

ANNUAL REPORT 2010-2011



**NATIONAL INSTITUTE OF TECHNOLOGY
SILCHAR-788010, Assam, India**

The National Institute of Technology, Silchar (An Institute of National Importance) is one of the premier national level institutions for technical education in North East India. Government of India as a joint venture with Government of Assam established Regional Engineering College, Silchar in 1967 with the objective of imparting quality-engineering education, providing cosmopolitan outlook among students and development of National Integrity. This institution has been transformed and upgraded to National Institute of Technology, Silchar with a Deemed University Status with effect from 28.06.2002. The institute has been subsequently made into a fully funded Government of India institution. The institute is situated in an extending campus about 540 acres of undulating land and lakes surround by tea estates and hillocks providing an ideal environment for studies.

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 nine specializations in Engineering disciplines and one MSc degree in Chemistry. The Institute also provides opportunities for Part-time MTech in selected fields and also doctoral research in various subjects.

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1 INTRODUCTION

1.1 MISSION

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

1.2 VISION

The vision of NIT Silchar is - establishing unique identity by development of high quality human and knowledge resources in diverse areas of technologies to meet local, national, and global economic and social need and 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, sponsoring faculty to work in Industry for short term, inviting people from Industry to deliver lectures etc.
- To promote national integration and impart value based education.

1.4 EDUCATION SYSTEM

Under Graduate Programme

The Institute offers six undergraduate programme 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 All India Engineering Entrance Examination (AIEEE) conducted by CBSE. The entire admission process is governed as per the Central Counselling Board (CCB) guide lines and instruction received from MHRD, Govt. of India.

Post Graduate Programme

The Institute offers 8 Post Graduate programme in Engineering and 1 programme in Science stream. Admission to all the Post Graduate programme is preferably done through the GATE score of the candidates. In cases where seats remain vacant due to non availability of GATE qualified students, the seats are filled up with non GATE qualified students, based on their performance in written test and interview. A few seats are also kept reserved for sponsored candidates, project fellows and Institute staff. Candidates belongings to those

category are admitted to the programme as per the prescribed rules of the Institute. In addition to that there is also provision for part time PG programme also.

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 throughout the country and to foster national integration. These Regional Engineering Colleges were established as joint ventures of the Government of India and the respective State Governments. Assam is a major state in the North-East region of India and the 15th REC was officially established in Silchar in 1967. Though 14 other RECs started functioning within 1967, it took about another decade for REC Silchar to start its academic programmes due to various constraints.

The 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 meager 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 of the College when the College started its academic programme in November 1977. Initially, the classes started with only 4 full time teachers and with Dr. H. R. Chablani as Principal. The College started its academic programme with affiliation to Gauhati University. The first batch of BE students was 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 a Deemed University status with effect from 28 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 to award degrees to all students who qualified for degree after its transformation into an NIT. Now, it is a prestigious Institute with reputation for excellence at both Under Graduate and Post Graduate level.

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 the district of Cachar 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 with the rest of the country via Guwahati, the major city of the North East region, by air and road and by air via Kolkata. Silchar has direct air link with Imphal, Aizawl and Agartala as well. Buses, Auto-Rickshaws, and Taxis are available from Silchar town to the College campus.

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 teagardens, 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 on expansive teagardens. It presents a spectacle of harmony in modern architecture, natural beauty and picturesque surroundings.



Campus View

The campus area has been organized in three functional sectors:

- Hostel for students
- Instructional buildings and administrative block
- Residential sectors for the staff

The instructional buildings have been so located that these are fairly near to both the hostels and the staff quarters. There is a full-fledged 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 Medical Officer on contractual basis to attend to the regular medical needs of the students, staff and their families. Patients suffering from serious illness, requiring intensive care, are referred to the Silchar Medical College & Hospital, which is only about two kilometers from the campus. An adequately equipped Canteen is there near the instructional zone and two more buildings for this purpose are under consideration – one of which is now complete – which will provide facilities to the students and the staff during and beyond the working hours. 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 12 room Guest House in the campus for the visitors. At present, for the extra-curricular activities of the students and staff, there is an Institute hall with a sitting arrangement for an audience of around five hundred. 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 Lower Primary School in the campus for the schooling of children.



Campus View

Functionally and aesthetically spread out, the campus aims at intellectual growth in an ambience that is free-flowing and community-friendly. The soothing breeze rustling through the naturally gifted lustrous greenery and bluish lakes is just one of the several ingredients that create an amazing atmosphere; just the right conditions essential to concentrate on studies.





