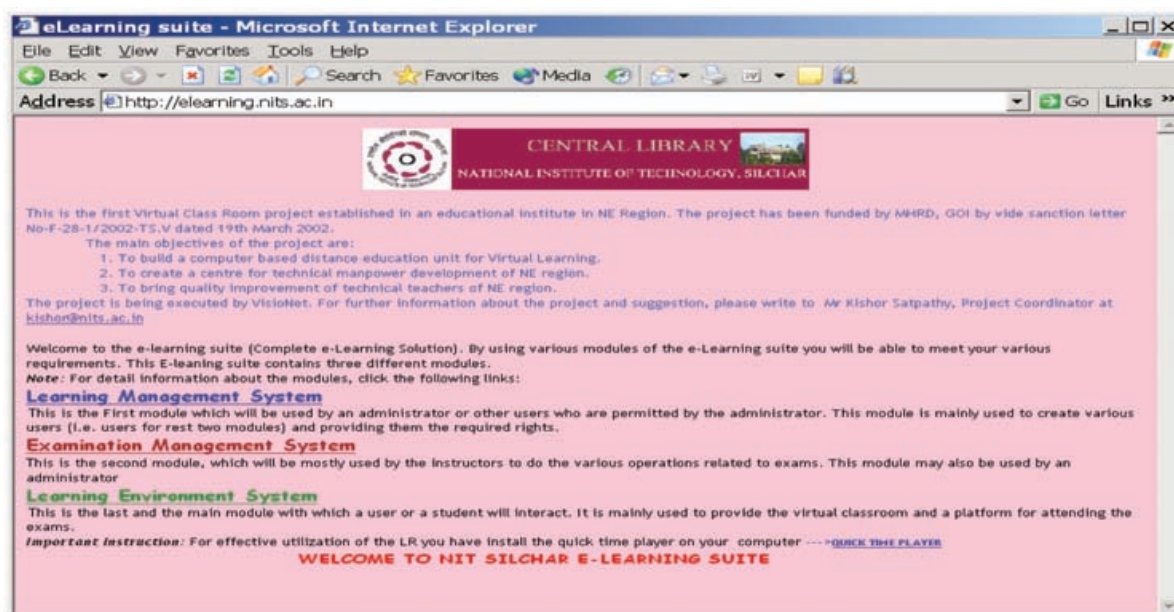
by MHRD, Government of India. Under the Digital Library project, the library will digitalize old rare & books, manuscripts and documents. 300 E-books have already been put in the digital library server for the access of the student in the campus LAN. Under this project, library has scanned the photographs of the institute and its programs and has created a digital photo gallery.



URL: <http://192.168.134.12/digclient/main.jsp>



Central Library has an e-learning solution portal for the Institute. The resources are available in the Campus LAN for users. The URL is: <http://vizserver/>



### 9.3.7 E- Resources @ NITS

The Central Library provides web-based access to over 10,000 full text journals and 120 databases 24 x 7 on institute-wide network.

Library subscribed **51 professional e-journals** of Wiley, Elsevier, ACTA Press, Inderscience, T&F, APS, ACS, AEA

etc. during the year. The library renewed subscription to **8 databases**. The following e-resources (e-books, e-journals and e-databases) have been procured for Digital library section of the Central Library.

Institutional Database @ 2013 NIT Silchar	
Database Name	Links
India stat.com	<a href="http://www.indiastat.com/default.aspx">http://www.indiastat.com/default.aspx</a>
Economic & Political Weekly	<a href="http://epw.in/epw/user/userindexHome.jsp">http://epw.in/epw/user/userindexHome.jsp</a>
SAE Digital Library	<a href="http://digitallibrary.sae.org/quicksearch/">http://digitallibrary.sae.org/quicksearch/</a>
ASTM : Standards and Engineering Digital Library	<a href="http://enterprise.astm.org">http://enterprise.astm.org</a>
Science Direct	<a href="http://www.sciencedirect.com/">http://www.sciencedirect.com/</a>
ACS Web Edition	<a href="http://pubs.acs.org/">http://pubs.acs.org/</a>
MathSciNet	<a href="http://www.ams.org/mathscinet/">http://www.ams.org/mathscinet/</a>
SIAM ( LOCUS ) (1952-1996 Backfiles)	<a href="http://locus.siam.org/">http://locus.siam.org/</a>
DELNET	<a href="http://www.delnet.nic.in">www.delnet.nic.in</a>
American Library	<a href="http://amlibindia.state.gov">http://amlibindia.state.gov</a>

E-Books	
<b>Knovel ME Books</b>	<a href="http://www.knovel.com/web/portal/browse/subject/70/topic/">http://www.knovel.com/web/portal/browse/subject/70/topic/</a>
<b>LNCS</b>	<a href="http://www.springerlink.com/engineering/books/">http://www.springerlink.com/engineering/books/</a>

INDEST Consortium	
Database Name	Links
<b>JCCC@INDEST - AICTE</b>	<a href="http://indest.jccc.in">http://indest.jccc.in</a>
<b>ACM Digital Library</b>	<a href="http://portal.acm.org/portal.cfm">http://portal.acm.org/portal.cfm</a>
<b>ASCE Journals</b>	<a href="http://www.asce.org/">http://www.asce.org/</a>
<b>ASME Journals</b>	<a href="http://www.asmedl.org/">http://www.asmedl.org/</a>
<b>IEEE/IEE Electronic Library (IEL) Online</b>	<a href="http://ieeexplore.ieee.org/xpl/periodicals.jsp">http://ieeexplore.ieee.org/xpl/periodicals.jsp</a>
<b>Nature</b>	<a href="http://www.nature.com/siteindex/index.html">http://www.nature.com/siteindex/index.html</a>
<b>SpringerLink</b>	<a href="http://www.springerlink.com/">http://www.springerlink.com/</a>
<b>Annual Review</b>	<a href="http://www.annualreviews.org/">http://www.annualreviews.org/</a>
<b>Knimbus</b>	<a href="http://knimbus.com/knimbus/user/auth/do">http://knimbus.com/knimbus/user/auth/do</a>

The details available at <http://122.160.76.157:8081/nit/index.jsp> and subscribed to the following databases.

#### E- Resource under JCCC@ INDEST-AICTE

JCCC is J-Gate Custom Content Consortia for a group of homogeneous consortia members, and JCCC-INDEST is J-Gate Custom Content for the Indian National Digital Library in Science and Technology (INDEST), a consortium set up by the Ministry of Human Resource Development, Government of India, on the recommendation made by the Expert Group appointed by it under the chairmanship of Prof N Balakrishnan. For details pl. visit: <http://jccc-indest.informindia.co.in>

#### E- Resource under DELNET

Being member of DELNET, users have got the opportunity to access the resources available in other member institute or can borrow or exchange

documents through inter library loan (ILL). In addition to that Library Network (DELNET) initiatives, DELNET's activities and services can be viewed at DELNET's Home Page and its databases can be accessed through a web-based interface. For details pl. visit: [www.delnet.nic.in](http://www.delnet.nic.in).

#### E- Resource under Open Access

Open access is a publication model wherein neither a reader nor the reader's institutions are charged for access to articles or other resources. Users are free to read, download, copy, distribute, print, search, or link to the full texts of these articles. The Library portal has given links to such resources.

#### 9.3.8 Lib 2.0 SERVICES

Library users can get the latest updates/happenings in the library through our library blog at <http://library-nitsilchar.blogspot.com/> and get connected through our Facebook group at <http://www.facebook.com/groups/369833813038102/>



### 9.3.9 Infrastructure Facilities

Library has a HP server for hosting Libsys database and a Techfocuz library server, which can host more than 2500 CDs to host the Digital Library. There are computers kept inside the library to facilitate information accessing by users. Library is having VCP, Scanner and HP LaserJet Printer. Library is using Libsys-integrated library management software for automating various functions in the Library like book procurement, circulation. Library is using RFID technology for book security purpose.

### 9.3.10 Staff

The library has a small team of talented and dedicated staff to perform their duties and responsibilities with dignity and honestly. In addition to their regular jobs, most of them are involved in various academic activities like attending workshop, presenting papers in seminars and conferences, delivering lectures in various training programmes, serving on various expert committees, guiding research etc. Some of the major contributions /achievements are listed below:

### Paper Presentation:

1. Dr. Kishor Chandra Satpathy was invited to deliver lecture in the National Training programme on “Open Source Library Application Software for Library Services” jointly organized by the DLIS, Assam University and National Library, Kolkata from March 28-31, 2013 sponsored by Ministry of Culture, GoI.
2. Mrs. Krishnamati Singha presented papers entitled “Strategy for implementation effective knowledge management in libraries”, “Data warehouse and metadata: An insight for proactive library service” and “Cloud computing: A new paradigm for seamless library service” in the 29th SIS Conference held at NIT from 26-29 November, 2012.
3. Ms. Jayanti Chakravorty, Mr. Langmujanjohn Tonsing and Ms. Rupashree Paul presented the papers entitled “Digital rights management: An Essential Features in the Digital Era” and “Reforming higher education system in the light of e-learning” in the 29th SIS Conference held at NIT Silchar from 26-29 November, 2012.

### Workshop attended

1. Dr. Kishor Chandra Satpathy attended the 9<sup>th</sup> Annual Meet & Workshop of INDEST AICTE Consortium organized by IIM Ahmedabad; IIT Gandhinagar and INDEST-AICTE Consortium, New Delhi from Jan 18-19, 2013.
2. Mr. Satyabrata Goswami; Ms. Rupashree Paul & Ms. Jayanti Chakravorty participated in the

four day workshop on “Open source application software for library services” from 28-31 March 2013 held at Assam University, Silchar.

### Other Activities:

1. Satpathy, K C, acted as a member of the Selection Committee of IIM Kashipur.
2. Satpathy, K C, acted as an External Examiner for Assam University, Silchar.

### 9.3.11 Additional Information

#### Programme Organized



E-Book Workshop

Dr. Kishor Satpathy, K. C., organized the workshop on “e-Books: Issues & Challenges” on 15<sup>th</sup> March 2012 at Central Library, NIT Silchar

Dr. Kishor Chandra Satpathy organized 29<sup>th</sup> Convention and Conference of the Society for Information Science

(SIS) on “Information, Innovation & Technologies: Creating Seamless Linkages” held during 26-28 November 2012 at NIT Silchar sponsored by CSIR New Delhi, ICSSR, New Delhi, DRDO New Delhi. The details are available at <http://sis2012conference.blogspot.in/>.



SIS 2012



Group Photo of SIS 2012

Dr. Kishor Chandra Satpathy arranged an invited Lecture on “Enhancing Visibility by Publishing in High Impact Factor Journals” delivered by Dr. N.C. Jain, Scientist ‘F’ and Editor (Production), Indian Journal of

Medical Research, Indian Council of Medical Research, Ansari Nagar, New Delhi on 16<sup>th</sup> March 2013 under TEQIP II.



**DISTINGUISHED VISITORS TO THE LIBRARY:**

Name	Designation & Affiliation	Date of Visit
Prof. R.K. Dixit	NITTR, Bhopal	19 <sup>th</sup> March 2013
Prof. Rajat Gupta	Director, NIT Srinagar	26 <sup>th</sup> November 2012
Dr. Sujit Bhattacharya	Senior Principal Scientist, CSIR- NISTADS, New Delhi	29 <sup>th</sup> November 2012
Dr. N.C. Jain	Scientist ‘F’ and Editor(Production) Indian Journal of Medical Research, Indian Council of Medical Research, New Delhi	26-28 November 2012
Dr. N.K Wadhwa	Scientist & Head, KRC National Physical Laboratory, New Delhi	26-28 November 2012

Name	Designation & Affiliation	Date of Visit
Rajendra Soni	Scientist and Head Project & Technology Management Institute of Microbial Technology, Chandigarh	28 <sup>th</sup> November 2012
Dr. Rama Pattnaik	Librarian, Indian Institute of Management, Bangalore	27 <sup>th</sup> November 2012
Dr. Amjad Ali	Dy. Librarian Aligarh Muslim University, Aligarh	25 <sup>th</sup> November 2012
Dr. Abdul Rashid	Librarian, NIT Srinagar	29 <sup>th</sup> November 2012
Dr. K M Baharul Islam	Dear, Planning Indian Institute of Management , Kashipur	26 <sup>th</sup> November 2012
Dr. R.N. Mishra	Associate Professor DLIS, Mizoram University, Aizawl	28 <sup>th</sup> November 2012
Dr. Chennupati K. Ramaiah	Professor & Head, Dept. of Library & Information Science, Pondicherry University, Puducherry .	28 <sup>th</sup> November 2012



Dr. Kishor Satpathy, organized the book exhibition from 13-16 March 2012 at CET Hall, NIT Silchar



### 9.3.12 Other Activities

Central Library@NITS along with 4 other libraries of India has been included in the “Libraries R-evolution\*” magazine published by The Swets, Netherland.

The URL is: [http://www.librariesrevolution.com/emagazine/&http://www.librariesrevolution.com/?ch=english&pg=swets\\_libraries&ac=AC\\_7YtC1p\\_tk\\_20111007003634](http://www.librariesrevolution.com/emagazine/&http://www.librariesrevolution.com/?ch=english&pg=swets_libraries&ac=AC_7YtC1p_tk_20111007003634).



*\*“Libraries R-evolution” is a showcase of notable libraries in Asia that have evolved from traditional mortar-and-brick buildings to the intriguing modern hybrids of digitalised information and classic old book charm that they are now. They contain timeless information immortalised with modern technology, allowing their users to obtain invaluable resources anywhere, anytime.*

## 9.4 Laboratories

Depts.	Name of the Laboratories	Main equipments available/experiments conducted
Civil Engg.	<ul style="list-style-type: none"> <li>Strength of Materials</li> <li>Fluid Mechanics</li> <li>Environmental Engineering</li> <li>Transportation Engineering</li> <li>Concrete</li> </ul>	Universal Testing Machine (100 T), Compression, Impact Testing Machines, Hardness Testing Machines, Spring Testing Machines, Torsion Testing Machines Wind Tunnel (Sub sonic), Cascade Tunnel, Centrifugal Pump Test Rig, Reciprocating Pump Test Rig, Gear-Oil Pump Test Rig, Kaplan Turbine Test Rig, Francis Turbine Test Rig, Pelton Wheel

Deptts.	Name of the Laboratories	Main Equipments Available/Experiments Conducted
	<ul style="list-style-type: none"> <li>• Survey</li> <li>• Soil Mechanics</li> <li>• Computation</li> </ul>	<p>Gas Analyser, Digital pH/Turbidity Meter, Spectrophotometer, Universal Titrator</p> <p>Automatic Penetrometer, Centrifuge Extractor, Deval Attrition Machine, Ductility Testing Machine, Marshal Stability Apparatus, Benkelman Beam Apparatus, Aggregate Impact Value Apparatus</p> <p>Compaction Factor apparatus, Mortar Mixer, Rock-Tiaxial Machine, Los-Angles Abrasion Machine, Vee-Bee Apparatus, Rock Cutter Machine</p> <p>Total Station, Wild T-2 Theodolite, etc</p> <p>Triaxial Testing apparatus, CBR Testing Machine, Direct Shear Apparatus, Consolidation Apparatus, and Motorised Vane shear Apparatus, Proctor Compaction Apparatus, etc.</p> <p>SUN Ultra-10 High end Computation System, ANSYS Software, Pentium-4 PCs, etc</p> <p>Cyclic Triaxial Test set up</p> <p>Computerized direct shear test set up</p> <p>B &amp; K Pulse analyzer</p> <p>Advanced computational laboratory with computers of latest configuration</p>
<b>Mechanical Engg.</b>	<ul style="list-style-type: none"> <li>• Computational</li> <li>• Machine Dynamic &amp; Vibration</li> <li>• Instrumentation</li> <li>• Energy</li> <li>• I.C. Engine &amp; Automobile</li> <li>• Heat Transfer</li> </ul>	<p>Different types of transducers, data logger and script chart recorder; Torsional vibration system of single rotor with viscous damping, Longitudinal vibration system of Spring, Universal Governor, Motorised Gyroscope, Whiling of shaft, Cam Analysis Machine, Vibration of rotor system, Journal Bearing apparatus; Digital pressure indicator, Various torque sensor, Various Load Cell, Radiation Pyrometer, Strain gauge, temperature indicator, Strain Measurement tutor, Temperature Measurement tutor using RTD sensor, Temperature Measurement tutor CTC Sensor, Speed Measurement tutor, Load measurement tutor using load cell, Pressure measurement tutor using pressure transducer, Water level measurement using water level transducer, Long range linear measurement tutor using potentiometric transducer, Inductive measurement tutor, Light measurement tutor, Pressure Cells, Inductor Measurement Tutor,</p>

Deptts.	Name of the Laboratories	Main Equipments Available/Experiments Conducted
		<p>Rotary Measurement Tutor, Height Measurement Tutor, Pressure meter train kit, Thermocouple Measurement Kit, Various thermocouples, Educational Software data logging package, Robot Stimulation Software, Mechatronic Training Package; 2 and 4 Stroke Petrol engine, 4-Stroke single cylinder Diesel engine, Petrol Jeep vehicle, TATA engine 312M, Air compressor, Hydraulic machine, Nozzle tester; Thermal conductivity measurement, Emissivity measurement, Parallel flow/Counter flow Heat Exchanger, Cross-flow heat exchanger, Forced convection, Condensation apparatus; NISA 3D Fluid Flow Package, Projection Manometer; Starturn CNC Bench turning center with accessories; Kaplan Turbine, Airflow Bench complete with accessories as Drag Force Apparatus, Memo meter with tube and Boundary Layer Apparatus; Different types of Microscopes, Field Microscope, Polishing facilities, Hardness testing machine, Impact testing machine, Spectrometers; AVL Fire CFD Software; The infrastructure facilities for different study of microstructure &amp; mechanical properties; Oil fires Boiler; Computerised Refrigeration and Air-conditioning test rig, Ice Plant, Refrigeration Lab Unit (R 714) with Data acquisition upgrade (RC 714), 4-Channel, 100 MHz, Digital Oscilloscope with current probe, Agilent DSOX 2014A, Agilent 1146A, 4-S Computerised Diesel Engine Test Rig, AVL-5 Gas Analyser, AVL Smoke-meter, Carbon Resedue Apparatus, Cloud point and Pour point apparatus, Copper strip corrosion Apparatus, Precision Weigh Balance, Viscosity and Density meter, Heating Mentle, Die Sinking EDM with accessories of Sparkonix, Optical Metallurgical Microscope with camera and measurement software, Leica DM2500M, Precision Electronic Balance, Ishida DXR 220, Surface Profilometer, Zeiss TSK, Handsurf E-35, Powder Compaction hydraulic press Machine, Kimaya 25 ton, Table top CNC Lathe etc</p>

Deptts.	Name of the Laboratories	Main Equipments Available/Experiments Conducted
<b>Electrical Engg.</b>	<ul style="list-style-type: none"> <li>• Basic Machines</li> <li>• Basic Electrical Sc</li> <li>• Measurement &amp; Instrumentation</li> <li>• Control System</li> <li>• Microprocessor</li> <li>• Power Electronics &amp; Electric Drives</li> <li>• Computer</li> <li>• Non-conventional Energy</li> <li>• Analog-Digital Electronics</li> </ul>	<p>Different kinds of general purpose Synchronous, Induction, DC machines; Transformers, Schrage Motors, Study of different electrical and magnetic circuits, measurement of various parameters, and electrical quantities; Servo motors kits, Analog Computers, Instrumentation tutor, Control System trainer, Different types of Microprocessors with different head-on cards, Different types of power converters kits, Characteristics of different power devices. Solar photo voltaic cells, Solar radiation Detector, Wind Turbine with on-line data logging. Analog and Digital IC components, Trainers, Oscilloscopes, IC Test benches, Oscilloscopes of 100MHz. Characteristics of semiconductor devices, Registers, Counters, Digital Clocks etc. Efforts are made to upgrade/modernize the laboratories</p>
<b>Electronics &amp; Communications Engg.</b>  <b>Computer Science and Engg.</b>	<ul style="list-style-type: none"> <li>• Basic Electronics Lab</li> <li>• Digital Electronics Lab</li> <li>• Communication Engg Lab</li> <li>• CAD of VLSI Lab</li> <li>• Advanced Communication Lab</li> <li>• Data Structure &amp; OOP Lab</li> <li>• Microprocessor &amp; Microcontroller Lab</li> <li>• System Programming &amp; Operating System</li> <li>• DBMS Lab</li> <li>• UNIX/NT Lab</li> <li>• DSP &amp; Embedded System Lab</li> <li>• Computer Graphics &amp; Multi Media Laboratory</li> <li>• ICP Lab</li> <li>• Project Lab</li> </ul>	<p>The laboratories are equipped with 350 MHz Synchroscope, 100 MHz Storage scope, 16 channel Logic Analyzer, 8510B Network Analyzer, Microwave Frequency Counter, RF Spectrum Analyzer, NT Server, Workstations (P-III), ORCAD, MATLAB, SIMULINK, Electronic Work-bench, ISDN Emulator, Fibre Optic training kits, UNIX Servers, NT Server besides other standard software</p> <p>COMMSIM Trident Lab software (25 users license), ELANIX System view software (10 users license), LAN Trainer from BENCHMARK (04 Kits), DSKTMS320C 6713 &amp; 6416 board from Crans s/w international (05 each set), DSP TMS320DM64X based communication interface (One set), DSK 6713 video/image interface or captured board with camera from EDUTECH (three), Micro-controller development board for 8051(08), PCB Fabrication tools (One set), Oscilloscope (20), Workstations, Embedded system Board 1.8540 2.ARM Processor 3.IMX21 (Software) (05 number of 8540+02 number of ARM processor), Itanium server (03), MT-9000 microwave Test Bench (2), IBM Rational Rose university relation program (Software) (2 nos each of total 20 license users), Man and Tel Blue-tooth Trainer Model BT 2001 (01), Man and Tel Mobile communication (01), VHDL ACTIVE HDL Simulation software (0001 set)</p>

Deptts.	Name of the Laboratories	Main Equipments Available/Experiments Conducted
<b>Physics</b>	<ul style="list-style-type: none"> <li>Physics Laboratory (BTech programme)</li> <li>Condensed Matter Physics Research Laboratory</li> <li>Computer Room</li> </ul>	<p>Laboratory has the facilities for undergraduate Programmes.</p> <p>Laboratory is well-equipped with advanced facilities for carrying out research in the emerging areas of science and technology. Major facilities available are High Vacuum Coating Unit (HHV make), 6514 Electrometer (Keithley make), LCR Hitester (Hioki Model No. 3522-50), PerkinElmer Lambda 35 UV/VIS Spectrophotometer, Hall Measurement set-up, Polarising Microscope, Impedance Analyser (Solartron Model No. 1260 A), XRD System etc.</p> <p>PC-Pentium with internet connectivity and other relevant software available</p>
<b>Chemistry</b>	<ul style="list-style-type: none"> <li>UG Chemistry Lab</li> <li>Instrument Laboratory</li> </ul>	Polarimeter, TG-Dtaftir, UV-Visible, GC, PH-Meter, DO-Meter

## 9.5 Hospital, Post Office, Shopping Centre

### 9.5.1 Hospital

The Institute has a dispensary having staff, as given below:

Sl No	Staff Positions	Numbers
1.	Senior Medical Officer	0
2.	Lady Medical Officer	1
3.	Pharmacist	1
4.	Nurse-cum-midwife	0
5.	Medical Attendant	3

All the staff and students of the Institute avail medical aid from the dispensary. The Institute also has an ambulance for carrying patients to Silchar Medical College Hospital for emergency treatment.

### 9.5.2 Post Office

The Institute has a sub Post Office within the campus. The sub Post Office has facilities like registration, money order, and speed post. The post office functions

from 9.30 AM to 2.30 PM. Students and staff and people from the surrounding villages take advantage of the facilities of this Post Office.

### 9.5.3 Bank

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

### 9.5.4 Shopping Centre

A portion of the old LTD building houses the Institute Stores Section and the remaining portion is being used for shopping & other purposes with Post Office, Bank, PCOs, Fax Centres, DTP Centres and Bookshops etc. One Nescafe Corner, located adjacent to this building, operated by

Nestle India Ltd. (under agreement with NITS) has opened during the year of reporting and is in operation.

### 9.5.5 Staff Canteen

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

## 9.6 EPABX

### FACULTY-IN-CHARGE

Name	Qualification
Dr. N. B. D. Choudhury	PhD

The Institute has an EPABX system which provides telephone connections to all faculty, officers, department offices, section offices, and laboratories.

The controlling and maintenance of the telephone connections are carried out through a centralised exchange. This office is working under the Dean (P&D).

## 9.7 Students Gymkhana

### DEAN (SW)

Name	Qualification	Period
Prof. A.K. Sil	PhD	1 <sup>st</sup> Feb 2010 to 31 <sup>st</sup> Jan 2013
Prof. A.K. Barbhuiya	PhD	11 <sup>th</sup> Feb 2013 onwards



**ASSOCIATE Dean (SW)**

<i>Name</i>	<i>Qualification</i>	<i>Period</i>
Dr. P. Rajbongshi	PhD	9 <sup>th</sup> Nov. 2010 to 8 <sup>th</sup> Nov. 2012
Dr. N.B.D Choudhury	PhD	29 <sup>th</sup> Aug. 2011 onwards

**BOARD OF HOSTEL MANAGEMENT**

<i>Name</i>	<i>Designation</i>	<i>Qualification</i>
Dr. A.K. Sil	Chairman	PhD
Dr. P. Rajbongshi	Vice Chairman	PhD
Dr. Arup Goswami	Secretary	PhD
Dr. S. Choudhury (6 months)		PhD

**WARDENS**

				<i>Period</i>	
<i>Hostel No.</i>	<i>Name</i>	<i>Designation</i>	<i>Department</i>	<i>from</i>	<i>to</i>
1.	Dr.Kedar Nath Das	PhD	Math		
2.	Dr. A. Goswami	PhD	EE	6 <sup>th</sup> Jan 2011	5 <sup>th</sup> Jan 2013
3.	Dr. A. Zaman	PhD	Chemistry	10 <sup>th</sup> Jan 2011	9 <sup>th</sup> Jan 2013
4.	Dr.Kaushik Guha	PhD	ECE	26 <sup>th</sup> Aug 2011	25 <sup>th</sup> Aug 2013
5.	Dr. Biswanath Dey	PhD	CSE	2011	
6.	Dr. L.C. Saikia	PhD	EE	2011	
7.	Dr. Dulal Chandra Das	PhD	EE	7 <sup>th</sup> July 2010	6 <sup>th</sup> July 2012
8.	Dr. N.B.D. Choudhury	PhD	EE	6 <sup>th</sup> May 2011	5 <sup>th</sup> May 2013
GH 1	Dr. Pinki Roy	PhD	CSE	2011	2013
GH 2	Mrs. N. Barthakur	PhD	CE	13 <sup>th</sup> Dec 2010	12 <sup>th</sup> Dec 2012
PG Hostel	Mr. Wasim Arif	MTech	ECE		

**GYMKHANA OFFICE BEARS**

<i>Name</i>	<i>Port-Folios</i>	<i>Semester</i>	<i>Tenure</i>
Mr. N. Naveen	Vice President	7 <sup>th</sup>	1 Year
Mr. Samujjal Das	General Secretary (GS, Gymkhana)	-do-	-do-
Mr. Indubhusan Yadav	G.S, Cultural	-do-	-do-
Mr. Rituraj Shukla	GS, Sports	-do-	-do-
Mr. Joyring Thaosen	Secretary, Music Club	5 <sup>th</sup>	-do-
Mr. Priankush Kashyap Baruah	Secretary, Foot ball	-do-	-do-

GYMKHANA OFFICE BEARS			
Name	Port-Folios	Semester	Tenure
Mr. Sagarneel Sarma	Secretary, Dramatic Club	-do-	-do-
Mr. Sanchit Jha	Secretary, Basket ball	-do-	-do-
Mr. Prabhakar Deka	Secretary, Cricket	5 <sup>th</sup>	-do-
Mr. Dhruv Saxena	Secretary, Photography	5 <sup>th</sup>	-do-
Mr. Prasenjeet Saha	Secretary, Lit. & Publication	-do-	-do-
Mr. Nilanjan Goswami	Secretary, Hockey	-do-	-do-
Mr. Amitakhya Bhuyan	Secretary, Tennis	-do-	-do-
Mr. Soumya Chakraborty	Secretary, Indoor Games	-do-	-do-
Mr. Vikash Kadyan	Secretary, Athletics & Gym.	-do-	-do-
Mr. Padma kumar Morang	Secretary, Trekking & Mount.	-do-	-do-
Pragati Singh	PG/PhD Representative to Gymkhana	3 <sup>rd</sup> Sem	-do-
Vivek shahaji Doke		3 <sup>rd</sup> Sem	-do-
Srishti Banerji,	Girls Representative to Gymkhana	7 <sup>th</sup> Sem	-do-
Sulagna Sarma,		5 <sup>th</sup> Sem	-do-

FACULTY ADVISORS OF GYMKHANA			
Port-Folios	Name	Designation	Department
Vice President (VP)	Mr. S. K. Pattanayk	Asst. Professor	ME
General Secretary (Gymkhana)	Dr. N. B. D.Choudhury	Asst. Professor	EE
G. S. (Cultural Activities)	Mr. Wasim Arif	Asst.Professor	ECE
Music Club Secretary	Dr. Ayon Bhattachatjee	Associate Professor	Phy
Photographic Club Secretary	Mr. Koushik Guha	Asst.Professor	ECE
Dramatic Club Secretary	<i>Dr. Arup Goswami</i>	Asst. Professor	EE
Literary & Publication Secretary	<i>Dr. K. C. Sathpathy</i>	Librarian	Central Library
G.S. (Sports) (i/c)	Dr. Dulal Ch. Das	Asst. Professor	EE
Football Secretary	Dr. L. C. Saikia	Asst. Professor	EE
Cricket Secretary	Dr. Asim Roy	Associate Professor	Phy
Hockey Secretary	Dr. Reena sanasam	Asst. Professor	HSS
Tennis Secretary	<i>Mr. Biswanath Dey</i>	Asst. Professor	CSE
Basketball Secretary	Dr. Kedar Nath Das	Asst. Professor	Math
Indoor Games Secretary	<i>Mr. Saroj Biswas</i>	Asst. Professor	CSE
Athletics and Gymnastics Secretary	<i>Mr. Zishan Medhi</i>	Asst. Professor	ECE
Trekking and Mount. Secretary	Dr. N. Bhupendra Singh	Asst. Professor	HSS



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

The year 2012-2013 was also full of activities and achievements and students have made the Institute proud by maintaining high standards of organizational and leadership qualities.

### 9.7.1 Information Regarding the Students' Activities under Office of the Dean (SW)

#### A. General Programmes:

1. Orientation program was conducted for 1<sup>st</sup> Sem. 2012 students.
2. Ekta Daud was held on 14<sup>th</sup> August, 2012.
3. Independence Day was celebrated on 15th August, 2012.
4. Freshers Social: official welcome to all the students of the academic batch 2012 was extended.
5. Incandescence (8th March 2013- 11th March 2013) & the Annual Techno- Cultural Fest (9th Nov- 12th Nov 2012) of NIT Silchar was successfully organized.



6. Republic Day was celebrated on 26th Jan., 2013.

#### B. Appointment of new Staff during the period

1. Regular sports officer appointed for the Institute.

#### C. The following Cultural activities/ functions and extra-curricular activities were performed/ organized by the students of NIT Silchar under Gymkhana

1. A Blood Donation Camp was organized in association with Silchar Medical College (SMCH). A good number of 150 blood donors participated in the camp.
2. Gymkhana Prize Distribution Ceremony.



3. POSUA: An event showcasing the diverse ethnic cultures of Northeast India.



4. Spark: A musical night on the eve of Deepawali.

**D. A list of Tournaments and Competitions in which students participated under the Sports Section NIT, Silchar is given below:**

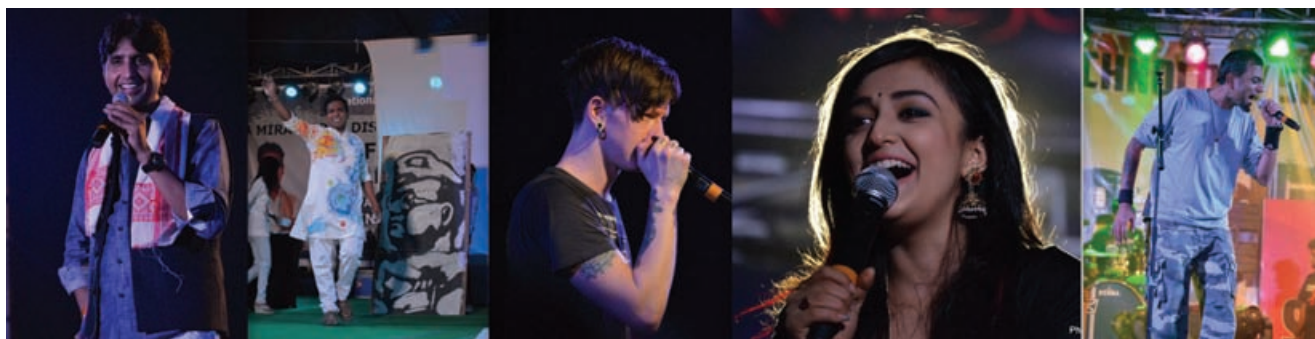
1. Inter NIT Sports Meet (Organized by VNIT, Nagpur)
2. Inter District Karate Championship
3. Inter Hostel Night Cricket Tournament.
4. Inter Hostel Basketball Tournament.
5. Inter Hostel Volleyball Tournament.
6. Inter Hostel Kabaddi Tournament.
7. Inter Hostel Tennis Tournament.
8. Inter Hostel Football Tournament.
9. Inter Hostel Badminton Tournament.
10. Inter Hostel Table Tennis Tournament.

11. Inter Hostel Chess Tournament.
12. Inter Hostel Carom Tournament.
13. Inter Hostel Athletics meet.
14. Inter Hostel Arm Wrestling Competition.

**E. List of Programmes organized by the Students Gymkhana is given below:**

**Annual Fests**

1. TECNOESIS, the Annual Technical festival of the institute. (9th Nov- 12<sup>th</sup> Nov 2012)
2. Incandescence, the Annual cultural festival of the institute (8<sup>th</sup> March 2013- 11<sup>th</sup> March 2013)
3. Intra College Quiz Competition on the occasion of Independence Day.



**Music Club of Gymkhana Union Body:**

Organised a cultural evening of Hindustani Classical music in collaboration with **SPICMACAY** with Pt. Sarathi Chatterjee.

**TALENTS HUNT:** A platform for the freshers to showcase their talents.

**SPARK:** A cultural evening on the eve of Diwali, to celebrate the festival of light.

**BAND WAGON:** An inter college “battle of bands” completion, free Guitar Classes offered by the students.

**Literary Club of Gymkhana Union Body :**

1. Road Ruler: Street Painting competition.
2. Gymkhana Inter Hostel Quiz Competition.
3. Picture this: Picture perception competition.
4. Sci-fi: Science Fiction Story Writing Competition.
5. Spelling bee: Spelling Competition.
6. Tell-a-tale: Theme based Story Writing Competition.

7. Game of Thrones : Political Strategy Making Competition,
8. Collageo: Collage Making Competition.
9. Fast Art: Poster Making Competition.

**Photography Club of Gymkhana Union Body :**

1. **Sanpthrillz:** National level Photography Competition.
2. Photography workshop by world renowned photographer **Ritam Banerjee**.
3. **Expressions:** Intra College Photography Competition.
4. Conducted workshop on Adobe Photoshop Software.
5. **I Click** photography competition.

**Dramatics Club of Gymkhana Union Body :**

- Actively participated in Alumni Meet.
- Conducted Inter-Hostel Drama Competition.

**F. Gyansagar:**

Gyansagar started out as a small club which used to do social activities majorly educational outreach (going out) in and around NIT Silchar has not turned into an tremendous force which is transforming the lives of hundreds of students and adults alike.

It started out in the brain of Gyansagar founder, Aditya Choudhary, an Electrical Engineering 2013 pass-out from NIT Silchar and a few of his friends and they taught students in the nearby poor areas out of sympathy for them.

Parallel to that, they also began to involve more and more people in their informal 'educational outreach' program which they had started. In two years from that day, four villages were being visited by around hundred and fifty Gyansagar volunteers every weekend for teaching classes.



Right now, Gyansagar is on-way to become a formal NGO under NIT Silchar. It works in three divisions- Educational Outreach, NITS-CIT (NIT Silchar Certification in Information Technology) and Awareness & Projects.

First division, Educational Outreach, involves student volunteers which go in groups of eight-ten to a specific village to teach around a group of thirty-fifty students from villages. Right now Gyansagar caters to seven villages around the NIT Silchar campus.

Second division, NITS-CIT, imparts IT education to around hundred young people from over two states' most backward areas. This program wishes to make them aware of the benefits of IT education and how they can use in their daily lives.

Third division, Awareness & Projects aims to create awareness about various government schemes

which can be useful for villagers and also provide an opportunity to NIT Silchar students to work on innovative projects which can benefit the villagers.

In future Gyansagar wishes to successfully replicate this college-centric model at other colleges and become a movement unstoppable.

**A list of activities conducted by Gyansagar is given below:**

1. Vocational Training course in plumbing, masonry and electrical.
2. Computer Education demo class.
3. Painting Competition.
4. Imparted school level courses.

**G. Counselling:**

In NIT, Silchar students come from all around the globe, belonging from diverse ethnic-cultural background. During their long stay, sometimes students may develop psycho-somatic stressors for various reasons and to deal with these problems NIT, Silchar has started counseling services.

**A list of steps taken by the Counsellor during the period of 2012-2013**

1. Regular interaction (Counseling) session with the students
2. Liaison built up with students.
3. Organized Sahaja Yoga Programme on Stress Management.
4. Orientation Programme on Counseling for BTech/MTech 1<sup>st</sup> semester students.
5. Total 53 no. of students have been counseled out of which 2 no. of students referred to Psychiatric OPD in Silchar Medial College & Hospital.

**H. National Service Scheme (NSS):**

This is compulsory for every student. As it is known that the primary aim of NSS is Personality Development

through social or community services, this year NIT, Silchar, under NSS has organized campaigns like, Green Day, Campus Cleaning, Green March, Clothes donation programme etc. Apart from that Debate and Quiz Competitions were also organized for the students.

**I. National Cadet Corp (NCC):**

**NCC** is engaged in grooming the youth of the country into disciplined and patriotic citizens. Every year NIT, Silchar conducts NCC Annual Training Camp (ATC) for its Cadets. Students attend regular parade sessions for participating on Independence Day and Republic Day march-past.

**Achievement of the students of NIT Silchar for various Sports/ Tournaments/ Events/ competition, etc and their success.**

- At Inter District Karate Championship held at Digboi in Dec.2012 Ms. Adwitiya Borah got Gold Medal and later she bagged Bronze Medal at the Inter District Karate Championship, held at Guwahati in Sept.2012.
- At National level Band Competition "SRIJAN" organized by ISM Dhanbad in February 2013, NITs's band "Blind Wall" Participated and won 1<sup>st</sup> prize.





### 9.8 Facilities for Games & Sports

The Institute has a playground measuring 150m x 90m with facility for playing football, Cricket, Hockey and other games. NIT Silchar also has a hard court for playing basketball and is provided with hard courts for playing Volleyball and Badminton. It has got a Lawn Tennis court within the campus. Glimpses of the various sports facilities are given below.

Football/Cricket ground	30,600.00 Sq m
Basket ball court	1 No.
Tennis court	3 Nos.

Badminton court	3 Nos.
Students' Activity Centre	1,145.00 Sq m
Amenities Building	1,739.00 Sq m

### 9.9 Training & Placement

#### Placement Cell

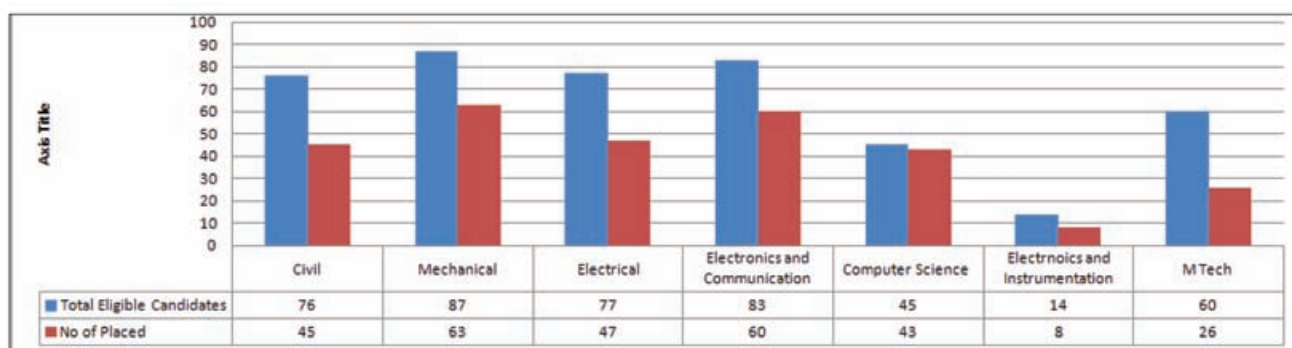
The Institute has a separate full-fledged Training and Placement (T&P) Section headed by a Faculty-in-Charge. In addition to placement and arrangement for industrial training to the students, the Section is responsible for issuing railway and air concession, bona-fide certificates.

#### Training & Placement

Campus recruitment process conducted by the Institute is a very vital activity. A College information brochure was prepared. T&P Cell received positive response from a number of companies and a number of students were selected in the companies that visited the Institute during the period under consideration. The T&P Cell conducted its functions through Faculty-in-Charge (T&P). The T&P Cell consists of office, two examination rooms, interview room, a group discussion room and a computer room equipped with 100 latest desktops for online tests with internet facility. Besides this, the Cell also arranges summer training programmes for all 6<sup>th</sup> semester BTech students.

#### Statistics of Placement for 2012-13

Training and Placement



NAME OF ORGANISATION	CTC	CE	ME	EE	ECE	CSE	EI	MTECH
SAMSUNG INDIA SOFTWARE CENTRE	5.5 LPA				2	4		
JOHN DEERE	5.25 LPA							3
MARUTI SUZUKI INDIA LTD.	5.4 LPA		15					
MU-SIGMA	18 LAKHS FOR 3 YEARS	1	0	3	2	3	0	
IBM INDIA LIMITED	3.4 LPA	22	36	30	33	19	3	9
CAPGEMINI	3.05 LPA	2	1	5	11	6	0	
ARICENT	3.5 LPA			2	5	1	1	
TELCON	6.17-6.97 LPA (Gross Salary)		1					
NATIONAL INSTRUMENTS	9.5-10 LPA		0	0	0		1	
GS E&C	4.3 LPA	0	0	0			0	
CAPITAL IQ	4.75 LPA				0	0		
CUMMINS.	4.15 LPA (B.Tech) 4.90 LPA(M.Tecn		7					2
ABB	4.75 LPA		0	1				
SONY INDIA	4.5 LPA	0	0	0	0	2	0	
MAHINDRA & MAHINDRA	5.05 LPA		2					
AMAZON	30000 (per month)					0		0
SAMSUNG INDIA Software Engg. Labs	6.65 LPA					12		
RANCORE TECHNOLOGIES	5 LPA				3	2		
ZS ASSOCIATES	7.46 LPA							
CONCEPT EDUCATION	4.5 LPA		0	3	1	1		
GREYB	4.36 LPA				2	0		
WEBFLUENZ	2.4 LPA (cash In hand)				1	0		
L&T LIMITED	3.75 LPA		2					
ATOS	3.4 LPA			7	4	2	2	
JINDAL STEEL & POWER LTD	4.4 LPA	1	4					
TATA CHEMICALS	4.2 LPA		1					
HSCC INDIA LTD	5.6 - 6 LPA	4						
MAGNETI MARELLIF	33.333 PM (Gross]				8			
DOWN TOWN UNIVERSITY	4.5 LPA							4
AFCONS INFRASTRUCTURE	3.36 LPA	2	0	0				
DHRISTI SOFT	8 LPA					1		

NAME OF ORGANISATION	CTC	CE	ME	EE	ECE	CSE	EI	MTECH
B L KASHYAP & SONS	2.18 LPA	10						
ORACLE SERVER TECHNOLOGIES	6 LPA					2		
ORACLE SYSTEMS	6 LPA			2				
DAIMLER INDIA COMMERCIAL VEHICLES	4.5 LPA	1	2	1		1		
INDIAN OIL	9.8 -10.1 LPA		4	3			3	
PANDIT DINDAYAL UNIVERSITY	4.5 LPA							RA
ITD CEMENTATION	2.92 LPA	2						
KIIT	5 LPA							1
SANKALP SEMICONDUCTORS	4 LPA			0	0	0		0
SAMSUNG RESEARCH INDIA	7 LPA				RA	RA		
ROYAL GROUP OF INSTITUTIONS	4.5 LPA							10
TECNOSOFT CONSULTANCY SERVICES	3 LPA			0	0	1	0	0
VEDANTA RESOURCES	5.7 LPA		2	1				
ZALONI	1.88 LPA				RA	RA		
ONGC	11,22,644 LPA		16	4				
BPCL	10 LPA		6	3			1	
KMV PROJECTS	2.4 LPA	4						
PCM GROUP	3 LPA	3	1					
HPCL	10 LPA	2	2					
JMC PROJECTS	3 LPA	5						
ABC INFRA	3 LPA	5	4					
JV SCIENTIFIC	7 LPA						RA	RA
KRIBCHO	7.25 LPA	RA	RA	RA		RA		
Total No of Job Offers	64	106	65	72	56	11	29	
Highest CTC offers : ONGC= Rs.11,22,644 PA								
Average Salary (considering all Jobs created) = 4.59 LPA								

## 9.10 Estate

Dean (P&D)	
Name	Qualification
Prof. P. S. Choudhury	PhD

Associate Deans	
Name	Qualification
D.H. Das	MTech

Other Officers		
Name	Position	Qualification
D. Dey	Engineer	Diploma (C)
S. Chauhan	Asst Engineer	Diploma (E)

## 9.11 Physical Facilities

### PART-A: Institute development authority (Construction)

In view of future expansion in student's intake, different infrastructure development works (construction) were undertaken through the Estate Engineering Branch of the Institute in the recent past and some of these works are continuing now. Besides, Central Public Works Department & the Hindustan Prefab Limited (HPL) a Govt. of India Enterprise other agencies are also assigned projects.