Administrative Building

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 nine specializations in Engineering disciplines and one MSc degree in Chemistry. The Institute also provides opportunities for Part-time MTech in selected fields and also doctoral research in various subjects. During the period under report, the Institute had about 1669 students in the four year BTech Programmes, 122 students in MTech Programmes, 14 students in MSc Programme, and 90 PhD research scholars. All academic programmes are governed by specified regulations duly approved by Senate from time to time.

2.6 Duration of Courses Offered

A. Post Graduate Courses

S.N.	MTech	Duration of Programme
1.	Earthquake Engineering	2 years (4 semesters)
2.	Geo – Technical Engineering	2 years (4 semesters)

3.	Transportation Engineering	2 years (4 semesters)
4.	Water Resources Engineering	2 years (4 semesters)
5.	Microelectronics & VLSI Design	2 years (4 semesters)
6.	Power & Energy System Engineering	2 years (4 semesters)
7.	Design & Manufacturing	2 years (4 semesters)
8.	Thermal Engineering	2 years (4 semesters)
9.	Control & Industrial Automation	2 years (4 semesters)
10.	Applied Chemistry (MSc)	2 years (4 semesters)

B. Under Graduate Courses

Sl. 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)

2.6.1 PhD Programme

PhD (Part time / Full time) program is offered in all branches of Science, Mathematics, Humanities and Social Sciences and in Civil, Electrical, Electronics & Communication and Mechanical Engineering.

2.7 Admission Procedure

(i) BTech

The admission to 1st year of BTech Programme is made through the All India Engineering Entrance Examination (AIEEE) conducted by CBSE and as per the guidelines framed by Department of Secondary and Higher Education, Ministry of Human Resource Development, Govt. of India. This institute acts as one of the Counseling Centers.

(ii) MTech

The advertisement for MTech Programme is released in leading national newspapers, local dailies and in the website of the institute. Admissions are offered on the basis of marks in the qualifying examination (BE/BTech), performance in interview and on the GATE score. GATE qualified candidates are eligible for institutional financial assistance. Candidates are required to have a minimum of 60% of marks or its equivalent in Bachelor of Engineering/Technology degree. When GATE qualified candidates are not available, admission may be given to those who are not qualified in GATE on the basis of merit as detailed in P.G. regulation.

(iii) MSc (Basic Sciences)

Admission to MSc courses in Chemistry are based on career marking (weightage for 10th, 12th and B.Sc. 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)**

- a) Preference will be given to those candidates who are GATE qualified. Sponsored candidates will not be eligible to receive scholarship even if they are qualified in GATE.
- b) The candidates must have a total of minimum two years full time work experience in the sponsored organisation which should be a reputed one.
- c) There will not be any age restriction.
- d) Sponsorship certificate in proper proforma has to be produced from the employer at the time of admission.

2.8 Students

National Institute of Technology, Silchar has always been the preferred destination of the bright students. The present student strength of approximately 2000, can be doubled within the next five years. Students of NIT, Silchar are also known for their excellence in socio-cultural activities and in sports. The institute is open to persons of either sex and of whatever race, creed, caste or class and no condition is imposed as to religious belief or profession or any other condition whatsoever in admitting students. MTech, MSc and PhD programmes are also open to all. This multilingual and multi-cultured environment is particularly conducive to its future development. The alumni of NIT, Silchar have made a mark in industry and public life. They are taking significant interest in the affairs of the Institute and will continue to do so in future. It has approx. 8000 strong alumni dedicating to further development of the Institute.

2.9. Examination and Evaluation

Since the institute became an Institute of National Importance (Deemed to be University status), the entire examinations and evaluations leading to finalization of B. Tech results, for students admitted from 2002 batch onwards, were conducted under the direct control and supervision of the office of the Dean (Academic). The evaluations are done based on the Grade system, where examination marks are awarded on credit based system. The grades are awarded on the marks scored by the students in the Sessional, Mid Semester and End Semester examination assessment taken together. There is also provision for improvement of Grades for all those students whose CGPA is below 6.0.

2.10 Placement

The Institute has a separate full-fledged Training and Placement (T&P) Section headed by a Faculty-in-Charge, under the Dean (SW). 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, course completion certificate, character certificate etc. The Section also handles the scholarships of the students.

During the academic session 2010-11, More than 95% students have been awarded jobs through campus interview in various organizations. The detailed break up in Section 4.11.