The project completed and under progress during the reporting are as under:

#### Work Completed:

- 1) Water Supply Distribution Network
- 2) Production Engineering Laboratory
- 3) 100 capacity Security Barrack
- 4) Installation of 50 Nos. of Solar Street light

#### On-going Project/works are:

- 1) Construction of Sports Complex with ancillary works
- 2) Construction of 1000 capacity Boys' Hostel No.9 & new Library building
- 3) Construction of Academic building

- 4) Construction of Type-VI(EL) Prof. qtrs. – 12 units
- 5) Construction of Type-V(E) Asst Prof. qtrs. – 20 units
- 6) Construction of Type-IV(D) Associate Prof. qtrs. – 30 units
- 7) Augmentation of water supply treatment plant
- 8) Expansion of Hydraulics Laboratory
- 9) 100 capacity Type-III staff qtrs.
- 10) Internal road of the campus
- 11) Married Scholar Hostel PG/PhD (400 capacity)
- 12) Construction of road connecting Borakhai T.E entry point to Modhutilla, Babutilla entry point out side security wall within NIT land
- 13) 33 KV / 11 KV Sub-station
- 14) Renovation of Civil & Electrical repairing works at Boys Hostel No.1, 2, 3,4,5,6,7 and Girls Hostel No. 1 & 2

The Institute is also planning for execution of different infrastructure development work for phase-wise implementation. The Building & works Committee and Board of Governor have accorded technical sanction and approval in principle for phase-wise implementation of the project.



**The projects are as under:**

- 1) 400 capacity Girls' Hostel No.3
- 2) Eat-out Dhaba
- 3) Health Care Centre
- 4) Director's Bungalow
- 5) Expansion of Electrical Engineering Department
- 6) New Administrative Building
- 7) Market Complex, Bank & Post Office building
- 8) Construction of Earthquake Engineering Laboratory

**Project by CPWD:**

The following projects are currently implemented by CPWD:

- Kendriya Vidyalaya School & its campus
- Sewerage disposal system of the campus

**Priority wise projects:**

- T-V (E)-21 units (G+3)
- T-IV(D) – 60 units (G+3)
- Renovation & modification of M.E Workshop North Block
- Renovation & modification of M.E Workshop South Block
- Renovation & modification of Amenities Building
- CAD-CAM Centre building
- Material & Manufacturing Technology building
- Control Room and Regional Test Centre (RTC) cum Technology
- Construction of NABL Accredited Laboratory of the Institute

- Installation of 200 Nos. of Solar Street light
- Installation of 10X10 KW Solar Power Plant

**PART-B: Institute Electrical Works**

Considering future increase in the student's intake as well as increase in faculty strength, the Electrical works unit under Estate Section of the Institute has taken up several new assignments as well as expansion works of existing systems. They are in different stages of progress.

**Works completed (Civil and Electrical Works):**

The following construction works have completed:

1. Providing supplying and fitting fixing of control & distribution panel including laying of HFFR copper conductor cable for 160 KVA UPS at Central UPS room, New CSE-ECE bldg., GF
2. Renovation of Substation I & II
3. Earth filling works at proposed Library area play ground
4. Renovation/replacement of old electrical panel, power cable sub main etc. at main LTD building
5. Laying LT line by UG cable at Gr.IV colony and extension of electrical line up to security duty room of entrance gate
6. Providing electrical wiring at the Process Control System Lab of EE Dept.
7. Providing electrical installation at newly constructed coffee house at Girls Hostel No.1 & 2, Boys Hostel 1, 2, 3, 4,5,6 &7
8. Providing electrical installation at newly constructed classroom at CEC building
9. Renovation of electrical installation at A.P qtrs. No. 2 & 7, Old Prof. 1a,b & 3 a,b
10. Electrical power points for setting up new lab in ECE dept. (room No. 17, 2<sup>nd</sup> floor) new ECE/CSE bldg.

11. Providing and installation, testing of servicing motor pump set and submersible pump set etc.
12. Construction of 100 bedded Girls Hostel-2 at NIT Silchar
13. Outside painting & repairing of Boy's Hostel No. 1 at NIT Silchar.
14. Outside painting and repairing of Boys Hostel No-3 at NIT, Silchar
15. Outside Painting & Repairing of Boys Hostel No-5 at NIT Silchar
16. Outside painting & repairing of Boy's Hostel No. 2 at NIT Silchar.
17. Construction of Chain Link fencing at Children's Park at NIT Silchar
18. Construction of Car parking shed at Estate Engineering Branch NIT Silchar.
19. Repairing& outside painting works at Lecturers Qtr No. 9,10,11,12,13,14 & 15
20. Construction of Coffee and Xerox shop at Boys Hostel No-1, at NIT Silchar.
21. Repairing and outside painting works at Lecturer qtrs. 1,2,3,4,5,6,7 &8 at NIT Silchar.
22. Renovation & repairing work at Electronics & Instrumentation Engineering Department at NIT Silchar.
23. Repairing and outside painting works at Administrative building
24. Outside painting and repairing of Boys Hostel No-4 at NIT, Silchar
25. Repairing and outside painting of building and boundary wall at Bhupen Hazarika Hostel(Teachers flat)
26. Construction of visitor room and Coffee and Xerox shop at Girls Hostel No-2, at NIT Silchar.
27. Repairing & outside painting works at Dr. A.P.J Abdul Kalam Hostel Block C (1 No. D-type) at NIT Silchar.
28. Construction of Coffee and Xerox shop at Boys Hostel No-4, at NIT Silchar.
29. Renovation of T&P Department
30. Repairing & outside painting works at Dr. A.P.J Abdul Kalam Hostel Block C (2 No. D-type) at NIT Silchar.
31. Repairing and painting of building and boundary wall at C-Type Hostel
32. Repairing & Outside Painting Works at Professor's Qtr (6 Nos.) at NIT Silchar
33. Repairing & Outside Painting Works at Assistant Professor's Qtr (7 Nos.) at NIT Silchar
34. Construction of Coffee and Xerox shop at Boys Hostel No-2, at NIT Silchar.



New Building Photo

## 9.12 Vehicle Management

Sl No	Vehicle RegistrationNo.	Type of Vehicle	Purpose
1.	AS 11-6913	Maruti VanAmbulance	Medical purpose for staff and students
2.	AS 11B-0930	Tata Bus	For staff and students
3.	AS 11B-2703	Tata Bus	For staff and students
4.	AS 11C-0043	Ambassador Car	Director
5.	AS 11D-7736 (Donated by NITS Alumni Association)	Tata Indigo Car	T & P Academic & Office purpose
6.	AS 11D-2701/ 2702	Tractor &Trailer	Estate Branch

## 9.13 Alumni Association and its Activities

Need to create a platform for continuous interaction between the alumni and the Institute in every facets of development of the Institute has been felt and accordingly, REXIAN-NIT Silchar Alumni Association was established in the year 2006-07. Major objective of establishing the Alumni Association is to tap their expertise in the overall development of teaching-learning, and research activities of the Institute. With the above objectives in mind, the Association, for the first time, organized the first alumni meet at Silchar during October 31-Nov 2, 2010. The response to the first alumni meet was stupendous. Participants from US, UK, Middle East and Singapore besides participants from various parts of the country joined the programme. First two batches (pass outs of 1983 and 1984 batches) were accorded felicitation on completion of 25 years of their graduation (silver jubilee of graduation). Every alumni meet is planned to celebrate the silver jubilee of particular batch (s).

The trend continued and during the year under reporting, the third alumni meet was organized at Silchar during 17-19 November 2012. A large number of participants from across the country joined the programme in addition to participants from Europe.

Fifth batch of graduates (1987 pass outs) were accorded a felicitation during the meet on completion of 25 years of their graduation. The third Annual General Body meeting (AGM) of the Association was also organized during the meet. During third AGM, a new Executive Body of the Association was elected. Dr. Binoy Krishna Roy and Dr. Mokaddes Ali Ahmed were elected as President and Secretary respectively of the Alumni Association for the period 2012-14. The Director exhorted the alumni to contribute generously in the overall development of the Institute and promised them with their active support, he would take the Institute to greater pinnacle of success. During the three day meet, cultural events were performed by the current students, alumni and the kids of alumni. Both the evening witnessed an unseen camaraderie between the current students and the alumni. The alumni promised to help the students in finding better placement and training for them. During the third Alumni meet, a sum of Rupees 25000.00 was donated to the local chapter of Spastics Society of India by the Alumni Association. In addition, the Association distributed learning materials to the needy and marginalized students of the REC LP School. During the year under reporting, Alumni Association also organized an Induction Ceremony of 2012 graduates into the association in the month of May 2012.

The activities of the alumni association is managed by a 14 member Executive Committee with President, Vice-President, Secretary, Joint-Secretary-cum-Treasurer besides 10 members (five alumni and five student members). The association manages its finances through a bank account with the SBI, NIT Silchar branch. A onetime Membership fee of Rs. 1000.00 is collected during admission in the Institute from every student and the membership fee is transferred to the alumni association account thereafter.



(Glimpses of Alumni Meet)

## 9.14 Report of Kendriya Vidyalaya, NIT Silchar

Kendriya Vidyalaya NIT, Silchar is an educational institution under the Organization of Kendriya Vidyalaya Sangathan, which is an Autonomous

body under the Ministry of HRD. KV NIT has been a long cherished desire of the people of Silchar; but it would have remained a distant dream until it was materialized on 21.4.2012 by Prof. N.V. Deshpande, Director, NIT Silchar having signed the MOU with KVS. It is a project sector school under institute of Higher Learning. KENDRIYA VIDYALAYA, NIT, SILCHAR is affiliated to CBSE.

The first academic session began on 25<sup>th</sup> June 2012 with double section in primary and single section in secondary classes which was up to class VIII, with strength of about 520 students on role.

The Vidyalaya at present is functioning in a temporary building (NIT GUEST HOUSE).

- Like every other KENDRIYA VIDYALAYAS it has the four fold mission: they are
- To cater to educational needs of children of transferable central govt. employees including defence and para military personnel by providing a common pattern of education.
- To pursue excellence and set the pace in the field of school education.
- To initiate and promote experimentation and innovation in Education in collaboration with bodies like CBSE and NCERT.
- To develop a spirit of National Integration and to create a sense of Indianans among the children.

The Academic session begins from 1<sup>st</sup> April. It is co-educational with bilingual medium of instruction. At present the Vidyalaya is upto class IX with strength of 650 students. It has 26 nos. of teaching and non-teaching staff members.

Although it is very new, yet a variety of activities are conducted at both Vidyalaya level and Regional and National level, so as to promote and generate the latent potentials and talents of children and provide opportunities and exposure to nurture and nourish the same. Some of the activities include Science Exhibition, Social Science Exhibition, Games and Sports Meet, Adventure activities, Scouting and Guiding, Youth

Parliament, Junior Science Olympiad, Junior Math. Olympiad etc. Scouting and guiding activities have been launched with 120 students on enrolment.

Though the Vidyalaya is at a budding stage at infrastructural level yet we have Music room, Primary Activity Centre, Computer lab, Science lab, Library and a Medical room too, other than the class rooms,

Office, Exam dept. and Principals chamber and also Staff room. Students are given maximum exposure to computer aided teaching learning facility.

The Vidyalaya will extend up to Senior Secondary level and the first batch of pass out will be in the academic year 2015-2016.



**GRAND PARENTS DAY CELEBRATION**



**REPUBLIC DAY**



**VIVEKANANDA'S BIRTH ANNIVERSARY**



**BAL DIWAS**

## 10. NOTABLE ACHIEVEMENTS

### 10.1 Past Achievements

- ❖ Prof N.V. Deshpande, Director NIT Silchar was honoured with *SHARED UNIVERSITY RESEARCH AWARD 2012* by IBM India University Relation for his exceptional efforts in building and leading innovation.
- ❖ Prof N.V. Deshpande was awarded with the prestigious *RTI Anonymous Award 2013* as an appreciation of his efforts to usher in an era of transparency at the Institute.
- ❖ Solar Photo Voltaic Power Plant at NIT Silchar : Institute has set up 100 Kwp Solar Photo Voltaic Power Plant in collaboration with MNRE, Govt. of India during the year 2012-13. 90% expenditure of this project was borne by MNRE. By using this, Institute has become capable of SPV system for running essential loads (such as computer and other electrical equipment) during power off time and also the availability of Central Financial Assistance Scheme of MNRE under Jawaharlal



Solar Street Light

National Solar Mission. With this Institute has saved 11000 Kwh electricity consumption in the year 2012-13.

- ❖ 50 nos. of Solar Street light have been installed in the Campus having 1100 watt. With the use of this, Institute is able to use lights, fans and computers without the use of an electrical grid in RPC Cell, MBA Deptt and also in some of the other classrooms in Academic Block.

### 10.2 Achievements by Faculty Members

Mr. Shahedula Houque Laskar, Associate Professor, Department of Electronic Engineering, National Institute of Technology Silchar has joined the elited rank of IEEE as senior member.

### 10.3 Research Projects and Consultation Jobs

#### Consultancy Earnings

NIT Silchar is encouraging consultancy works at various levels and NIT Silchar is earning revenue through consultancy works. Many Govt.of India, State Govt., PSUs, Pvt Organizations etc. are giving consultancy works to NIT Silchar.

Gross consultancy earning during the financial year 2011-12 was Rs. 55,48,755.00 lakhs Institute overhead charges including Share was = Rs. 21,36,271.00 lakhs

#### Major clients for consultancy jobs were:

- (a) NCC Ltd. Hyderabad (Camp NIT, Silchar)
- (b) Govt. of Assam, Disaster Management Deptt.
- (c) Hindustan Paper Corporation Ltd
- (d) Central Public Works Department/PWD
- (e) Airport Authority, Kumbirgram
- (f) North East Frontier Railway

- (g) North Eastern Electric Power Corpn Ltd.
- (h) General Road Engineers Force
- (i) National Building Construction Corporation Ltd
- (j) Engineers India Limited
- (k) NPCC Ltd.
- (l) SMEC India Pvt. Ltd.
- (m) Rajshakhar Constn. Pvt. Ltd., Guwahati
- (n) Power Grid Corpn of India Ltd.
- (o) Assam University, Silchar
- (p) Brahmaputra Board
- (q) All India Radio

- (r) Indian Oil Corpn Ltd.
- (s) Meghalaya Cement Factory etc.

#### 10.4 TEOIP-II:

Since its inception NITS is striving to impart quality education and produce efficient, responsible and industry ready professionals. Technical Education Quality Improvement Programme of the Institute is in the phase-II and comes under sub component 1.2. And the total allocated budget for the phase-II is Rs. 12.5 Crore. Utilizing a total amount of Rs. 2 Crore 87 thousand till date, the Institute has managed to bag the tag of best performer amongst all the other Technical Institutes.

#### 1. Details of in-house workshop/Expert Lecture/Seminar/Conference/Training organized at NIT Silchar during the year 2012-2013

Sl. No.	Date		Title of Workshop/Expert Lecture/ Seminar/Conference/Training	Department	Coordinator
	From	To			
1.	06.04.2012	08.04.2012	Creativity and innovation techniques and patenting in India and abroad.	EE Deptt	Dr. Arup Kumar Goswami
2.	11.04.2012	13.04.2012	Technical Programme Discussion Meeting	Mathematic Deptt	Dr. Mausumi Sen
3.	16.04.2012	18.04.2012	Advances in Transportation Engineering	CE Deptt	Dr. M.A.Ahmed, Dr P.Rajbongshi.
4.	30.04.2012	04.05.2012	FDP on Effective Teaching.	TEQIP-II	Dr. M. Ali Ahmed Dr. P.K. Patowari Mr. W.Arif
5.	19.05.2012	20.05.2012	Project proposal of DRDO	TEQIP-II	Dr. M. Ali Ahmed Dr. P.K. Patowari
6.	22.05.2012	28.05.2012	Awareness on Hostel Management	CE Deptt	Dr. P.Rajbongshi,.
7.	11.06.2012	13.06.2012	Seismic Retrofitting of Buildings	CE Deptt	Dr A.I. Laskar Dr. A.M. Choudhury
8.	18.06.2012	23.06.2012	Geotechnical Earthquake Engineering.	CE Deptt	Prof A.K.Dey N.Borthakur

Sl. No.	Date		Title of Workshop/Expert Lecture/Seminar/Conference/Training	Department	Coordinator
	From	To			
9.	26.06.2012	27.06.2012	Introduction to Application on ELVIS II +	EE Deptt	Dr. B.K. Roy
10.	01.07.2012	06.07.2012	Graphical System Design-An Interactive approach.	EE Deptt	Dr. B.K. Roy
11.	06.07.2012	07.07.2012	Improving Efficiency and Behavioral Skill of Office Staff.	TEQIP-II	Sudipta Bhattacharjee
12.	07.07.2012	09.07.2012	CFD Lab	Mathematic Deptt	Dr M.Sen
13.	24-07-2012	27-07-2012	Philosophy of Research Methods	HSS Deptt	Dr. Gurudas Das
14.	02-08-12	04-08-2012	Application of Mathematics in Science & Engineering	Mathematic Deptt	Dr. Mausumi Sen
15.	31-08-2012	01-09-2012	Spiritual Intelligence for Managerial Excellence	Dean S/W	Prof A.K.Sil
16.	02-09-2012	02-09-2012	Challenges and opportunities in North East Region	MBA Deptt	Dr. Gurudas Das
17.	16-09-2012	18-09-2012	Lab VIEW basic-a preparatory course for CLAD examination	EE Deptt	Dr. B.K. Roy
18.	28-09-2012	30-09-2012	Application of Embedded system in various field of Electronics	ECE Deptt	Mrs M.Choudhury Mrs B. Bhowmick Dr. J.Mehedi
19.	01-10-2012	02-10-2012	Implementation of Development scheme in Border (International/ Inter-State) village of Five District in South Assam	CE Deptt	Dr. A.K Barbhuiya
20.	11-10-2012	15-10-2012	Application of Statistic in Engineering, Management & Applied Science.	Mathematic Deptt	Dr. P.K.De
21.	03-11-2012	05-11-2012	Lecture Series “ A Mechanical Engineering”	ME	Dr. R.D.Misra
22.	06-11-2012	08-11-2012	Application of Accrual Accounting	Accounts Section	D/R Accounts
23.	10-11-2012	12-11-2012	Basic of Lab View	EE Deptt	Dr B.K.Roy
24.	26-11-2012	28-11-2012	Information Innovation Technology Creating Seamless Linkage	Library	Dr. KS Satpathy
25.	13-12-2012	13-12-2012	Cosmos Circuit Design for Bio-Medical Applications	ECE Deptt	K L Biahnab
26.	11-01-2013	11-01-2013	Use of Nano Technology in Civil Engineering.	CE Deptt	Dr. M.Ali. Ahmed
27.	02-02-2013	02-02-2013	Industry Oriented Piping Engineering	CE Deptt	Dr. A.M.Choudhury
28.	15-03-2013	17-03-2013	Campus to Corporate	T&P Deptt	Mr. Prakash Singh



Sl. No.	Date		Title of Workshop/Expert Lecture/Seminar/Conference/Training	Department	Coordinator
	From	To			
29.	11-03-2013	12-03-2013	Embedded System & Application	EE Deptt	Saurabh Choudhury
30.	16-03-2013	16-03-2013	Enhancing visibility by publishing in high impact factor/SCIQ Journals	Library Deptt	Dr.K. Satpathy
	20-03-2013	26-03-2013	New System of Accounting	Accounts Section	D/R Accounts
	18-03-2013	23-03-2013	Computational Fluid Dynamic	Mathematic Deptt	Dr.M.Sen
<b>Total no. of workshop organized</b>					<b>32 Nos.</b>

2. Details of workshop/Expert Lecture/Seminar/Conference/Training attended outside by Faculties & Non-Teaching Staff during the year 2012-2013.

Sl No	Name	Deptt.	Date		Title of Workshop/Expert Lecture/Seminar/Conference/Training	Institute	Place
			From	To			
1.	Mr S.K Srivastav Mr.Sajal Choudhury	D/R Accounts, Audit Officer	09-01-2012	13-01-2012	Management Development Programme	NIFM	Delhi
2.	Mrs Krishnamati Singh	Library	13-01-2012	14-01-2012	Uses of E-Books and its future	NIT Rourkela	Rourkela
3.	Mrs Bandana Roy Choudhury Mrs Shefali Sinha	Estt	09-02-2012	11-02-2012	Pensioner Benefits.. Citizen Charter	New Delhi	New Delhi
4.	Mr. Dipak Roy	P.A. to Director	16-03-2012	17-03-2012	Right to Information Act & Citizen Charter	New Delhi	Delhi
5.	R.D Mishra & P.K.Patowari	ME	26-04-2012	27-04-2012	Micro-Nano Manufacturing Lab	BARC,Mumbai	Mumbai
6.	Dr.Satyabrata Choudhury	CE	06-11-2012	09-11-2012	Meeting of SERB,DST	VSNIT	Surat
7.	P.K.Patowari	ME	29-11-2012	3-12-2012	5 <sup>th</sup> SERC school of new development in micro fabrication,	RRM Centre for Advance Technol- ogy, Indore	Indore
8.	B.K.Roy	EE	01-12-2012	02-12-2012	Conference on 47 <sup>th</sup> An- nual convention of com- puter society of India ,	Computer Society of India Kolkata	Kolkata
9.	B.K.Roy	EE	04-12-2012	08-12-2012	Central System Design,	IISST, Thiruvanthapuram	Thiruvantha- puram
10.	A.M. Choudhury & P.J.Roy	CE	04-12-2012	15-12-2012	Certificate Course in Piping Engineering	IIT Bombay	Bombay
11.	B.K.Roy	EE	07-12-2012	09-12-2012	IEEE INDICON 2012,	IEEE,Kochi	Koch

12.	G D Dasgupta & Ashim Das	HSS	10-12-2012	15-12-2012	Innovation in Excellence	IIM Ahmedabad	Ahmedabad
13.	Swapnil V. Choudhury	ME	11-12-2012	21-12-2012	2 week ISTE in Thermodynamic at VNIT,	VNIT	Nagpur
14.	P.K.Patowari	ME	14-12-2012	16-12-2012	Performance of Powder Metallurgy Tools in EBM for Surface Modification.	Jadavpur University, Kolkata	Kolkata
15.	R.H Laskar	ECE	17-12-2012	17-12-2012	Image in Speech processing	IIIT Hyderabad	Hyderabad
16.	Dipak Roy,Pijush Bhattacharjee,Ashim Roy,S.K.Bhattacharjee	Estt, Acd, Physic	19-12-2012	21-12-2012	Roaster Training,	Centre for training & Social Research, New Delhi	New Delhi
17.	K.N.Das		19-12-2012	22-12-2012	45 <sup>th</sup> Annual convention of ORSI 2012,	ORSI, Kolkata.	Kolkata.
18.	R.D Mishra, P.K.Patowari, M.A.Ahmed	ME,CE	04-02-2013	08-02-2013	Recent trend in oil & gas production technology,	ONGC, Shivsagar	Shivsagar
19.	M.A.Ahmed	CE	08-02-2013	10-02-2013	Utility Mapping for paratransit services in Imphal. manipur	National Town & Country Planners Congress.Gujrat University convention & Exhibition Centre	Ahmedabad
20.	Sanjay Srivastava, Mithilesh Kumar	Admin	11-02-2013	15-02-2013	1. Enhancing Management & Administrative efficiency,	IIM Lucknow	Lucknow

(Contd..)

(Continuation)

Sl No	Name	Deptt.	Date		Title of Workshop/Expert Lecture/Seminar/Conference/Training	Institute	Place
			From	To			
21.	Nalin Bihari Dev Choudhury	EE	11-02-2013	15-02-2013	Continuing Education Programme on operation of Re-Structured power system in deptt. of Electrical Engnn.	NIT Warangal	Warangal
22.	R.H Laskar	ECE	22-02-2013	25-02-2013	Speech & Audio Processing(WISSAP-2013)	IIT Madras	Chennai
23.	Dr. M.A Ahmed, Mr. Wasim Arif	CE ECE	26-02-2013	27-02-2013	1 <sup>st</sup> Joint Review Mission	EdCIL House	Noida
24.	Mr Prakesh Singh	T&P	03-04-2013	07-04-2013	Improvement for Industry Institute Relation for Placement.	Corporate HR in Pune	Pune.
<b>Total no. of workshop organized</b>							<b>24 Nos.</b>

### 3. Procurement of Equipment under TEQIP-II Completed in the Year 2012-2013

Sl No	Name of Equipment	Deptt	Amount (Rs)
1	Transducers and Instrumentation Lab	ECE	2,15,650.00
2	Communication System Engg. Lab	ECE	14,46,900.00
3	Environmental Engineering Lab	CE	2,30,405.00
4	Dye Sensitized Solar Cell	ME	95,625.00
5	NI ELVIS II+ (For Academic Use Only)	EE	7,96,950.00
6	Ansoft's Academic Research HF Package	ECE	7,35,000.00
<b>Total No. of Equipment Procured</b>			<b>6 Nos.</b>
<b>Total Fund Invested under Procurement</b>			<b>35,20,530.00</b>

### 4. Other Activities of TEQIP-II in the Year 2012-2013

Sl	Activity Name	Number of Students
1	TEQIP-II Assistantship Awarded to PG & PhD	PG-60 Nos. PhD-8 Nos
2.	Total Number of Weak Students Supported	685 Students

### 5. Financial Report of TEQIP-II Project During the Year 2012-2013.

Sl No	Activity Name	Expenditure Involved (Amount) (Rupees in lacs)
1.	Teaching, Training and Learning facilities:	35.21
2.	Providing Assistantships for increased enrolment in existing and new PG Programmes in Engineering Discipline:	61.85
3.	Enhancement of Research and Development and Institutional Consultancy Activities:	9.16
4.	Faculty and staff development for improved competence based on Training Needs Analysis (TNA):	23.79
5	Enhanced Interaction with Industry:	7.38
6	Institutional Management Capacity enhancement:	27.98
7.	Implementation of Institutional reforms:	1.25
8.	Academic support for weak students:	5.60
9.	Incremental operating Cost:	29.65
<b>Total Fund Utilized Rs.</b>		<b>201.87</b>

## 11. Corporate Social Responsibility:

NITS has become one of the most coveted educational institutes of its times in the North-eastern part of the country. As a part of its enduring CSR endeavour, the Institute has undertaken various measures to improve the socio-economic conditions of the nearby villages. The contributions of the Institute towards the social development are listed below:

### ❖ Adoption of border villages to develop these as Model villages

NIT Silchar is also committed to its Corporate Social Responsibility. With the initiative of NIT Silchar, a

meeting was held on 1<sup>st</sup> October 2012 at NIT Silchar to identify and develop some villages from the nearby districts. The meeting was attended by Dr. Mahammed Ariz Ahammed, IAS Commissioner, Hills and Barak Valley Division, Assam Professor S Dasgupta, Vice Chancellor, Assam University, Silchar and deputy commissioners and other administrative officers from 5 (five) districts of Cachar, Karimganj, Hailakandi, Dima-Hasao and Karbi Anglong and other dignitaries from Police and BSF departments.

In the meeting, in consultation with the Commissioner and deputy commissioner of districts, NIT Silchar has adopted two border villages from each of five districts to develop these as Model Villages. The list of the adopted villages is given below:

No.	Name of District	Name of Village
1.	Cachar District	A. Tukargram in Katigora Block at Bangladesh boarder B. Chekardam in Fulong ghat Block at Mizoram boarder
2.	Hailakandi District	A. Telkata Village and B. Dhalchara both bordering with Mizoram
3.	Karimganj District	A. Defalala and B. Mukumtilla both are in Patharkandi
4.	Karbi Anglong District	A. Mulaber near Khathasala and B. Tahpat near Khanduli. Both are under Hamren sub-division bordering state of Meghalaya.
5.	Dima-Hasao District	A. Alaisong Village under Mahoor Block B. Prasadimik under Maibang Block

In addition, 8 priority areas were identified where NIT Silchar will extend its expertise for the development of Border villages of 5 Districts of Hills and Barak Valley Division and for the promotion of National Solidarity in the region.

### ❖ The Priority areas identified are:

- Communication:-Roads and Bridges & Transport
- Education,

- Health & Family Welfare,
- Drinking Water,
- Child and Women Nutrition and PDS
- Power (including Non-conventional energy)
- Women Self Help Groups
- IT
- National Solidarity and Integration

As follow-up action, on 25<sup>th</sup> November 2012, a team from NIT Silchar visited one village, Tukargram of Cachar District and two villages, Defalala and Mukamtilla of Karimganj District. Addl. Deputy Commissioner, Cachar, Mr. Arunava Dey and Circle Officer, Katigora Miss Khaleda Sultana Ahmed accompanied the team for visit to Tukargram. Dy. Commissioner, Karimganj, Mr. D. Malakar, Addl. Dy. Commissioner Mr M.A. Laskar and Circle Officer, Patharkandi Mr. F. R. Laskar accompanied the team at villages in Karimganj.

The following were the team members from NIT Silchar:

1. Prof. N. V. Deshpande, Director, NIT Silchar
2. Prof. P. S. Choudhury, Professor, Civil Engineering Department
3. Dr. B. K. Roy, Associate Professor, Electrical Engineering Department
4. Prof. A. K. Barbhuiya, Professor, Civil Engineering Department
5. Mr. K. L. Baisnab, Asstt. Professor, Electronics and Communication Engineering Department
6. Dr. J. Mehedi, Asstt. Professor, Electronics and Communication Engineering
7. Dr. (Miss) P. Das, Asstt. Professor, MBA Department

Mrs. Deshpande also offered her visit along with the team.

Based on the observation and discussion with the villagers, the committee recommended the following activities that need to be carried out in short term as well as long term basis for the improvement of the life of the villagers:

For the village of Cachar District:

**Short term programme:**

1. Round the clock arrangement of a government boat for crossing Kushiara River.
2. Arrangement of additional teacher in the L.P school based on the students strength preferably

from the village itself if qualified candidate is available.

3. Deputing para-medical staff in the village
4. NIT Silchar to start certificate course on Computer Fundamentals, Electrical Wiring and electronics maintenances.
5. NIT Silchar to arrange the training of few peoples for heavy vehicle driving and maintenance.
6. PHE water supply to the new colony of Tukargram.

**Long term programme:**

1. Construction of internal road in the village.
2. NIT Silchar to arrange for setting up of solar power plant.
3. NIT Silchar to explore the possibility for providing video conferencing facility.
4. Construction of bridge over the Kushiara River to connect Tukargram and Bhanga which in future may be used as a gateway for international trading.

For the villages of Karimganj District:

**Short term programme:**

1. NIT Silchar to start certificate course on Computer Fundamentals, Electrical Wiring and electronics maintenances for the youths from both the villages.
2. NIT Silchar to arrange the training of few peoples for heavy vehicle driving and maintenance for the youths from both the villages.
3. To ensure PHE water supply regularly in the Defalala village.
4. NIT Silchar to arrange the training of few young girls on catering from Mukamtilla village.

**Long term programme:**

1. Construction of approach road for the Mukamtilla village.

2. Construction of internal road for both Defalala and Mukamtilla villages.
3. NIT Silchar for arrangement of solar power plant for both the villages.
4. NIT Silchar to explore the possibility of providing video conferencing facility at both the villages.
5. Arrangement of pumping system to lift the water up to the residence at Mukamtilla.
6. Establishment of a Training Cell at Defalala by the District authority.
7. Training for adoption of modern cultivation technique for both the villages.
8. Paramedical staff may be engaged for both the villages.







In addition, NIT Silchar has taken initiative to send 10 nos of unemployed youth to Tripura Forest Development and Plantation Limited: Tripura for training on furniture manufacturing and nursery.

❖ NIT Silchar in collaboration with C-DAC is planning to implement the Telemedicine project for the betterment of Border Villages.

❖ **Health Camps:**

To sensitize local village people on Health issues, the Institute's Health Centre and its staff have organized various health camps and Blood Donation camps in and around Villages and remote

areas of Cachar district. In order to combat with Cancer Director NIT silchar Prof. N. V. Deshpande took the initiative to have a Health Check-up Screening Camp at adjacent village of NIT campus Under the community Out Reach Programme, and accordingly Cachar cancer Hospital was contacted and Dr. Ravi Kannan and his team of Cachar Cancer Hospital committed towards the noble cause and eventually Health Unit of NIT Silchar under the leadership of Dr. T. Shimreiphy a one-day Health Check-up Camp was organized in Babutilla- madhutilla Village on 30/9/2012.





सत्यमेव जयते

**Separate Audit Report on the Accounts  
of  
National Institute of Technology Silchar**

**For the year 2012-13**





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

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

No: OA II (AB)/AR/2012-13/NITSILCHAR/276

Date: 30.10.13

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

**Subject:** Separate Audit Report on the accounts of *National Institute of Technology, Silchar Assam* for the year *2012-13*


Sir,

I am to forward herewith the Separate Audit Report in the prescribed format introduced by the C & A.G of India on the accounts of *National Institute of Technology, Silchar, Assam* for the year 2012-13. A copy of the annual accounts of the organisation for the year 2012-13 is also enclosed.

2. Five copies of Separate Audit Report (both English and Hindi Version), as may be presented before Parliament, may please be forwarded to this office for necessary action at this end.
3. The dates of laying the audited accounts and the Separate Audit Reports for the year 2012-13 on the Tables of both the Houses of Parliament may also please be communicated to this office.

\*Yours faithfully,

Encl.: As stated

  
(A.Roychoudhury)  
Director General of Audit  
Central: Kolkata

जि. आई. प्रेस बिल्डिंग, 8 किरण शंकर राय रोड (1म मंजिल), कोलकाता- 700 001  
Govt. of India Press Building, 8, Kiran Sankar Roy Road, Kolkata -700001  
Phone : 2254-0221, (Gram : ACCOUNTCENT) Post Box : 2699, Fax No. : 033 22135377

**Separate Audit Report of the Comptroller & Auditor General of India on the Accounts of National Institute of Technology, Silchar for the year ended 31 March 2013.**

We have audited the attached Balance Sheet of **National Institute of Technology, Silchar** Assam as at 31 March 2013 and the Income and Expenditure account for the year ended on that date under Section 19(2) of the Comptroller and Auditor General's (Duties, Power and Conditions of Service) Act, 1971 read with Section 22(2) of the National Institute of Technology Act 2007. These financial statements are the responsibility of the Institute's Management. Our responsibility is to express an opinion on these financial statements based on our audit.

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

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

4. Based on our audit, we report that:
  - i. We have obtained all the information and explanations, which to the best of our knowledge and belief were necessary for the purpose of our audit;
  - ii. The Balance Sheet, Income and Expenditure Account dealt with by this report have not been drawn up in the Uniform Format of accounts prescribed by the Ministry of Finance, Government of India (refer to comment No. A.1).
  - iii. In our opinion, proper books of accounts and other relevant records have not been maintained by the Board as required under section 22(1) of the NIT Act, 2007 in so far as it appears from our examination of books.
  - iv. We further report that

**A. Balance Sheet**

**1 Format of Accounts**

All the Central Autonomous Bodies are to prepare the accounts as per Uniform Format of Accounts prescribed by the Ministry of Finance, Government of India.

The Institute, during the year 2012-13 had prepared its accounts not in accordance with the Uniform Format as prescribed by the Ministry of Finance, Government of India, in the year 2002 but the new format prescribed by the MHRD. This had resulted in:

- a. Creation of new heads of accounts in Liabilities and Assets sides of the Balance Sheet, Income and Expenditure Accounts.
- b. Inclusion of the amount of depreciation under Administrative and General Expenses instead of showing it separately in Income and Expenditure Account.
- c. Preparation and inclusion of Cash Flow Statement instead of 'Receipts and Payments Account'.

## 1.1 Liabilities

### 1.1.1 Current Liabilities and Provision (Schedule 6) ₹ 9.67 crore.

Current liabilities and Provision (Schedule 6) exhibited an amount of ₹ 7.31 lakh under the head 'Accrued interest from the investment of Caution Money' Caution money is generally collected from the students and it was refunded also. Accrued interest out of this fund if any, should have been shown in the income side of the Income and Expenditure Account. But the Institute had booked this amount (interest) under the head 'Current Liabilities and Provision' (Schedule 6). This resulted in overstatement of Current Liabilities and Provision as well as understatement of Corpus Fund by ₹ 7.31 lakh.

### 1.1.2 Designated / Earmarked Funds (Schedule 3) ₹ 290.58 crore

As a departure from the declared Accounting Policy (SI-3 of Schedule-22) and practice being consistently followed in previous years to capitalize the utilized portion of Plan Grants as well as other specific Project Grants, the Institute had added the unspent/unutilised portion of Plan Grant amounting to ₹42.10 crore to Designated / Earmarked funds account instead of transferring that amount to Current Liabilities & Provisions, though in respect of other specific Project Grants, the same were transferred to Current Liabilities & Provisions as per above declared Policies. This had resulted in overstatement of Designated / Earmarked Funds balances by ₹42.10 crore with the corresponding understatement of Current Liabilities and Provisions to the same extent.

## B General

2.1 Current Liabilities and Provision (Schedule-6) included ₹ 2.17 crore and ₹ 0.72 crore under the head of unutilized grant against sponsored project; 'AICTE' and 'MODROB and R&D' [under 5 (d)] as unutilized amounts to be transferred to the Government/Sponsorer. As per the records, the Institute had received a total grant of ₹



0.51 crore and ₹ 0.11 crore under the heads of AICTE and MODROB and had spent ₹ 0.91 crore and ₹ 0.28 crore after making adjustment of previous years opening balance. In absence of detailed accounts in respect of AICTE and MODROB, the unspent balance as shown in schedule-6 could not be properly verified. The Institute should have prepared detailed account of both the projects and included in Earmarked Fund as per the detailed guidelines of common format of accounts.

**2.2** The Institute had received an equipment valuing ₹ 2.43 crore (100 KWP Solar Photovoltaic Power Plant) free of cost from MNRE and incurred an expenditure of ₹ 36 lakh on its installation etc. The entire cost of the equipment was debited to Fixed Assets with corresponding credit to General Fund with a disclosure in Schedule – 22 [4(b)].

The accounting treatment of assets received at free of cost and disclosure thereon were in violation to the provisions of Accounting Standard – 12, according to which the assets received as grant in kind and free of cost should be shown at nominal value. Violation of the provisions of AS-12 had resulted in overstatement of value of Fixed Assets as well as General Fund by ₹ 2.43 crore.

**2.3** The Institute had not followed the 'Pattern of investment' prescribed by the Government of India, Ministry of Finance Notification dated 14 August 2008 in respect of the investment towards Contributory Provident fund and had kept whole amount of ₹ 23.90 crore in Fixed Deposit.

#### **2.4 Significant Accounting Policies**

The impact of changes in Accounting Policies in the following cases had not been disclosed in violation to the provisions of Accounting Standard – 5.

(i) Increase in the amount of depreciation by ₹145.54 lakh (E-journal: ₹ 17.77 lakh and Library Books and Periodical journals: ₹127.74 lakh) due to providing depreciation on Electronic Journals @ 100 per cent and Library Books @ 30 per cent as against the

earlier Policy for Providing depreciation on Electronic Journals @ 30 per cent and no depreciation on Library Books.

(ii) The fact and impact of providing depreciation on additions to assets during the year on pro-rata basis as against earlier policy of providing full depreciation on assets procured upto the month of September of the respective year and no depreciation on assets procured beyond that month had neither been disclosed nor worked out.

### C. Grants-in-aid

During the year (2012-13), the Institute had received total grants of ₹ 143.61 crore both under Plan and Non Plan heads (Plan received ₹ 72.00 crore and receivable of 2011-12 ₹32.61 crore and Non Plan received ₹ 30.00 crore, Receivable of 2011-12 ₹9.00 crore). Out of the total grant (₹143.61 crore) the Institute had spent ₹95.48 crore (Plan Capital ₹61.13 crore, Plan Revenue ₹2.16 crore and Non Plan ₹32.19 crore) leaving an unspent balance of ₹48.13 crore (Plan 41.32 crore and Non-plan 6.81 crore).

Besides above, the Institute had received main Project grants under MHRD and AICTE of ₹ 2.11 crore (Received ₹0.63 crore and Receivable of 2011-12 ₹1.43 crore) and other miscellaneous grants of ₹0.22 crore for various projects. The Institute had spent ₹1.20 crore out of the total project grants received (₹ 2.11 crore) during the year leaving an unspent grant of ₹ 0.91 crore.

Further, the Institute had also received a total amount of ₹ 5.00 crore under the World Bank assisted Technical Education Quality Improvement Programme (TEQIP) from the Government of India (Phase-II) and ₹ 0.05 crore, a specific purpose grant for the purpose of creating awareness of National Mission on Education through Information & Communication Technology (NMEICT) among different institution/universities. The Institute had spent ₹ 1.75 crore out of total TEQIP Fund received leaving an unspent balance of ₹ 3.25 crore and no expenditure was incurred out of the NMEICT Fund.

**D. Management Letter:**

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

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

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

- a.* in so far as it relates to the Balance Sheet, of the state of affairs of according the National Institute of Technology, Silchar as at 31 March 2013 and
- b.* in so far as it relates to Income and Expenditure Account of the surplus for the year ended on that date.

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

Place:-Kolkata  
Date:- 30-10-2013

  
(A.Roychoudhury)  
Director General of Audit  
Central :: Kolkata

### Annexure

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

- In spite of Internal Audit Department, the Institute did not conduct any Internal Audit of its activities.
- There was not any separate Standard Manual for Internal Audit.

#### 2. Adequacy of Internal Control System

- No certificate of physical verification of Cash was noticed in the cash book for March 2013. Manual Cash Book was not maintained as such. Computerized Cash Book was checked. Certificate of Physical Verification of cash not furnished
- Vouchers were not stamped as paid and cancelled.
- No committee was constituted to oversee the investment made by the institute.

#### 3. System of Physical verification of Assets

- Physical verification on library books worth ₹ 3.53 crore (Schedule-7) had not been conducted since inception to till date (31.03.2013). In absence of which actual existence as well as the condition of the books as exhibited in the schedule-7 could not be verified /ascertained.
- Fixed Asset Register is not being maintained as per GFR
- No Physical verification of Asset was conducted since 2005-06.

#### 4. Statutory Liabilities:-

The Institute had not disposed of the statutory due for more than one year as detailed below:-

- (i) Income Tax Payable- ₹ 0.23 lakh
- (ii) GSLI Payable- ₹ 0.69 lakh.

**Statement of Accounts  
of  
National Institute of Technology Silchar**

**For the Year 2012-13**



NATIONAL INSTITUTE OF TECHNOLOGY, SILCHAR (ASSAM)

BALANCE SHEET AS AT 31ST MARCH, 2013

		(Amount in Rupees)		
<u>SOURCES OF FUND</u>	Schedule	Current Year	Previous Year	
UNRESTRICTED FUND				
Corpus	1	74,199,580	13,966,014	
General Fund	2	302,390,690	-253,450,232	
Designated/Earmarked Funds	3	2,905,875,355	2,556,679,253	
Restricted Funds	4	248,177,914	125,241,212	
Loans/Borrowings	5		0	
Current liabilities & Provisions	6	96,705,561	118,588,159	
<b>TOTAL</b>		<b>3,627,349,100</b>	<b>2,561,024,406</b>	

		Current Year	Previous Year
<u>APPLICATION OF FUNDS</u>	Schedule	Current Year	Previous Year
Fixed Assets	7	1,879,255,775	1,685,571,023
Capital Work in Progress		444,470,985	97,298,621
Investments			0
Long Term	8	164,185,565	109,685,565
Short Term		3,642,770	3,642,770
Current Assets	9	444,623,246	118,294,697
Loans, Advances & Deposits	10	691,170,759	546,531,730
<b>TOTAL</b>		<b>3,627,349,100</b>	<b>2,561,024,406</b>

NOTES ON ACCOUNTS

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Dated, Silchar

The 8th May 2013

Registrar

Director

**NATIONAL INSTITUTE OF TECHNOLOGY, SILCHAR (ASSAM)**  
**INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31st MARCH, 2013**

INCOME	Schedule	Current Year				Previous Year	
		Unrestricted Fund		Restricted Fund	Total	Total	Total
		Corpus	Designated Fund				
Academic receipts	11			100,378,683		100,378,683	77,404,654
Grants & Donations	12			398,900,000		398,900,000	280,000,000
Income from Investments	13			0		0	0
Other Incomes	14			24,200,402		24,200,402	10,197,225
<b>TOTAL (A)</b>				<b>523,479,085</b>		<b>523,479,085</b>	<b>367,601,879</b>
<b>EXPENDITURE</b>							
Staff Payments & Benefits	15			258,839,226		258,839,226	216,296,393
Academic expenses	16			2,748,778		2,748,778	2,350,299
Administrative & general Expenses	17			158,532,518		158,532,518	94,863,458
Transportation Expenses	18			2,160,231		2,160,231	1,217,505
Repairs & Maintenance	19			8,551,271		8,551,271	18,351,546
Finance Costs	20			24,625		24,625	3,574
Other Expenses	21			1,360,791		1,360,791	0
<b>TOTAL (B)</b>				<b>432,217,440</b>		<b>432,217,440</b>	<b>333,082,775</b>
<b>Balance being excess of Income over Expenditure (A-B)</b>						<b>0</b>	<b>34,519,104</b>
<b>Transfer to Corpus/General Fund( Balance of Surplus)</b>				<b>54,420,113</b>			
				<b>91,261,645</b>		<b>0</b>	<b>34,519,104</b>

22

NOTES ON ACCOUNTS

Dated, Silchar

The 8th May 2013

Registrar

Director



NATIONAL INSTITUTE OF TECHNOLOGY, SILCHAR (ASSAM)  
 SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31ST MARCH, 2013

	(Amount in Rs.)	
	Current Year	Previous Year
<b>SCHEDULE 1 - CORPUS</b>		
Balance as at the beginning of the year	13,966,014	11,419,711
Add: Contributions Towards Corpus Fund from :	0	
Development Fees	1,539,000	1,599,186
Suspense account	2,954,933	
Surplus of IRG transferred during the year	54,420,113	245,021
Interest income on Savings A/C	10,641	
Accrued interest on corpus fund	1,308,879	702,096
	74,199,580	13,966,014
<b>BALANCE AT THE YEAR END</b>	<b>74,199,580</b>	<b>13,966,014</b>

**NATIONAL INSTITUTE OF TECHNOLOGY, SILCHAR (ASSAM)**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31ST MARCH, 2013**

<b>SCHEDULE 2 - GENERAL FUND</b>	(Amount in Rs.)	
	Current Year	Previous Year
Balance as at the Beginning of The Year	-253,450,232	-189,625,063
Add: Capital fund utilised	611,675,588	
Add: Contributions Towards General Fund (Surplus of IRG upto 2010-11 transferred to Earmarked Funds)	-108,978,800	-98,344,273
Add/Deduct : Balance of Net Income transferred from the Income & Expenditure A/c	36,841,532	34,519,104
Less: Depreciation on Grant Assets during the year	-7,997,398	
Add: Capital Reserve (Support from MNRE in kind)	24,300,000	
<b>BALANCE AT THE YEAR END</b>	<b>302,390,690</b>	<b>-253,450,232</b>

NATIONAL INSTITUTE OF TECHNOLOGY, SILCHAR : ASSAM  
SCHEDULE FORMING PART OF BALANCE SHEET AS AT 31ST MARCH, 2013

<b>SCHEDULE 3 - DESIGNATED/EARMARKED FUNDS (Regrouped)</b>		<b>(Amount - Rs.)</b>	
	<b>Current Year</b>	<b>Previous year</b>	
<b>a) Opening balance of the funds</b>			
Plan Grant	2,388,575,403	1,129,815,765	
Plan Grant OSC (Non-Recurring)	1,506,941,054	459,424,548	
Previous Year Unspent (General Obc)	422,209,801	422,209,801	
<b>b) Additions to the Funds:</b>			
i. Donations/Grants Received during the year	952,800,000	387,340,830	
ii. Income from Investments made on a/c of funds			
Interest on Mobilisation & other advance	1,046,146	-	
Interest on FD Plan	14,998,785	-	
iii. Accrued interest on Investments of the Funds			
iv. Other additions (specify nature)			
	<b>TOTAL (a+b)</b>	<b>2,398,790,944</b>	
<b>c) Utilisation/Expenditure towards objectives of funds</b>			
<b>i. Capital Expenditure</b>			
- Fixed Assets	611,675,588	20,117	
- Others			
	<b>TOTAL</b>	<b>611,675,588</b>	<b>20,117</b>
<b>ii. Revenue Expenditure</b>			
Salaries, Stipend, Wages and allowances etc.	23,393,882		
<b>Other Administrative expenses</b>			
Subscription NIT Transit House	150,000	10,195,424	
Plan Recurring Expenditure	284,393		
	<b>TOTAL</b>	<b>23,828,275</b>	<b>10,195,424</b>
	<b>TOTAL (c)</b>	<b>635,503,863</b>	<b>10,215,541</b>
	<b>NET BALANCE AT THE YEAR END (a+b-c)</b>	<b>2,721,916,471</b>	<b>2,388,575,403</b>

<b>Book Bank SC/ST</b>				
a) Opening balance of the funds			457,000	457,000
b) Additions to the Funds:				
	<b>TOTAL (a+b)</b>		<b>457,000</b>	<b>457,000</b>
<b>c) Utilisation/Expenditure towards objectives of funds</b>				
i. Capital Expenditure			-	
ii. Revenue Expenditure				
	<b>TOTAL (c)</b>			-
<b>NET BALANCE AT THE YEAR END (a+b-c)</b>			<b>457,000</b>	<b>457,000</b>
<b>TEQIP (PHASE- I)</b>				
a) Opening balance of the funds			103,165,960	103,165,960
b) Additions to the Funds:				
	<b>TOTAL (a+b)</b>		<b>103,165,960</b>	<b>103,165,960</b>
<b>c) Utilisation/Expenditure towards objectives of funds</b>				
i. Capital Expenditure				
ii. Revenue Expenditure				
	<b>TOTAL (c)</b>			-
<b>NET BALANCE AT THE YEAR END (a+b-c)</b>			<b>103,165,960</b>	<b>103,165,960</b>
<b>Earthquake Engineering NPREE</b>				
a) Opening balance of the funds			1,427,878	1,427,878
b) Additions to the Funds:				
	<b>TOTAL (a+b)</b>		<b>1,427,878</b>	<b>1,427,878</b>
<b>c) Utilisation/Expenditure towards objectives of funds</b>				
i. Capital Expenditure				
ii. Revenue Expenditure				
	<b>TOTAL (c)</b>			-
<b>NET BALANCE AT THE YEAR END (a+b-c)</b>			<b>1,427,878</b>	<b>1,427,878</b>

<b><u>Gratuity Fund</u></b>		
a) Opening balance of the funds	32,552,752	27,535,933
b) Additions to the Funds:	-	-
i. Received during the year	10,032,000	8,800,000
ii. Interest on Savings A/C	17,964	2,314,768
iii. Accrued Interest on Investments of the Funds	3,001,523	-
iv. Other additions (specify nature)	-	-
<b>TOTAL (a+b)</b>	<b>45,604,239</b>	<b>38,650,701</b>
<b>c) Utilisation/Expenditure towards objectives of funds</b>		
i. Capital Expenditure		
ii. Revenue Expenditure		
Gratuity Paid	7,794,144	6,097,949
<b>TOTAL (c)</b>	<b>7,794,144</b>	
<b>NET BALANCE AT THE YEAR END (a+b-c)</b>	<b>37,810,095</b>	<b>32,552,752</b>
<b><u>AICTE Projects</u></b>		
a) Opening balance of the funds	11,485,541	9,846,005
b) Additions to the Funds:		
i. Donations/Grants Received during the year	7,571,125	2,184,927
<b>TOTAL (a+b)</b>	<b>19,056,666</b>	<b>12,030,932</b>
<b>c) Utilisation/Expenditure towards objectives of funds</b>		
i. Capital Expenditure		
- Fixed Assets	-	-
- Others	-	-
ii. Revenue Expenditure		
Other Administrative expenses	-	545,391
<b>TOTAL (c)</b>	<b>-</b>	<b>545,391</b>
<b>NET BALANCE AT THE YEAR END (a+b-c)</b>	<b>19,056,666</b>	<b>11,485,541</b>

<b>Sponsored Projects R &amp; D</b>			
a) Opening balance of the funds		17,970,663	17,773,532
b) Additions to the Funds:		1,493,945	1,955,357
i. Donations/Grants Received during the year		-	-
ii. Income from Investments made on a/c of funds		-	-
iii. Accrued Interest on Investments of the Funds		-	-
iv. Other additions (specify nature)		-	-
<b>TOTAL (a+b)</b>		<b>19,464,608</b>	<b>19,728,889</b>
<b>c) Utilisation/Expenditure towards objectives of funds</b>			
i. Capital Expenditure			
- Fixed Assets			
- Others			
ii. Revenue Expenditure			
Salaries, Stipend Wages and allowances etc.			
Rent			
Other Administrative expenses			1,758,226
<b>TOTAL (c)</b>		<b>-</b>	<b>1,758,226</b>
<b>NET BALANCE AT THE YEAR END (a+b-c)</b>		<b>19,464,608</b>	<b>17,970,663</b>
<b>Virtual Class Room</b>			
a) Opening balance of the funds		1,044,056	0
b) Additions to the Funds:		829,780	1,044,056
i. Donations/Grants Received during the year		-	-
iv. Other additions (specify nature)		-	-
<b>TOTAL (a+b)</b>		<b>1,873,836</b>	<b>1,044,056</b>
<b>c) Utilisation/Expenditure towards objectives of funds</b>			
i. Capital Expenditure			
- Fixed Assets		829,780	
- Others			
<b>TOTAL</b>		<b>829,780</b>	<b>-</b>

ii. Revenue Expenditure			
Salaries, Stipend Wages and allowances etc.	180,000		
Other Administrative expenses	-		
<b>TOTAL</b>	<b>180,000</b>		
<b>TOTAL (c)</b>	<b>1,009,780</b>		
<b>NET BALANCE AT THE YEAR END (a+b-c)</b>	<b>864,056</b>		<b>1,044,056</b>
<b><u>NMICT AWARENESS PROGRAMME</u></b>			
a) Opening balance of the funds	0		0
b) Additions to the Funds:			
i. Donations/Grants Received during the year	500,000		
<b>TOTAL (a+b)</b>	<b>500,000</b>		
c) Utilisation/Expenditure towards objectives of funds			
<b>NET BALANCE AT THE YEAR END (a+b-c)</b>	<b>500,000</b>		
<b><u>STUDENT AID FUND:</u></b>			
a) <u>Opening balance of the funds</u>	938,719		938,719
b) <u>Additions to the Funds:</u>			
i. Received during the year	324,000		0
iv. Other additions (specify nature)			
<b>TOTAL (a+b)</b>	<b>1,262,719</b>		<b>938,719</b>
c) <u>Utilisation/Expenditure towards objectives of funds</u>			
i. Capital Expenditure	0		0
ii. Revenue Expenditure			
Other Administrative expenses	50,098		0
<b>TOTAL</b>	<b>50,098</b>		<b>0</b>
<b>TOTAL (c)</b>	<b>50,098</b>		<b>0</b>
<b>NET BALANCE AT THE YEAR END (a+b-c)</b>	<b>1,212,621</b>		<b>938,719</b>
<b>CLOSING BALANCE OF ALL THE EARMARKED/DESIGNATED FUNDS (TOTAL)</b>			
	<b>2,905,875,355</b>		<b>2,556,679,253</b>

**NATIONAL INSTITUTE OF TECHNOLOGY, SILCHAR (ASSAM)**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31ST MARCH, 2013**

<b>SCHEDULE 4 - RESTRICTED FUNDS</b>	<b>Current Year</b>	<b>Previous Year</b>
<b>Depreciation Fund</b>		
a) <b>Opening balance of the funds</b>	57,878,425	6,523,995
<b>b) Additions to the Funds:</b>		
i. Donations/Grants Received during the year		
ii. Interest on Savings A/C	53,201	173,993
iii. Accrued Interest on Investments of the Funds	5,594,685	1,060,407
iv. Other additions (specify nature)		
Amount transferred from Development fees, Corpus fee & Share in Consultancy as per BOG decision	1,226,760	
Transferred from Capital Fund	54,489,400	50,120,030
<b>TOTAL (a+b)</b>	<b>119,242,471</b>	<b>57,878,425</b>
<b>c) Utilisation/Expenditure towards objectives of funds</b>		
i. <b>Capital Expenditure</b>		
- Fixed Assets		
- Others	0	0
ii. <b>Revenue Expenditure</b>		
Salaries, Stipend Wages and allowances etc.		
Rent		0
Other Administrative expenses		
<b>TOTAL (c)</b>	<b>0</b>	<b>0</b>
<b>NET BALANCE AT THE YEAR END (a+b-c)</b>	<b>119,242,471</b>	<b>57,878,425</b>



<b>Maintenance Fund</b>			
a) <u>Opening balance of the funds</u>	58,105,744		7,262,784
<b>b) <u>Additions to the Funds:</u></b>			
i. Donations/Grants Received during the year			
ii. Interest on Savings A/C	54,867		111,564
iii. Accrued Interest on Investments of the Funds	6,219,187		1,242,812
iv. Other additions (specify nature)			
Amount transferred from Development fees, corpus fee & Share in consultancy as per BOG decision	424,376		
Transferred from Capital Fund	54,489,400		49,488,584
	<b>119,293,574</b>		<b>58,105,744</b>
<b>c) <u>Utilisation/Expenditure towards objectives of funds</u></b>			
i. Capital Expenditure			
- Fixed Assets			
- Others			
ii. Revenue Expenditure			
Salaries, Stipend Wages and allowances etc.			
Rent			
Other Administrative expenses		0	0
		0	0
		0	0
		0	0
		0	0
		0	0
		0	0
<b>NET BALANCE AT THE YEAR END (a+b-c)</b>	<b>119,293,574</b>		<b>58,105,744</b>

<b>Staff Development Fund</b>		
<b>a) Opening balance of the funds</b>	8,318,324	7,250,972
<b>b) Additions to the Funds:</b>		
i. Donations/Grants Received during the year		
ii. Interest on Savings A/C	4,194	72,656
iii. Accrued Interest on Investments of the Funds	786,070	578,414
iv. Other additions (specify nature)		
Recognised as Liability in Previous year transferred in fund	13,231	
Amount transferred from Development fees, corpus fee & share in consultancy as per BOG decision	519,450	416,282
<b>TOTAL (a+b)</b>	<b>9,641,269</b>	<b>8,318,324</b>
<b>c) Utilisation/Expenditure towards objectives of funds</b>		
i. Capital Expenditure		
- Fixed Assets		
- Others		
ii. Revenue Expenditure		
Salaries, Stipend Wages and allowances etc.		
Rent		0
Other Administrative expenses	0	0
<b>TOTAL (c)</b>	<b>0</b>	<b>0</b>
<b>NET BALANCE AT THE YEAR END (a+b-c)</b>	<b>9,641,269</b>	<b>8,318,324</b>

<b>Library Development Fund</b>		
<b>a) Opening balance of the funds</b>	0	0
<b>b) Additions to the Funds:</b>		
i. Donations/Grants Received during the year	30,000	0
ii. Income from Investments made on a/c of funds		0
iii. Accrued Interest on Investments of the Funds		0
iv. Other additions (specify nature)		
<b>TOTAL (a+b)</b>	<b>30,000</b>	<b>0</b>
<b>c) Utilisation/Expenditure towards objectives of funds</b>		
i. Capital Expenditure		
- Fixed Assets		
- Others		
ii. Revenue Expenditure		
Salaries, Stipend Wages and allowances etc.		
Rent		0
Other Administrative expenses		0
Library development meeting	29,400	0
<b>TOTAL (c)</b>	<b>29,400</b>	<b>0</b>
<b>NET BALANCE AT THE YEAR END (a+b-c)</b>	<b>600</b>	<b>0</b>
<b>CLOSING BALANCE OF ALL THE EARMARKED/DESIGNATED FUNDS (TOTAL)</b>	<b>248,177,914</b>	<b>125,241,212</b>

**NATIONAL INSTITUTE OF TECHNOLOGY, SILCHAR (ASSAM)**  
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	(Amount - Rs.)	
	Current Year	Previous Year
<b><u>SCHEDULE 5 - LOANS AND BORROWINGS:</u></b>		
<b><u>SECURED LOANS</u></b>		
1. Central Government	-	-
2. State Government (Specify)	-	-
3. Financial Institutions	-	-
a) Term Loans	-	-
b) Interest accrued and due	-	-
4. Banks:	-	-
a) Term Loans	-	-
- Interest accrued and due	-	-
b) Other Loans (Specify)	-	-
- Interest accrued and due	-	-
5. Other Institutions and Agencies	-	-
6. Debentures and Bonds	-	-
7. Others (Specify)	-	-
<b>TOTAL</b>	<b>-</b>	<b>-</b>
<b><u>UNSECURED LOANS</u></b>		
1. Central Government	-	-
2. State Government (Specify)	-	-
3. Financial Institutions	-	-
a) Term Loans	-	-
b) Interest accrued and due	-	-
4. Banks:	-	-
a) Term Loans	-	-
- Interest accrued and due	-	-
b) Other Loans (Specify)	-	-
- Interest accrued and due	-	-
5. Other Institutions and Agencies	-	-
6. Debentures and Bonds	-	-
7. Fixed Deposits	-	-
<b>TOTAL</b>	<b>-</b>	<b>-</b>

NATIONAL INSTITUTE OF TECHNOLOGY, SILCHAR (ASSAM)  
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31ST MARCH, 2013

<b>SCHEDULE 6 - CURRENT LIABILITIES AND PROVISIONS</b>		(Amount - Rs.)	
<b>A. CURRENT LIABILITIES</b>	Current Year	Previous Year	Previous Year
<b>1. Sundry Creditors:</b>			
<b>a) For Goods &amp; Services - Committed Liability</b>			
M/s Spacewood Furnishures (P) Ltd.	51,594	14,373,879	14,373,879
	0		
	0	4,177,466	4,177,466
<b>b) Contractors Account</b>			
M/s Nexgen Furniture	140,910		
M/s BMG Informatics	30,000		
M/s Gangwal Engg & Const.	30,000		
M/s North Eastern Traders	79,600		
M/s S M Khetwat	323,495		
M/s Square Systems	244,320		
M/s AVI Plast	134,430		
M/s Book Emporium	22,399		
M/s Computer World	60,940		
M/s Kali Bhandar	72,200		
M/s Research co Book Centre	78,903		
M/s Sibyl Marketing (P) Ltd	109,444		
M/s M.K.Agrawal	281,161		
	<b>1,607,802</b>		
<b>2. Advances Received</b>			
Earnest Money Deposit	3,258,445	21,269,146	21,269,146
Security Deposits	13,570,190	0	0
Foreign Student Security Deposit	150,200	150,200	150,200
Security Money (ATM)	10,000	10,000	10,000
	<b>16,988,835</b>		<b>21,429,346</b>

<b>3. Interest accrued but not due on:</b> a) Secured Loans/borrowings b) Unsecured Loans/borrowings				0	0	0
<b>4. Statutory Liabilities (GPF, IDS, WC Tax, CPF, GIS, NPS):</b> a) Overdue b) Others Income Tax Salary Payable GSLI Payable Labour Cess Payable			23,349 68,611 0	91,960	23,349 73,691 663,163	760,203
<b>5. Other Current Liabilities</b> a) <b>Salaries(Outstanding)</b> HTC Expenses Leave Encashment LTC Expenses Children Education Allowance Salary of Daily Wages (Ad hoc) Salary of Contractual Staff (OutSourcing) Security Services Expenses Salary Teach/Adm Salary against Project a/c.			9,709 874,697 16,748 886 686,179 469,095 1,143,094 94,363 122,400			
b) <b>Receipts Against Sponsored Projects</b> c) <b>Receipts against Sponsored Fellowships &amp; Scholarships</b> Outside Scholarship			3,331,416		2,717,796	
d) <b>Unutilised Grants</b> Against Sponsored Project AICTE Against Sponsored Project MODROB & R&D			21,685,186 7,219,816		35,632,967 8,285,413	
e) Grants in Advance f) Other Funds g) Other Liabilities 29th convention seminar (Library department)			9,075			

Accrued Int from Inv. Of Caution Money	731,054		348,826
Alumni Association Fees	1,411,000		607,000
Group Insurance Schemes Claim	618,147		43,674
Gymkhana	3,919,055		4,635,904
Hostel Caution Money	11,359,600		8,274,600
Hostel Management	135,045		61,045
Institutional Caution Money	5,908,046		5,870,046
Intel Big Idea	22,500		
Liability to CCB (Excess remittance by CCB)	180,000		
Mediclaime Insurance	502,058		
Mess Advance	1,863,809		3,898,809
Mess Dues	12,300		10,550
Mess Establishment	2,699,288		2,244,504
Processing Charge	57,386		65,574
Red Ribbon Club	14,005		5,005
Refundable Excess deposits	569,351		
Seminar Grants	50,000		50,000
Visiting Fellowship	28,450		64,000
Transcript	597,821		376,671
CCTV Payable	1,140,312		839,885
Hostel Welfare	69,540		0
LICI	973,843		489,349
Suspense Account	0		2,954,933
DASA	79,105		79,105
Excess Amount Deposit	0		250,964
Deposit remittance including Project a/c.	594,785	69,199,164	
<b>Total (A)</b>		<b>87,939,355</b>	<b>118,547,514</b>

<b>B. Provisions</b>				
<b>1. For Taxation</b>				
Professional Tax Payable (Project a/c.)	416		22,950	
Vat Payable	4,464	4,880	4,464	27,414
<b>2. Gratuity</b>				
<b>3. Superannuation/Pension</b>				
Pension Payable (CCS)	4,040,000	4,040,000		
<b>4. Accumulated Leave Encashment</b>				
<b>5. Outstanding Expenses</b>				
Advertisement Expenses	7,200			
Conveyance Expenses	476			
DG Set Maintenance	1,121,885			
Electricity Charges	1,055,830			
Maintenance of Equipment Expenses (EPABX)	10,000			
Newspaper & periodical Expenses	9,884			
Stipend Ph.D/M.Tech	2,236,000			
Vehicle Repairs & Maintenance Expenses	92,483			
Water/Electricity Expenses to PHE	156,510			
Telephone Expenses	31,058	4,721,326		
<b>6. Trade Warranties/Claims</b>				
<b>7. Others</b>				
Liability to staff development fund			13,231	
<b>Total (B)</b>		<b>8,766,206</b>	<b>0</b>	<b>13,231</b>
<b>TOTAL (A + B)</b>				
		<b>96,705,561</b>		<b>118,588,159</b>



NATIONAL INSTITUTE OF TECHNOLOGY, SILCHAR (ASSAM)  
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31ST MARCH, 2013

DESCRIPTION	GROSS BLOCK				DEPRECIATION			NET BLOCK	
	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	As at the Current year	As at the Previous year
<b>1. LAND:</b>									
<b>a) Freehold</b>									
LAND	866,458	-	-	866,458	-	-	-	866,458	866,458
L.T. LINE & U/G CABELING	17,508,180	476,465	-	17,984,645	10,671,853	1,025,449	-	6,287,343	6,836,327
RENOV. OF INTERNAL ROAD & GATE	21,607,534	1,768,235	-	23,375,769	975,788	1,036,802	-	21,363,179	20,631,746
ROAD & POWER SUPPLY	4,985,294	-	-	4,985,294	249,265	236,801	-	4,499,228	4,736,029
SECURITY WALL	35,132,017	297,143	-	35,429,160	7,357,139	1,393,465	-	26,678,556	27,774,878
SPORTS FIELD VOLLYBALL/TENNIS	1,015,828	600,815	-	1,616,643	229,800	47,404	-	1,339,439	786,028
Childrens Park		1,137,036	-	1,137,036	-	-	-	1,137,036	-
Campus Development/ beautification		452,259	-	452,259	-	-	-	452,259	-
<b>b) Leasehold</b>									
<b>2. BUILDING:</b>									
ADMIN. BUILDING	11,820,111	759,227	-	12,579,338	3,267,726	435,197	-	8,876,415	8,552,385
AMENITIES BUILD.	595,781	-	-	595,781	304,770	14,551	-	276,460	291,011
ASST. PROFESSORS QTR.	68,075,294	1,801,441	-	69,876,735	-	3,425,706	-	66,451,029	68,075,294
BOYS HOSTEL VI	81,893,885	1,605,404	-	83,499,289	18,260,110	3,210,871	-	62,028,308	63,633,775
BOYS HOSTEL NO 8	396,207,234	524,668	-	396,731,902	-	19,810,925	-	376,920,977	396,207,234
BOYS HOSTEL VII	101,990,952	1,605,404	-	103,536,356	9,938,270	4,628,816	-	88,969,270	91,992,682
CLASSROOM EXPANSION PH. 2	84,688,729	228,361	-	84,918,090	-	4,241,557	-	80,676,533	84,688,729
CLASS ROOM EXPANSION PHASE 1	22,926,606	569,049	-	23,495,655	5,106,975	913,250	-	17,475,430	17,819,631
COMP. SCI. & ELECTRO. TELEC. BUILD.	82,386,207	1,328,757	-	83,714,964	11,530,454	3,545,864	-	68,638,646	70,855,753
COMPUTER SCIENCE BUILDING	8,052,371	-	-	8,052,371	3,701,190	217,559	-	4,133,622	4,351,181
CONTINUING EDUCATION CELL BUILDING/GUEST HOUSE	56,578,702	3,728,918	-	60,307,620	-	2,883,406	-	57,424,214	56,578,702
DISPENSARY BUILDING	2,113,372	388,585	-	2,501,957	-	110,619	-	2,391,338	2,113,372
ELECTRONICS LAB	8,606,152	-	-	8,606,152	3,955,730	232,521	-	4,417,901	4,650,422
GAREGE FOR VEHICLE	426,579	425,471	-	852,050	157,728	13,443	-	680,879	268,851
GIRLS HOSTEL NO.1	9,690,276	3,759,390	-	13,449,666	1,382,076	436,142	-	11,631,448	8,308,200
GIRLS HOSTEL NO. 2 (OBC & Sc)	46,952,941	1,482,269	-	48,435,210	-	2,359,496	-	46,075,714	46,952,941
GUEST HOUSE (OLD)	946,521	137,260	-	1,083,781	529,930	23,942	-	529,909	416,591
HOSTELS INCLUDING SPECIAL REPAIRS	77,718,864	6,056,514	-	83,775,378	36,681,165	2,081,412	-	45,012,801	41,037,699
INSTT. BUILDING	56,227,425	25,905,362	-	82,132,787	21,532,919	1,846,160	-	58,753,708	34,694,506
LECTURERS QUARTER	57,780,326	518,222	-	58,298,548	-	2,889,016	-	55,409,532	57,780,326
ELECTRICAL SUBSATATION I & II		1,819,850	-	1,819,850	-	-	-	1,819,850	-
LTD BUILD. / SEMINAR HALL	1,646,090	692,090	-	2,338,180	856,191	44,624	-	1,437,365	789,899

DESCRIPTION	GROSS BLOCK			DEPRECIATION			NET BLOCK			
	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	As at the Previous year
MECHANICAL ENGG. BUILD.	10,632,457	-	-	10,632,457	3,075,230	377,190	-	3,452,420	7,180,037	7,557,227
PROFESSOR'S QTR.	42,849,898	1,277,655	-	44,127,553	-	2,165,526	-	2,165,526	41,962,027	42,849,898
SECURITY BARRACK	1,501,950	-	-	1,501,950	214,216	64,387	-	278,603	1,223,347	1,287,734
STAFF CANTEN	5,175,540	-	-	5,175,540	1,170,806	200,237	-	1,371,043	3,804,497	4,004,734
STAFF QTR. (TYPE A, C, D)	34,950,492	3,126,632	-	38,077,124	14,442,506	1,027,857	-	15,470,363	22,606,761	20,507,986
STUDENT ACTIVITY CENTRE	8,584,914	-	-	8,584,914	4,607,597	198,866	-	4,806,463	3,778,451	3,977,317
TEACHERS FLAT	4,711,908	-	-	4,711,908	2,587,576	106,217	-	2,693,793	2,018,115	2,124,332
WORKSHOP BUILDING / ROOF TREAT	5,433,340	-	-	5,433,340	2,624,305	140,452	-	2,764,757	2,668,583	2,809,035
PRODUCTION ENGG. LAB. BUILD.	110,675,694	37,381,362	-	148,057,056	-	365,072	-	365,072	147,691,984	110,675,694
SHOPPING CENTRE	-	2,131,260	-	2,131,260	-	-	-	-	2,131,260	-
d) Superstructures on Land	-	-	-	-	-	-	-	-	-	-
<b>3. PLANT, MACHINERY &amp; EQUIPMENT</b>										
AUDIO VISUAL EQUIPMENT	2,340,280	1,040,748	-	3,381,028	1,762,126	156,209	-	1,918,335	1,462,693	578,154
D.G. SET	7,341,472	-	-	7,341,472	3,381,216	594,038	-	3,975,254	3,366,218	3,960,256
ELECTRICAL EQUIP.	13,953,174	8,399,165	-	22,352,339	7,019,762	1,431,863	-	8,451,625	13,900,714	6,933,412
ELECTRONICS EQUIPMENT	9,940,389	-	-	9,940,389	7,954,459	297,890	-	8,252,349	1,688,040	1,985,930
EQUIPMENT OF HEALTH CENTRE	-	1,662,137	-	1,662,137	-	5,465	-	5,465	1,656,672	-
EQUIPMENTS (KENDR. VIDYA)	-	492,676	-	492,676	-	38,589	-	38,589	454,087	-
FIELD EQUIPMENT	373,277	-	-	373,277	320,877	7,860	-	328,737	44,540	52,400
GYM EQUIPMENTS	96,070	-	-	96,070	-	12,413	-	12,413	83,657	-
LAB EQUIPMENTS (INCLUDING PROJECT)	92,672,716	52,092,226	5,629,957	139,134,985	54,773,735	6,675,237	942,136	62,391,108	76,743,877	32,269,024
SOFTWARE DEVELOPMENT	12,901,289	2,225,651	-	15,126,940	4,133,774	2,760,212	-	6,893,986	8,232,954	8,767,515
SOLAR HEATER	110,674	-	-	110,674	102,456	1,233	-	103,689	6,985	8,218
MANAGEMENT INFORMATION SYSTEM	1,283,000	-	-	1,283,000	-	-	-	-	1,283,000	1,283,000
TOOLS AND EQUIPMENTS	416,367	-	-	416,367	-	21,218	-	21,218	395,149	-
100KW SOLAR PHOTOVOLTAIC POWER PLANT	27,894,009	-	-	27,894,009	-	10,539	-	10,539	27,883,470	-
BIO GAS PLANT	1,347,300	-	-	1,347,300	-	-	-	-	1,347,300	-
<b>4. VEHICLES</b>										
	4,476,301	-	-	4,476,301	3,090,537	277,153	-	3,367,690	1,108,611	1,385,764
<b>5. FURNITURE, FIXTURES.</b>										
FURNITURE & FIXTURES (KENDR. VIDYA)	-	654,194	-	654,194	-	33,026	-	33,026	621,168	-
FURNITURE INCLUDING HOSTELS	76,693,927	9,340,027	-	86,033,954	19,893,468	6,071,004	-	25,964,472	60,069,482	56,800,459
<b>6. OFFICE EQUIPMENTS</b>										
OFFICE EQUIP.	6,829,199	497,150	-	7,326,349	4,211,983	434,378	-	4,646,361	2,679,988	2,617,216
<b>7. COMPUTER/PERIPHERALS</b>										
COMPUTER & PERIPHERALS(BORDER VILLAGE DEV)	-	65,030	-	65,030	-	5,452	-	5,452	59,578	-

DESCRIPTION	GROSS BLOCK			DEPRECIATION			NET BLOCK			
	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	As at the Previous year
COMPUTER & PERIPHERALS (INCLUDING PROJECTS)	69,836,312	28,768,787	-	98,605,099	50,316,032	6,351,648	-	56,667,680	41,937,419	19,520,280
COMPUTER / PERIPHERALS (KENDR. VIDYA)	-	522,638	-	522,638	-	108,356	-	108,356	414,282	-
<b>9. LIBRARY BOOKS</b>										
BOOK BANK SC/ST BOOKS	457,000	-	-	457,000	-	144,023	-	144,023	312,977	457,000
ELECTRONICS JOURNALS	2,698,478	1,555,669	-	4,254,147	2,381,005	1,873,142	-	4,254,147	-	317,473
LIBRARY BOOKS/LEARNING RESOURCES	40,826,769	7,117,732	24,766	47,919,735	-	12,633,169	-	12,633,169	35,286,566	40,826,769
BOOKS OF KV	-	127,949	-	127,949	-	-	-	-	127,949	-
<b>10. TUBEWELLS &amp; WATER SUPPLY</b>										
WATER SUPPLY SCHEME	20,326,672	-	-	20,326,672	2,899,092	871,379	-	3,770,471	16,556,201	17,427,580
Water Supply Distribution Network	69,608,264	45,627,962	-	115,236,226	-	511,229	-	511,229	114,724,997	69,608,264
<b>11. OTHER FIXED ASSETS</b>										
BOAT CLUB ASSETS	-	579,707	-	579,707	-	29,154	-	29,154	550,553	-
CHILDRENS PARK	-	1,352,609	-	1,352,609	-	53,856	-	53,856	1,298,753	-
NETWORKING	-	4,007,387	-	4,007,387	-	37,992	-	37,992	3,969,395	-
OTHER ASSETS	1,219,825	-	-	1,219,825	1,099,083	18,111	-	1,117,194	102,631	120,742
<b>A. TOTAL OF CURRENT YEAR</b>	<b>1,916,785,940</b>	<b>297,868,294</b>	<b>5,654,723</b>	<b>2,208,999,511</b>	<b>328,750,920</b>	<b>103,216,640</b>	<b>942,136</b>	<b>432,909,696</b>	<b>1,776,089,815</b>	<b>1,582,405,063</b>
<b>PREVIOUS YEAR</b>										
<b>12. CAPITAL WORK-IN-PROGRESS</b>										
WATER SUPPLY SCHEME - PHE	27,292,507	28,900,895	-	56,193,402	-	-	-	-	56,193,402	27,292,507
BOYS HOSTEL NO. 9 (WIP)	-	7,630,132	-	7,630,132	-	-	-	-	7,630,132	-
CONST. OF EARTQUAKE ENGG LAB (WIP)	-	321,639	-	321,639	-	-	-	-	321,639	-
CONST. OF NEW ADMIN BLDG	-	922,583	-	922,583	-	-	-	-	922,583	-
CONST OF TYPE (IV) QTR 30(WIP)	-	18,240,302	-	18,240,302	-	-	-	-	18,240,302	-
CONST OF TYPE (VI) QTR 12(WIP)	-	7,620,823	-	7,620,823	-	-	-	-	7,620,823	-
CONST OF TYPE (VI) QTR 20(WIP)	-	1,607,688	-	1,607,688	-	-	-	-	1,607,688	-
SECURITY POST(3 NOS) (WIP)	-	395,982	-	395,982	-	-	-	-	395,982	-
SPORTS COMPLEX (WIP)	70,006,114	150,048,195	-	220,054,309	-	-	-	-	220,054,309	70,006,114
INTERNAL ROADS PHASE-III	-	5,755,815	-	5,755,815	-	-	-	-	5,755,815	-
CENTRAL SCHOOL BUILDING	-	60,906,000	-	60,906,000	-	-	-	-	60,906,000	-
NON FACULTY STAFF QTRS 100 NOS.	-	10,015,000	-	10,015,000	-	-	-	-	10,015,000	-
SEWERAGE DISPOSAL SYSTEM	-	3,893,000	-	3,893,000	-	-	-	-	3,893,000	-
SECURITY BARRACK - II	-	5,452,027	-	5,452,027	-	-	-	-	5,452,027	-
CONSTRUCTION OF HYDRAULIC LAB. BUILDING (wip)	-	10,467,442	-	10,467,442	-	-	-	-	10,467,442	-

DESCRIPTION	GROSS BLOCK			DEPRECIATION			NET BLOCK			
	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	As at the Previous year
LIBRARY BUILDING (WIP)	-	3,439,016	-	3,439,016	-	-	-	-	3,439,016	-
INTERNAL ROAD (WIP)	-	14,499,000	-	14,499,000	-	-	-	-	14,499,000	-
EQUIPMENTS UNDER ERECTION	-	17,056,825	-	17,056,825	-	-	-	-	17,056,825	-
EQUIPMENT MECHANICAL ENGG.	-	-	-	-	-	-	-	-	-	-
<b>B. NET WORK-IN-PROGRESS</b>	<b>97,298,621</b>	<b>347,172,364</b>	<b>-</b>	<b>444,470,985</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>444,470,985</b>	<b>97,298,621</b>
<b>C. ASSET OF TEQIP ACCOUNT</b>										
BOOKS & LEARNING(TEQIP)	4,006,033	-	-	4,006,033	-	-	-	-	4,006,033	4,006,033
CIVIL WORKS	2,693,964	-	-	2,693,964	-	-	-	-	2,693,964	2,693,964
EQUIPMENTS (TEQIP)	93,756,341	-	-	93,756,341	-	-	-	-	93,756,341	93,756,341
FURNITURE TEQIP	2,709,622	-	-	2,709,622	-	-	-	-	2,709,622	2,709,622
<b>C. TOTAL ASSET OF TEQIP ACCOUNT</b>	<b>103,165,960</b>	<b>-</b>	<b>-</b>	<b>103,165,960</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>103,165,960</b>	<b>103,165,960</b>
<b>BALANCE (A+B+C)</b>	<b>2,117,250,521</b>	<b>645,040,658</b>	<b>5,654,723</b>	<b>2,756,636,456</b>	<b>328,750,920</b>	<b>103,216,640</b>	<b>942,136</b>	<b>432,909,696</b>	<b>2,323,726,760</b>	<b>1,782,869,644</b>

NATIONAL INSTITUTE OF TECHNOLOGY, SILCHAR (ASSAM)  
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31ST MARCH, 2013

(Amount - Rs.)

SCHEDULE 8 - INVESTMENTS FROM EARMARKED/ENDOWMENT FUNDS	Current Year		Previous Year	
<b>1. In Scheduled Banks</b>				
Investment of Corpus Fund	13,027,740		11,527,740	
Investment of Depreciation Fund	56,597,045		31,197,045	
Investment of Gratuity Fund	30,348,560		27,848,560	
Investment of Maintenance Fund	56,565,558		31,865,558	
Investment of Staff Development Fund.	7,646,662	164,185,565	7,246,662	109,685,565
<b>Total</b>		<b>164,185,565</b>	-	<b>109,685,565</b>

INVESTMENTS OTHERS	Current Year		Previous Year	
<b>1. In Scheduled Banks</b>				
Investment of Caution Money	3,642,770	3,642,770	3,642,770	3,642,770
<b>Total</b>		<b>3,642,770</b>		<b>3,642,770</b>

**NATIONAL INSTITUTE OF TECHNOLOGY, SILCHAR (ASSAM)**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31ST MARCH, 2013**

	(Amount - Rs.)	
	Current Year	Previous Year
<b>SCHEDULE 9 - CURRENT ASSETS, LOANS, ADVANCES ETC.</b>		
<b>A. CURRENT ASSETS</b>		
<b>1. Inventories:</b>		
<b>2. Sundry Debtors:</b>		
<b>3. Cash balances in hand (including cheques/drafts and imprest)</b>	240,118	52,230
<b>4. Bank Balances:</b>		
<u>With Scheduled Banks - In Current / Savings Account</u>		
AXIS BK SB A/C NO. 910010049704315 PLAN A/C	12,006	12,006
SBI-10521277057 (NON PLAN)	204,345,719	10,404,657
SBI A/C NO. 10521277068 (PLAN GRANT)	203,058,395	19,473,334
SBI SB A/C 30432905766 (OBC)	964,212	602,550
SBI SB A/C NO. 10521277818 (CORPUS FUND)	246,819	1,736,178
SBI SB A/C NO. 10521278197 (GRAUITY FUND)	2,681,712	2,925,892
SBI SB A/C NO. 10521278244 (SCHOLARSHIPS)	3,319,754	2,727,986
SBI SB A/C NO. 30052416379 (STAFF DEV. FUND)	97,442	493,248
SBI SB A/C NO. 30052438520 (DEPRE. FUND)	274,174	25,620,973
SBI SB A/C NO. 30052443879 (MAINTT. FUND)	352,241	24,997,374
SBI SB A/C NO. 31306562769 (BEHAVIOUR OF CLAY)	2,909,441	2,869,566
SBI SB A/C 30879033374 (RIVER BANK EROSION)	582,179	1,652,762
SBI SB A/C 30937813157 (ENERGY & PINEAPPLE)	637,364	645,132
SBI SB A/C 31910741183 (DEV OF CARBON NANO)	630,086	892,365
SBI SB A/C NO. 302335026221 (SMDP-II)	564,557	131,188
SBI SB A/C NO. 30293179613 (MGT OF SOIL)	593,243	570,145
SBI, SB A/C NO. 30293190682 (TUC)	296,942	283,657
SBI SB A/C NO. 30422523520 (ANN-GA-ANFIS)	1,197	70,858
SBI SB A/C NO. 30468295090 (SOLVENT FREE OXI)	1,840	1,686
SBI SB A/C NO. 30780415571 (RPS SCHEME)	16,858,912	15,570,548
SBI SB A/C NO. 30780416041 (MODROBS SCH.)	4,801,324	5,237,612
SBI SB A/C NO. 31306566082 (REG EXTRE RAINFALL)	1,141,170	1,174,229
SBI SB A/C NO. 30763009570 (NON PLAN FEE A/C)	12,400	148,521
<b>TOTAL (A)</b>	<b>444,383,129</b>	<b>118,242,467</b>
	<b>444,623,246</b>	<b>118,294,697</b>

NATIONAL INSTITUTE OF TECHNOLOGY, SILCHAR (ASSAM)  
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31ST MARCH, 2013

	Current Year		Previous Year	
<b>SCHEDULE 10 - LOANS, ADVANCES &amp; DEPOSITS</b>				
<b>1. Advance To Employees : (Non interest Bearing)</b>				
a) Salary	284,020	284,020	250,445	250,445
b) Festival			7,000	7,000
c) LTC				
d) Medical Advance			286,642	286,642
e) Others (To be Specified)				
i) Departmental Advance				
ii) HTC Advance				
iii) Imprest Advance				
iv) Recoverable Advance				
a) ISTE	11,096		11,096	11,096
b) Kedar Nath Das	100,000			
c) Rradhika Verma	20,000			
d) T Bhattacharjee (Project)	20,000	151,096	0	
<b>v) TA Advance</b>				
Unsettled LTC Advance	0		52,066	
Unsettled T.A. Advance	0	0	129,099	181,165
<b>2. Long Term Advance to Employees (Interest Bearing)</b>				
a) Vehicle Loan	0			
b) Home Loan	0			
c) Others (To be Specified)	0	0		

3. Advances and other amounts recoverable in cash or in kind or for value to be received:					
<b>a) On Capital Account</b>	Advance - PHE Water Supply	65,396	65,396		
	Deposit Work - 33KV Substation	29,793,963	29,793,963		
	Deposit Work - Augmentation of Water Supply	16,106,598	45,007,493		
	Deposit Work - CPWD for Internal Road	6,504,148	21,003,148		
	Deposit Work - CPWD Sewerage Disposal System	17,633,000	0		
	Deposit Work - Solar Energy Power System	0	2,700,000		
	Deposit Work - CPWD for Construction of Central School	105,265,000	0		
	Deposit Work - TYPE III Non-Faculty QTR 100 UNITS	79,985,000	0		
	Mobilization Advance.- Sports Complex	0	10,000,000		
	JJ PV SOLAR P. Ltd.	27,200	0		
	M/s Callidai Motor Works Chennai	12,305	0		
	Gangwal Engg & Construction Co. Pvt. Ltd.	33,290,000	0		
	NCC LTD	28,400,000	0		
	Margin Money for LC	9,784,890	0		108,570,000
			326,867,500		
<b>b) To Suppliers</b>	Advance to Firm	9,589	9,589		
	R & L Das & Associates	100,000			
	Panorama International	170,000	279,589		
<b>c) Others</b>			0		0
<b>4) Prepaid Expenses</b>	a) Insurance	66,723			
	b) Other Expenses	5,179,269			
	E Journal	2,503,321			
	Printed Journal		7,749,313		



<b>5) Deposits</b>					
a) SBI ATM - TDR	10,000				10,000
b) Electricity - ASEB/APDCL	400,854				400,854
c) Security For POL	162,084			572,938	162,084
<b>6) Income Accrued</b>					
a) On Investments from Earmarked/Endowment funds					
Accrued Interest on Funds	23,003,427			23,003,427	5,710,855
b) On Investments-Others					0
c) On Loans and Advances					0
d) Others (Accrued)					0
Electricity consumption	74,168				
Shop Canteen & Post office Rent	135,248		209,416		
<b>7) Other Receivable</b>					
a) Debit Balance in Sponsored Projects					
b) Debit Balance in Fellowship & Scholarship					
c) Grant Recoverable					
Grant Receivable Non Plan	98,900,000				90,000,000
Grant Receivable Plan	232,800,000				326,100,000
Grant Receivable Project A/C					14,832,000
<b>8. Claims Receivable</b>					
Group Insurance Claim Receivable from LIC	353,460		353,460		0
<b>TOTAL</b>			<b>691,170,759</b>		<b>546,531,730</b>

**NATIONAL INSTITUTE OF TECHNOLOGY, SILCHAR (ASSAM)**  
**SCHEDULE FORMING PART OF INCOME AND EXPENDITURE FOR THE PERIOD ENDED 31ST MARCH, 2013**

<b>SCHEDULE 11 - ACADEMIC RECEIPTS</b>	(Amount - Rs.)	
	Current Year	Previous Year
<b>FEES FROM STUDENTS</b>		
<b>ACCADEMIC</b>		
Tuition fees	87,721,810	65,286,500
Admission Fees	2,082,200	1,987,600
Library Admission Fees	1,188,150	1,111,250
<b>TOTAL (A)</b>	<b>90,992,160</b>	<b>68,385,350</b>
<b>EXAMINATIONS</b>		
Admission Test Fees		
Annual Examination Fees	1,920,100	1,713,600
<b>TOTAL (B)</b>	<b>1,920,100</b>	<b>1,713,600</b>
<b>OTHER FEES</b>		
Fine/Miscellaneous Fees	568,441	730,654
Medical Fees	711,700	666,750
Transportation Fees	727,680	683,350
Institute fees	66,300	50,500
I.T system Fees	3,565,500	3,333,750
Migration fees	30,400	2,800
Summer term course	1,521,202	1,578,400
Training & Placements	275,200	259,500
<b>TOTAL (C)</b>	<b>7,466,423</b>	<b>7,305,704</b>
<b>SALE OF PUBLICATIONS</b>		
Sale of Syllabus & Question Paper etc.		
Sale of Prospectus including admission forms		
<b>TOTAL (D)</b>	<b>0</b>	<b>0</b>
<b>GRAND TOTAL (A+B+C+D)</b>	<b>100,378,683</b>	<b>77,404,654</b>

NATIONAL INSTITUTE OF TECHNOLOGY, SILCHAR (ASSAM)  
 SCHEDULE FORMING PART OF INCOME AND EXPENDITURE FOR THE PERIOD ENDED 31ST MARCH, 2013

SCHEDULE 12 - GRANTS/SUBSIDIES (Irrevocable Grants & Subsidies Received)	(Amount - Rs.)		Previous Year
	Current Year	Previous Year	
1. Central Government	398,900,000	398,900,000	280,000,000
2. State Government	-	-	-
3. Government Agencies	-	-	-
4. Institutions/Welfare Bodies	-	-	-
5. International Organisations	-	-	-
6. Others	-	-	-
<b>TOTAL</b>		<b>398,900,000</b>	<b>280,000,000</b>

**NATIONAL INSTITUTE OF TECHNOLOGY, SILCHAR (ASSAM)**  
**SCHEDULE FORMING PART OF INCOME AND EXPENDITURE FOR THE PERIOD ENDED 31ST MARCH, 2013**

	(Amount - Rs.)	
	Current Year	Previous Year
<b>SCHEDULE 13 - INCOME FROM INVESTMENTS</b>		
<b>Investment from Earmarked/Endowment Funds</b>		
<b>1. Interest</b>		
a) On Government Securities		
b) Other Bonds/Debentures	0	0
<b>2. Income Received:</b>		
Each Fund Separately	0	0
<b>3. Income Accrued:</b>		
Each Fund Separately	0	0
<b>4. Others (Specify)</b>	0	0
<b>TOTAL</b>	<b>0</b>	<b>0</b>
<b>TRANSFERRED TO EARMARKED/ENDOWMENT/CORPUS FUNDS</b>		

NATIONAL INSTITUTE OF TECHNOLOGY, SILCHAR (ASSAM)

SCHEDULE FORMING PART OF INCOME AND EXPENDITURE FOR THE PERIOD ENDED 31ST MARCH, 2013

SCHEDULE 14 - OTHER INCOME	Current Year		Previous Year	
<b>A. Income from Land &amp; Building</b>				
Hostel Room Rent	1,318,720		1,279,650	
License Fees	493,286		681,172	
Hire Charges of Shops, Canteen, Bank and Post Office	281,158			
Electricity & Water Charges	2,280,000		2,164,000	
Guest Room Rent	710,665		132,680	
<b>Total</b>		<b>5,083,829</b>		<b>4,257,502</b>
<b>B. Sale of Institute's Publications</b>				
<b>C. Income from Holding Events</b>				
1. Gross receipts from annual function/ sports carnival				
Less: Direct expenditure incurred on the annual function/sports carnival				
2. Gross receipts from Fetes				
Less: Direct expenditure incurred on the Fetes				
3. Gross receipts for Educational Tours				
Less: Direct expenditure incurred on the Tours				
4. Others (to Be Specified)				
<b>Total</b>		<b>-</b>		<b>-</b>
<b>D. Interest on Term Deposits</b>				
a) With Schedule Banks				
b) With Non Schedule Banks				
c) With Institutions				
d) Others				
<b>Total</b>		<b>-</b>		<b>-</b>

<b>E. Interest on Savings Accounts</b>					
a) With Schedule Banks			5,193,517		2,752,984
b) With Non Schedule Banks					
c) With Institutions					
d) Others				5,193,517	2,752,984
<b>Total</b>					
<b>F. Interest on Loans</b>					
a) Employees/Staff					
b) Others					
<b>Total</b>					
<b>G. Interest on Debtors &amp; Other Receivables</b>					
<b>H. Others</b>					
Income from Consultancy			1,797,220		572,148
RTI Fees					
Income from Royalty			242,400		
Sale of Application Form (Recruitment)			7,997,398		
Transfer of depreciation on Grant assets			803,400		174,700
Tender form Fees			2,384,016		2,310,134
Electricity Consumption Receipts					129,757
Liquidated Damages against damages on furniture					
Profit on sale & Disposal of Assets :					
a) Owned Assets (Scrap Sale)			698,622		
b) Assets Acquired out of Grants or Received free of cost					
<b>Total</b>				13,923,056	3,186,739
<b>GRAND TOTAL (A+B+C+D+E+F+G+H)</b>				24,200,402	10,197,225

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SCHEDULE FORMING PART OF INCOME AND EXPENDITURE FOR THE PERIOD ENDED 31ST MARCH, 2013

SCHEDULE 15 - STAFF PAYMENTS & BENEFITS	Current Year	Previous Year
<b>a) Salaries &amp; Wages</b>		
- Pay of Establishment		154,942,272
Salary Teach. & Admin.	91,580,332	
Salary Class III	45,593,570	
Salary Class IV	39,410,851	
Salary Teach./III/IV(Contract)	18,387,014	8,259,715
Salary Class IV / MR (Adhoc)	9,005,258	
Salary of Contractual Staff (Outsourced)	469,095	
Security Services	14,136,483	9,795,744
<b>b) Allowances and Bonus</b>		
Bonus	871,470	902,556
House Keeping	2,390,288	1,675,744
Leave Encashment	4,648,032	3,800,062
Ex-Gratia Compensation	0	500,000
Professional Development. Allowance (CPDA)	2,180,306	13,879,610
<b>c) Contribution to Provident Fund</b>	9,078,937	8,674,730
<b>d) Contribution to Other Fund</b>		
Contribution to New Pension Scheme	746,103	0
Pension Contribution (DEP)	90,590	0
<b>e) Staff Welfare Expenses</b>		
Telephone bill reimbursement	577,492	

<b>f) Retirement and Terminal benefits</b>			
Death cum Retirement Gratuity	10,032,000		
Pension	4,040,000		8,800,000
<b>g) LTC Facility</b>			
Leave Travel concession	1,625,184		713,005
Home Travel Concession	498,205		908,321
<b>h) Medical Facility including Remeibursement</b>			
	1,857,910		1,700,657
<b>i) Children Education Allowance</b>			
	1,330,097		1,743,977
<b>j) Honorarium</b>			
	290,009		
<b>k) TA/DA Expenses</b>			
<b>l) Others (Specify)</b>			
<b>TOTAL</b>	<b>258,839,226</b>		<b>216,296,393</b>



NATIONAL INSTITUTE OF TECHNOLOGY, SILCHAR (ASSAM)  
 SCHEDULE FORMING PART OF INCOME AND EXPENDITURE FOR THE PERIOD ENDED 31ST MARCH, 2013

<b><u>SCHEDULE 16 - ACADEMIC EXPENSES</u></b>	<b>Current Year</b>	<b>Previous Year</b>
Laboratory Expenses		685,600
Field Work/Participation		41,234
Seminar/Workshop	29,200	757,099
Payment to Visiting Faculty	1,052,163	
Examination		
Students Welfare Expenses		
Admission Expenses		
Convocation Expenses	1,202,110	669,734
Publications		
Stipend/means cum Merit Scholarships	11,820	35,640
Subscription Expenses	62,567	
Contingency to PH. D	315,142	160,992
Student Project Expenses	75,776	
<b>TOTAL</b>	<b>2,748,778</b>	<b>2,350,299</b>

<b><u>SCHEDULE 17 - ADMINISTRATIVE &amp; GENERAL EXPENSES</u></b>	<b>Current Year</b>	<b>Previous Year</b>
Electricity & Power	13,483,644	10,497,331
Water Charges	2,427,073	2,816,947
Rents, rates & taxes (including Property tax)		
Postage & Telegram	178,955	91,000
Telephone & Internet Charges	136,831	1,021,720
Printing & Stationery	1,149,117	726,562
Travelling & Conveyance Expenses	4,154,625	432,035

Expenses on Seminar & Workshops		
Hospitality	184,948	
Auditors Remuneration	265,776	841,325
Professional Charges & Legal Fees	245,357	304,915
Advertisement & Publicity	248,616	1,879,213
Magazines & Journals (Expenditure charged under Plan fund during the year)	5,121,956	12,450,596
Depreciation	103,216,640	46,411,540
Board & Committee Meetings	6,210,477	
Grants & Subsidies paid to Kendriya Vidyalaya	8,000,000	
Computer Consumables	681,189	788,973
Consumables	585,115	0
Lab Consumables	748,344	0
Gyan Sagar Expenditure	14,915	
Casual Work & Carriage	254,489	13,812
Diesel expenses for Generator	5,426,175	0
Gardening & Horticulture	2,183,642	200,045
Medicine & Dispensary	960,699	208,955
Miscellaneous Expenses	45,887	28,399
News Paper & Periodicals	119,462	14,148
Identity Card		27,600
Information Technology Expenses	1,752,413	11,529,987
Training & Placement Expense	333,252	360,996
NSS & NCC	242,467	71,995
Departmental Operating Costs		668,936
Contingency expenses		122,300
Library contingency		118,898
Celebration of National Day	128,492	120,950
Other Administrative Expenses		3,114,280
Promotion of Rashtriya Bhasha	31,962	0
<b>TOTAL</b>	<b>158,532,518</b>	<b>94,863,458</b>

<b>SCHEDULE 18 - TRANSPORTATION EXPENSES</b>		
	<b>Current Year</b>	<b>Previous Year</b>
1) Vehicles (owned by educational institutions)		
Running Expenses ( Fuel exp.)	672,906	1,078,685
Repairs & Maintenance	1,404,649	
Insurance Expenses	82,676	138,820
2. Vehicles Taken on Rent/Lease		
Rent/Lease Expenses		
<b>TOTAL</b>	<b>2,160,231</b>	<b>1,217,505</b>

<b>SCHEDULE 19 - REPAIRS &amp; MAINTENANCE</b>		
	<b>Current Year</b>	<b>Previous Year</b>
a) Building		
Repairs & maintenance of Institute Building	687,622	297,728
Repairs & maintenance of Guest House	465,978	57,072
Repair & Maintenance of Electricity/ Street Lights	1,569,031	
Maintenance of Lakes	230,210	
Maintenance of Roads	14,200	
b) Furniture & Fixtures	144,126	
c) Plant & Machinery		
Maintenance of DG Set	2,727,951	4,952,751
AMC for IT Facility	709,304	
Repairs of Equipments	1,761,400	1,897,880
Networking	214,060	
Maintenance of EPABX	27,389	
d) Office Equipments		
e) Cleaning Material & Services		
Estate Maintenance		11,146,115
<b>TOTAL</b>	<b>8,551,271</b>	<b>18,351,546</b>

<b>SCHEDULE 20 - FINANCE COSTS</b>		
	<b>Current Year</b>	<b>Previous Year</b>
a) Interest on Fixed Loans		
b) Interest on Other Loans	24,625	3,574
c) Bank Charges		
d) Others (Specify)		
<b>TOTAL</b>	<b>24,625</b>	<b>3,574</b>

<b>SCHEDULE 21 - OTHER EXPENSES</b>		
	<b>Current Year</b>	<b>Previous Year</b>
a) Provisions for Bad & Doubtful Debts/Advances	418,655	
b) Irrecoverable Balance Written Off	942,136	
c) Others (Specify) Obsolete/Unservicable Assets Written-off		
<b>TOTAL</b>	<b>1,360,791</b>	<b>0</b>

NATIONAL INSTITUTE OF TECHNOLOGY, SILCHAR (ASSAM)  
CASH FLOW STATEMENT FOR THE YEAR ENDED 31st MARCH, 2013

CASH FLOW FROM OPERATING ACTIVITIES	(Amounts in Rupees)	
<b>Surplus/(Deficit) for the Year</b>		<b>91,261,645</b>
Adjustments for Non Operating, Non Cash Incomes/Exepnses:		
Depreciation	103,216,640	
Write offs	1,360,791	
Administrative & General Expenses Non-Cash by Journal Entry	5,109,837	
Academic Expenses Non-Cash by Journal Entry	436,204	
Academic Receipts Non-Cash by Journal Entry	2,363,520	
Staff Payments & Benefits Non-Cash by Journal Entry	172,125,175	
Transportation Expenses Non-Cash by Journal Entry	210,548	284,822,715
Expenditure A/c)		
Other Income (Depreciation on Grant Assets Non-Cash by Journal Entry	-7,997,398	
Repairs & maintenance Non-Cash by Journal Entry	-14,615,997	
Other Income Non-Cash by Journal Entry	-1,393,108	
Grant Receivable Non-Cash by Journal Entry	-98,900,000	-122,906,503
<b>Operating Profit before Working Capital Changes</b>		<b>253,177,857</b>
<b>Adjustments for:</b>		
Decrease/Increase in Current Assets (Net)	775,803,563	
Increase/Decrease in Current Liabilities (Net)	-180,598,273	
<b>Cash generated from operations</b>		<b>595,205,290</b>
<b>Net Cash flow from Operating activities</b>		<b>848,383,147</b>
<b>CASH FLOW FROM INVESTING ACTIVITIES</b>		
(Purchase)/Sale of Fixed Assets (Net)	-465,160,479	
(Purchase)/Sale of Investments (Net)	-54,500,000	
<b>Net Cash used in Investing activities</b>		<b>-519,660,479</b>
<b>CASH FLOW FROM FINANCING ACTIVITIES</b>		
Proceeds from Long term Borrowings		
Repayment of Long term Borrowings		
Additions to General fund During the Year		
Grants/Funds in the Nature of Founders'/Promoters' Contribution		
Grants/Funds related to assets not requiring fuillment of any Obligation		
Endowment Fund (Principal Sum) (Net)	-2,394,119	
<b>Net Cash used in financing activities</b>		<b>-2,394,119</b>
<b>Net increase in cash &amp; Cash Equivalents</b>		<b>326,328,549</b>
Cash and Cash equivalents as at 01.04.2012		118,294,697
<b>Cash and Cash equivalents as at 31.03.2013</b>		<b>444,623,246</b>

Dated, Silchar  
The 8th May 2013

Registrar

Director

**NATIONAL INSTITUTE OF TECHNOLOGY, SILCHAR (ASSAM)****SCHEDULE 22****SIGNIFICANT ACCOUNTING POLICIES AND NOTES TO ACCOUNTS****1) General Accounting Policy:-****Basis of Preparation of Financial Statements:**

The financial statements are prepared under the historical cost convention on the basis of Generally Accepted Accounting Principles in India and in accordance with applicable mandatory accounting standards and relevant presentational requirements, unless otherwise stated and on the accrual system of accounting.

For implementation of uniform accounting standard in the Institute from 2012-13, some previous years balances has been regrouped under various schedules according to format prescribed by the ICAI/MHRD, New Delhi.

**Accounting Assumptions:**

The accounts are prepared considering the concept of going concern and materiality.

Complying with the necessary regulations, applicable accounting standards and other statutory requirements, the Institute has adopted complete accrual basis of accounting for recording all the transactions and events, unless otherwise specifically stated.

**2.) Revenue Recognition:**

The items of revenue income and expenditure concerning the institute are accounted for on accrual basis of accounting and are recognized as and when due.

(A) The following items are also generally accounted for on accrual basis while recognizing revenue;

**Retirement benefits:****Pension**

This Institute has come under CCS Pension Rule 1972 vide MHRD, letter No, F. No. 26-9/2005-TS.III dated 11<sup>th</sup> February, 2013 and subsequent order no. F. No 26-9/2005-TSIII dated 21<sup>st</sup> February, 2013 regarding release of pension to the retired employees of the institute. The same is accounted on accrual basis as per estimated figures since pending for final calculations. The previous period liability is not recognized as the same is to be paid from available Corpus generated out of Contributory Provident Fund of the Institute as per Government guidelines.

**Gratuity**

As per the resolution of Board of Governors, 4% of Budget Provision of Pay is being contributed to Gratuity Fund. This Fund being earmarked Fund is held in a separate bank account.

(B.) Interest on investments is accounted on accrued basis.

**3). Grant-in-Aid:**

The grant-in-aid is accounted for on accrual basis and appropriated towards capital and operational and maintenance (revenue) purposes. Grant for acquisition of fixed assets is recognized by capital approach and presented as capital grant in financial statements. The Utilized portion of Plan Grants as well as other specific project grants (Sponsored projects- GOI, AICTE, MODROB) are capitalized.

Grant for operational and maintenance ( revenue ) expenses is recognized by income approach and balance is carried forward for next year's expenses.

#### **4.) Unrestricted Funds:**

These funds are received by the institutions with no specific restrictions with regard to their use i.e., these funds are used for general purpose of the institutions.

**Corpus Fund:** These funds represents institutes own funds. As per BOG decision an amount of Rs. 29,54,933.00 lying under Suspense account transferred to Corpus Fund of the Institute. Moreover, surplus of IRG (Total IRG - Non salary component) amounting to Rs.5,44,20,113.00 also transferred to Corpus Fund Account.

**b) General Fund:** This is another type of unrestricted fund which includes contribution towards general fund , surplus of Rs.3,68,41,532.50 transferred from Income & expenditure A/c . This also includes amount credited to Capital reserves of Rs. 2.43 crores being asset (100 Kwp Solar Photovoltaic Power Plant) received in kind from MNRE.

c) **Designated/ Earmarked Funds:** These funds are set aside by the management of the institution for specific purpose to meet the future requirements of the institutions. These funds include Capital fund of Plan Grant, Plan Grant OSC , Sponsored Project of GOI, MODROB and R & D projects. It also includes Book Bank, TEQIP I, Earthquake engineering NPTEE, Gratuity Fund, AICTE Project, Virtual Classroom, NMICT Awareness Programme and Student Aid Fund.

d) **Surplus of IRG** after adjustment of expenditure against non-salary components transferred to Corpus of Institute and remaining IRG transferred to General Fund.

5.) **Restricted Funds:** These funds are received from contributors or created with certain conditions attached to the funds by the contributors. These funds include Depreciation fund, Maintenance fund, Staff development fund etc.

6) **Current Liabilities & Provisions:** These include liabilities or provisions which are due or payable within one year from the Balance sheet date. These include:

- Amount due to creditors for goods & services
- Advance received as Security deposits, EMD & other deposits received
- Statutory Liability to government for TDS, GPF, GIS etc.
- And other current liabilities like Payments due to Staff and & other expenses payable like Group Insurance Scheme Claims Payable, Mess Advance due, Transcript fees, & Other Liabilities due & payable by the institute.

#### **7.) Fixed Assets and Depreciation:**

7.1 .Fixed assets are stated at cost of acquisition including inward freight, duties and taxes and incidental and direct expenses related to acquisition, installation commissioning. Completed projects which were in the Work in progress shifted to Fixed Assets. Some of the Assets having similar nomenclature merged together.

7.2 Fixed assets are valued at cost of acquisition or construction or at manufacturing cost (in case of own manufactured / fabricated assets) in the year of capitalization less accumulated depreciation (except freehold land).

7.3 Depreciation on fixed assets for the year, is provided on written down value method, at the below mentioned rates. These rates are arrived at after taking into consideration the residual value and useful life of the assets as per the Institute's internal assessment:

<u>ITEM</u>	<u>Rate of Depreciation per annum)</u>
Buildings, Similar Structures, Renovation of Roads & Gate, Road and Power supply, Security Wall	5 %
Water Supply Distribution Network, Furniture, Fixtures and Allied	0 %
Plant, Machinery & Equipment	15 %
Vehicles	20 %
Computers, Peripherals & Software including Networking, Books & Learning Resources including Allied Software	30 %
Electronic Journals (in the year of purchase)	100 %

- 7.4 No depreciation is provided on Land, Eco-park landscaping, Campus Development/ Beautification.
- 7.5 No Depreciation has been charges on SCPC V-SAT (Under Management Information System), since it is on Lease from ERNET.
- 7.6 Depreciation is to be accounted on 10 KWP Solar Photovoltaic Power Plant under Plant & Machinery from 2013-14 as the same is recognized as completed and accounted as at the last day of the financial year.
- 7.7 No Depreciation has been charges on assets acquired from TEQIP - I Funds as the same is awaiting further instructions and approvals from the NPIU.
- 7.8 The TEQIP Phase – II being ongoing is separately accounted and the receipts and payments for the same do not form part of these financial statements.
- 7.9 In compliance with the requirements of Accounting Standard 12 (AS12), an amount of Rs.79.97.398.00, i.e. depreciation provided on the assets acquired during the year out of Grants, is withdrawn from Capital Fund and credited to Income & Expenditure Account.
- 7.10 According to decision of Board of Governors in its 13<sup>th</sup> meeting, value of unserviceable/obsolete and beyond economic repair equipments/materials of the Institute amounting to Rs.56,29,957.00 has been written off and corresponding depreciated value also reduced to that extent. Cost of books recovered from students against loss of books has also been deducted from the gross block value.

#### 8.) Investments:

All Long-Term investments are valued at cost except in case of permanent diminution in their value for which necessary provision is made. Current investments are valued at the lower of cost and fair/market value.

#### 9.) Current Assets:

These include sundry receivables including on account of grant receivables, cash & bank balances including term deposits.

The inventories, in case material in nature, are valued at cost or net realizable value by the institute. The stocks of consumable items are being maintained at each department.

#### 10.) Loans, Advances & Deposits:

These include Staff advances, Other Recoverable Advances on account of Capital Commitments as well as prepaid expenses and accrued interest on investments from funds.



**11.) Income:**

Income includes academic receipts on account of fees and other collections from students, government grants and other income on account of income from institute's assets, water & electric consumption receipts. This also includes interest on saving bank account, income from consultancy, sale of forms and sale of scrap.

**12.) Expenditure:**

The institute's expenses are primarily on account of establishment expense towards Salary & other Staff compensation. Administrative & other expenses, including depreciation along with electric & power charges and other regular heads of expenditures. During the year the institute has provided support to Kendriya Vidyalaya to the tune of Rs. 80.00 Lakhs which is being run at the institute. As per decision of BOG irrecoverable balances against Departmental advance, Travelling Advance and LTC Advance written off.

**13.) Related Party Disclosures:**

There are no related party transactions that require disclosure. The only payments made to related parties are on account of Sitting Fees for members of the Board, Finance Committee, Building & Works Committee and Senate.

**14.) Conversion or Translation of Foreign Currency:**

The Institute does not receive foreign funds. Hence, there is no disclosure requirement on account of effect for Conversion or Translation or Foreign Currency.

**15.) Contingent Liability:**

Although a few matters are prejudice in the appropriate Courts, in the opinion of the Institute, no contingent liability exists as on the date of preparing these financial statements.

**16.)** Previous year's Figures have been regrouped, reclassified wherever necessary for better presentation and reference and to make them comparable with the current year's figures.

**17.)** The calculations of Arrears of pay & allowances arising out of up-gradation through CAs/ Promotion and D.A w.e.f Jan. 2013 of Faculty/Non-Faculty staff are under process and hence are not accounted.

Registrar

Director

NATIONAL INSTITUTE OF TECHNOLOGY, SILCHAR: ASSAM.  
BALANCE SHEET OF PROVIDENT FUND ACCOUNT AS AT 31ST MARCH, 2013

		(Amount in Rupees)			
FUND & LIABILITIES	Current year	Previous Year	ASSETS	Current year	Previous Year
<b>Accumulated Capital Fund</b>					
Less Final Payments	286,312,803	265,324,394	Investment (Fixed Deposit)	238,997,618	257,905,439
Less NPS Subs., Cont. & Interest tr.to NPS a/c	22,259,542	19,025,506	Investment with RBI Bond		3,800,000
	22,881,658		Accrued interest with Bank	36,057,932	14,451,065
	<b>241,171,603</b>	<b>246,298,888</b>	Accrued interest on RBI Bond		2,221,586
Add Subscription & Contribution	18,359,431	17,380,295	Advance Outstanding	6,267,621	7,282,159
Add Voluntary Deposit	3,347,500	2,480,277			
Actual Interest Credited to subscribers	22,299,605	20,153,343			
<b>Total Capital Fund</b>	<b>285,178,139</b>	<b>286,312,803</b>	<b>Closing Balance:</b>		
<b>Add: Excess of Income over expenditure :</b>			Cash at Bank at SBI NIT Br.	19,170,642	5,055,583
Income as per last account 4403029.34			( A/C No. 10521278164)		
Add: income during the yr. 4619852.75	<b>9,022,882</b>	<b>4,403,029</b>			
(Tr. From I/E Account)					
<b>Total Capital Fund under CPF (A)</b>	<b>294,201,021</b>	<b>290,715,832</b>			
<b>NPS ACCOUNT</b>					
Received from CPF a/c	22,881,658				
Add Subscription & Contribution	1,492,206				
	<b>24,373,864</b>				
Less Transferred to NPS a/c	18,081,072				
<b>Net NPS Payable (B)</b>	<b>6,292,792</b>				
<b>TOTAL (A+B)</b>	<b>300,493,813</b>	<b>290,715,832</b>	<b>TOTAL</b>	<b>300,493,813</b>	<b>290,715,832</b>

Note: Schedule of Investment & interest accrued upto 31.03.13 annexed

Dated, Silchar  
The 08th May 2013

Registrar

Director

NATIONAL INSTITUTE OF TECHNOLOGY, SILCHAR: ASSAM.  
RECEIPTS AND PAYMENTS ACCOUNT OF C.P FUND FOR THE YEAR ENDED 31ST MARCH, 2013.

(Amount in Rupees)

RECEIPTS	Current year	Previous Year	PAYMENTS	Current year	Previous Year
<b>Opening Balance</b> : Cash at Bank	5,055,583	3,287,363	Final Payment made	22,162,542	19,025,506
CPF Subscription	9,181,171	8,683,992	Investment (Fixed Deposit)	13,000,000	174,865,186
CPF Contribution	9,178,260	8,696,303	Advance to subscriber	3,976,956	5,625,912
NPS Subscription	746,103		NPS Subscription	7,329,365	
NPS Contribution	746,103		NPS Contribution	7,329,365	
Voluntary Deposit	3,347,500	2,480,277	NPS Interest	3,422,342	665
Interest on Fixed Deposit	1,446,501	9,081,934	Bank Commission	530	
Interest on RBI Bond	55,916	82,593			
Interest received on S/B Account	182,834	200,799	<b>Closing Balance :</b>		
Accrued interest received from F.D.	2,535,691	54,448,902	Cash at Bank at SBI NIT Br.	19,170,642	5,055,583
Accrued interest received from RBI Bond.	2,221,586		(A/C No. 10521278164)		
Fixed Deposit (Matured)	33,000,000	112,241,456			
RBI Bond (Matured)	3,800,000				
CPF Advance Recovery	4,894,494	5,369,233			
<b>TOTAL</b>	<b>76,391,742</b>	<b>204,572,852</b>		<b>76,391,742</b>	<b>204,572,852</b>

INCOME AND EXPENDITURE ACCOUNT OF C.P FUND FOR THE YEAR ENDED 31ST MARCH, 2013.

EXPENDITURE	Current year	Previous Year	INCOME	Current year	Previous Year
Interest credited to subscribers a/c	22,299,605	20,153,343	Interest Accrued on FDs	24,145,158	13,491,811
Bank Commission	530	665	Interest on F.D. during the year	2,536,080	9,081,934
Excess of Income over Expenditure	4,619,853	3,088,411	Interest on ICICI Bond	182,834	82,593
(Transferred to Balance Sheet)			Interest received on S/B A/C	55,916	200,799
<b>TOTAL</b>	<b>26,919,988</b>	<b>23,242,419</b>	<b>TOTAL</b>	<b>26,919,988</b>	<b>23,242,419</b>

Dated, Silchar  
 The 08th May 2013

Registrar

Director

**NATIONAL INSTITUTE OF TECHNOLOGY, SILCHAR : ASSAM**  
**Schedule of Investment & Interest accrued of C P Fund upto 31.03.2013**

Sl	Name of Bank	Fixed Deposit/Bond Account No	Dated	Face Value Rs.	Accrued Int. upto 2011-12	Accrued intt. 2012-13	Accrued Int. upto 31.03.13
1	SBI	31695844045	16.03.2011	2,911,606	290,617	278,811	569,428
2	-do-	31695843891	16.03.2011	2,911,606	290,617	278,811	569,428
3	-do-	31695843700	16.03.2011	2,911,606	290,617	278,811	569,428
4	-do-	31695843483	16.03.2011	2,911,606	290,617	278,811	569,428
5	-do-	31695844238	16.03.2011	2,183,705	217,962	209,108	427,070
6	-do-	31763627046	18/05/2011	423,183	40,524	40,524	81,048
7	-do-	31859598412	22/05/2011	1,865,842	114,269	178,670	292,939
8	-do-	31778415513	06.06.2011	6,814,719	400,836	652,567	1,053,403
9	-do-	31778416606	06.06.2011	2,982,940	175,454	285,642	461,096
10	-do-	31778417021	06.06.2011	2,363,358	154,804	226,312	381,116
11	-do-	31778417848	06.06.2011	2,631,854	154,804	252,022	406,826
12	-do-	31778416094	06.06.2011	6,874,608	404,358	658,302	1,062,660
13	-do-	31778415057	06.06.2011	1,400,010	72,348	145,010	217,358
14	-do-	31859600738	06.08.2011	3,297,251	315,740	315,740	631,480
15	-do-	31859599200	15/06/2011	2,691,905	158,336	257,773	416,109
16	-do-	31859600046	19/06/2011	4,493,584	264,309	430,299	694,608
17	-do-	32194969292	15/02/2012	6,524,932	74,907	624,817	699,724
<b>Total (A)</b>				<b>56,194,315</b>	<b>3,711,119</b>	<b>5,392,030</b>	<b>9,103,149</b>
1	UBI	313109064418	20.01.2011	10,000,000	1,159,208	1,068,587	2,227,795
<b>Total (B)</b>				<b>10,000,000</b>	<b>1,159,208</b>	<b>1,068,587</b>	<b>2,227,795</b>
1	IDBI Bank	293107000003025	22.01.2011	2,500,000	283,112	262,320	545,432
2	-do-	293107000003018	-do-	2,500,000	283,112	262,320	545,432
3	-do-	293107000004572	31/03/2011	2,248,835	215,345	235,965	451,310
4	-do-	293107000004589	-do-	2,248,835	215,345	235,965	451,310

5	-do-	293107000004596	-do-	2,248,835	215,345	235,965	451,310
6	-do-	293107000004602	-do-	1,102,351	105,559	115,668	221,227
7	-do-	293107000004619	-do-	1,102,351	105,559	115,668	221,227
8	-do-	293107000004626	-do-	1,102,351	105,559	115,668	221,227
9	-do-	293107000004633	-do-	15,328,283	1,508,890	1,657,422	3,166,312
10	-do-	293107000004640	-do-	15,328,283	1,508,890	1,657,422	3,166,312
		<b>Total (C)</b>		<b>45,710,124</b>	<b>4,546,716</b>	<b>4,894,383</b>	<b>9,441,099</b>
1	OBC	14693031000373	4/6/2011	4,000,000	313,793	413082.00	726,875
		<b>Total (D)</b>		<b>4,000,000</b>	<b>313,793</b>	<b>413,082</b>	<b>726,875</b>
1	Indian Bank	6025599411	31/03/2012	1,000,000	0	98,725	98,725
2	-do-	6025600075	31/03/2012	1,000,000	0	98,725	98,725
3	-do-	6025600803	31/03/2012	1,000,000	0	98,725	98,725
4	-do-	6025601885	31/03/2012	1,000,000	0	98,725	98,725
5	-do-	6025602816	31/03/2012	1,000,000	0	98,725	98,725
		<b>Total(E)</b>		<b>5,000,000</b>	<b>0</b>	<b>493,625</b>	<b>493,625</b>
1	PNB	2716	29/09/2011	8,000,000	390,936	1,216,925	1,607,861
2	-do-	2910	28/11/2011	7,500,000	246,753	1,009,330	1,256,083
3	-do-	2929	28/11/2011	7,500,000	246,753	1,009,330	1,256,083
4	-do-	3335	20/01/2012	15,000,000	283,468	1,787,946	2,071,414
5	-do-	3326	20/01/2012	15,000,000	283,468	1,787,946	2,071,414
6	-do-	3797	31/03/2012	10,000,000	0	790,353	790,353
7	-do-	3803	31/03/2012	10,000,000	0	790,353	790,353
		<b>Total(F)</b>		<b>73,000,000</b>	<b>1,451,378</b>	<b>8,392,183</b>	<b>9,843,561</b>
1	Corp. Bank	110013000568	30/12/2011	14,000,000	347,480	1,444,688	1,792,168
2	-do-	120001000568	20/01/2012	20,000,000	383,080	2,046,580	2,429,660
3	-do-	130005000568	3/31/2013	11,093,179			
		<b>Total(G)</b>		<b>45,093,179</b>	<b>730,560</b>	<b>3,491,268</b>	<b>4,221,828</b>
		<b>GRAND TOTAL (A+B+C+D+E+F+G)</b>		<b>238,997,618</b>	<b>11,912,774</b>	<b>24,145,158</b>	<b>36,057,932</b>

NATIONAL INSTITUTE OF TECHNOLOGY, SILCHAR : ASSAM  
TECHNICAL EDUCATION QUALITY IMPROVEMENT PROGRAMME [TEQIP PHASE- II]  
BALANCE SHEET AS AT 31ST MARCH, 2013

S. No.	PARICULARS	SCHEDULE No.	CURRENT YEAR	PREVIOUS YEAR	Amount in Rs
A	<b>SOURCE OF FUNDS:</b> Opening Balance 1) Amount received from: Govt of India 2) Contribution from: <b>3) Less: Excess of Expenditure over income:</b> As per last Account Rs. 22,75,699/- Add during the year Rs.1,29,39,683/- <b>TOTAL</b>		20,000,000 50,000,000 0 15,215,382 <b>54,784,618</b>	20,000,000 0 2,275,699 <b>17,724,301</b>	
B	<b>APPLICATION OF FUNDS</b> 1) Fixed Assets 2) Investment 2) Work in progress - Scheme work under implementation <b>TOTAL</b> <b>3) A. Current Assets, Loans and Advances</b> a) Cash Balance b) Bank Balance c) Advance for Capital Goods d) Loans and Advances <b>(A) TOTAL</b> <b>B. Less: Current Liabilities</b> Earnest Money Deposit <b>Net Current Assets (A - B)</b> <b>TOTAL</b>	I II III IV V VI	3,520,530 40,000,000 0 <b>43,520,530</b> 86,897 10,483,191 0 1,000,000 <b>11,570,088</b> 306,000 <b>11,264,088</b> <b>54,784,618</b>	0 0 0 0 218 17,724,083 0 0 <b>17,724,301</b> 0 <b>17,724,301</b> <b>17,724,301</b>	

Dated, Silchar  
The 8th May 2013

Registrar

Director

NATIONAL INSTITUTE OF TECHNOLOGY, SILCHAR : ASSAM  
 TECHNICAL EDUCATION QUALITY IMPROVEMENT PROGRAMME [TEQIP PHASE- II ]

INCOME AND EXPENDITURE ACCOUNT  
 FOR THE YEAR ENDED 31ST MARCH, 2013.

*Amount in Rs*

EXPENDITURE		INCOME			
Previous Year	Particulars	Amount	Previous Year	Particulars	Amount
321,214	Incremental Operating Cost		410,062	Interest earned	1,041,086
10,568	(a) Operation & Maintenance	2,383,413	0	Other income	0
78,785	(b) Consumables	19,495			
96,674	(c) Salary	152,514			
1,368,000	Industry Institute Interaction	2,555,422			
810,520	Teaching & Research Assistantship	641,139	2,275,699	Excess of Expenditure over Income	12,939,683
0	Faculty & staff Development	4,816,477			
0	Research & Development	1,567,978			
0	Academic Support for weak students	916,658			
0	Institutional Mgt. Capacity Enhancement	559,800			
0	Institutional Reforms	2,798,295			
		125,000			
<b>2,685,761</b>	<b>Total Rs.</b>	<b>13,980,769</b>	<b>2,685,761</b>	<b>Total Rs.</b>	<b>13,980,769</b>

Dated, Silchar  
 The 8th May 2013

Registrar

Director

## SCHEDULE - I

NATIONAL INSTITUTE OF TECHNOLOGY, SILCHAR  
SCHEDULE FOR FIXED ASSETS (TEQIP PHASE -II)

*Amount in Rs.*

Sl No	Particulars	Gross Balance as on 01/04/2011	Addition during the year	Deletion during the year	Gross Balance as on 31/03/2013
1	Equipment	0	3,520,530	0	3,520,530
2	Furniture	0	0	0	0
3	Books & LRs & Software	0	0	0	0
4	Minor Works	0	0	0	0
	<b>Total</b>	<b>0</b>	<b>3,520,530</b>	<b>0</b>	<b>3,520,530</b>



**NATIONAL INSTITUTE OF TECHNOLOGY, SILCHAR**  
**SCHEDULE FOR INVESTMENT [TEQIP PHASE- II]**

*Amount in Rs*

Particulars	<u>Schedule II</u>	Current Year	Previous year
STDR		40,000,000	0
<b>Total</b>		40,000,000	

**NATIONAL INSTITUTE OF TECHNOLOGY, SILCHAR**  
**TECHNICAL EDUCATION QUALITY IMPROVEMENT PROGRAMME [TEQIP PHASE- II]**  
**Schedules forming part of Balance Sheet as at 31st March 2013**

		<i>Amount in Rs</i>	
Current Assets, Loans and Advances:	<u>Schedule III</u>	Current Year	Previous year
Cash in Hand		86,897	218
Cash at Bank (SBI, NIT Branch)		10,483,191	17,724,083
<b>Total</b>		<b>10,570,088</b>	<b>17,724,301</b>
Advance for Capital Goods	<u>Schedule IV</u>	Current Year	Previous year
		0	0
<b>Total</b>		<b>0</b>	<b>0</b>
Loans and Advances:	<u>Schedule V</u>	Current Year	Previous year
T A Advance		0	0
Advance to Firm		0	0
Advances (NBA)		1,000,000	0
<b>Total</b>		<b>1,000,000</b>	<b>0</b>
Current Liabilities :	<u>Schedule VI</u>	Current Year	Previous year
<b>EARNEST MONEY DEPOSIT</b>			
Hydraulic Engineering Instrument		30,000	
AIMIL Ltd.		30,000	
Ultra Technologies Pvt. Ltd.		30,000	
Trivium Power		48,000	
Lakshya Enterprise		48,000	
Maverick Technologies		48,000	
Maverick Technologies		24,000	
Ratnaparkhi Electronics		24,000	
Reliable Enterprise		24,000	
<b>TOTAL</b>		<b>306,000</b>	<b>0</b>

**NATIONAL INSTITUTE OF TECHNOLOGY, SILCHAR: ASSAM.**  
**TECHNICAL EDUCATION QUALITY IMPROVEMENT PROGRAMME [TEQIP PHASE - II]**  
**RECEIPTS & PAYMENTS ACCOUNT FOR THE YEAR ENDED ON 31ST MARCH, 2013**

		<i>Amount in Rs.</i>			
Previous Year	RECEIPT	Current Year	Previous Year	PAYMENT	Current Year
	<u>Opening Balance :</u>				
0	i) Cash in Hand	218	0	Equipment	3,520,530
0	ii) Cash at Bank	17,724,083	0	Furniture	0
				Books & LRs & Software	0
				Investment	40,000,000
	<b>Grants-in-Aid:</b>			<b>Incremental Operating Cost:</b>	
20,000,000	Received from Govt. of India	50,000,000	321,214	(a) Operation & Maintenance	2,383,413
			10,568	(b) Consumables	19,495
			78,785	(c) Salary	152,514
	<b>Other Receipts:</b>		96,674	<b>Industry Institute Interaction</b>	641,139
410,062	Interest Earned	1,041,086	1,368,000	<b>Teaching &amp; Research</b>	4,816,477
0	<b>Other Receipt :</b>		810,520	<b>Faculty &amp; staff Development</b>	1,567,978
115,500	T A Advance	453,000	0	<b>Research &amp; Development</b>	916,658
	Advance to Firm	529,529	0	<b>Academic Support for weak students</b>	559,800
490,000	Advances (for workshop etc)	3,395,750	0	<b>Institutional Management</b>	2,798,295
1,723	VAT	26,170	0	<b>Capacity Enhancement</b>	
1,248	Professional Tax	2,704	0	<b>Institutional Reforms</b>	125,000
0	Income Tax	113,269	115,500	<b>Other Payments :</b>	
0	Earnest Money Deposit	306,000	0	T A Advance	453,000
			490,000	Advance to Firm	529,529
			1,723	Advances (for workshop etc)	4,395,750
			1,248	VAT	26,170
			0	Professional Tax	2,704
			0	Income Tax	113,269
				<b>Closing balance :</b>	
			218	Cash in hand	86,897
			17,724,083	Cash at Bank (SBI, NIT Br)	10,483,191
<b>21,018,533</b>	<b>TOTAL Rs.</b>	<b>73,591,809</b>	<b>21,018,533</b>	<b>TOTAL Rs.</b>	<b>73,591,809</b>

Dated, Silchar  
The 8th May 2013

Registrar

Director







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