2.11 Games & Sports

The institute recognizes the extracurricular activities as a part to student's life and hence well-equipped facilities for games and sports are provided within the hostels premises, in other general locations and in the Student Activity Centre (SAC). Hostels are equipped with most of the 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, athletics events and tracking events. Besides these, students, faculty and staff have been provided facility for Tennis, Basketball, Volleyball, Badminton, etc. Inter-hostel cricket, football and volleyball events are regularly conducted in the institute. A gymnasium hall with all types of modern body building equipments is also in operational during the reporting year.

2.12 Staff Position

i. Administrative Staff

Name of the Post	Sanctioned Strength	Staff in Position
Director	01	01
Registrar	01	01
Dy. Registrar (Accounts)	01	01
Asstt. Registrar (Acad)	01	--
Asstt. Registrar (Admn)	01	--
Sr. Medical Officer	01	--
Lady Medical Officer	01	01
Assistant Estate Engineer	01	01
Librarian	01	01
Stores Officer	01	01
Total	10	07

ii. Academic Staff

Name of the Post	Sanctioned Strength	Staff in Position		
		Regular	CAS	Total
Professor	17	10	04	14
Associate Professor	33	25	---	25
Assistant Professor	66	47	---	47
Total	116	82	04	86

iii. Faculty Position (Department wise break up)

Name of the Dept.	Professor			Associate Professor			Assistant Professor		Total sanctioned posts Dept. wise
	Sanctioned Strength	In Position		Sanctioned Strength	In Position		Sanctioned Strength	In Position	
		Regular	CAS		Regular	CAS			
CE	03	03	01	07	08	---	10	05	20

ME	03	03	01	05	06	---	10	04	18
EE	03	02	01	05	04	---	11	07	19
ECE	02	02	---	06	02	---	09	07	17
CSE	02	---	---	05	01	---	09	09	16
PHY	01	---	---	01	01	---	04	04	06
CHY	01	---	01	01	---	---	04	04	06
MATH	01	---	---	02	02	---	06	04	09
HSS	01	---	---	01	01	---	03	03	05
Total	17	10	04	33	25	---	66	47	116

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

iv. Supporting Staff (Administration)

Name of the Post	Sanctioned Strength	Staff in Position
Superintendent	3	1
P S to Director/Supdt MC	1	Nil
P A to Director/Steno Gr-II	1	1
Stenographer/Steno Gr-III	6	6
Sr Accounts Assistant	1	1
Accounts Assistant	2	2
Supervisory Assistant	3	3
UD Assistant	18	14
LD Assistant	18	13
Chief Store Keeper	1	NIL
Store Keeper	5	2
Total	59	43

v. Supporting Staff (Academic)

Name of the Post	Sanctioned Strength	Staff in Position
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System Programmer	2	NIL
Workshop Superintendent	1	NIL
Assistant Librarian	2	1
Foreman	1	1
Assistant Foreman	1	NIL
Sports-cum- PT Officer	1	NIL
Professor T & P	1	NIL
Library Assistant	6	1
Laboratory Assistant	2	2
Sr Instructor/Tech Gr-A	4	1
Jr Instructor/Tech Gr-B	15	12
Asstt Instructor/Tech Gr-C	10	8
Laboratory Attendant	21	17
Workshop Attendant	10	4
Library Attendant	4	2
Class Room Bearer	1	1
Total	83	50

vi. Technical & Other Supporting Staff

Name of the Post	Sanctioned Strength	Staff in Position
Pharmacist	1	1
Nurse-cum-Midwife	1	1
Jr Engineer	2	1
Muharrier	2	1
Electrician-cum-Wireman	2	1
Wireman	2	1
Carpenter (Estate)	1	NIL

Draughtsman	4	4
Tracer	2	2
Plumber	3	2
Driver	5	4
Bus Conductor	2	2
Pump Operator-cum-Mechanics	2	2
Mason (Estate)	1	1
Classifier (Library)	1	Nil
Store Attendant	2	2
Plumber Attendant	1	Nil
Medical Attendant	3	3
Roneo Machine Operator	1	1
Gate Keeper (Library)	2	2
Vehicle Cleaner	1	Nil
Mason Helper	1	Nil
Peon	25	18
Head Watchman	1	Nil
Watchman	24	10
Duftary	4	Nil
Guest House Cook	1	Nil
Guest House Bearer	1	Nil
Guest House Helper	1	Nil
Cook (Hostel)	6	2
Cook-cum-Helper (Hostel)	64	57
Mali	9	6
Sweeper	13	8

Total	191	132
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2.13 Fresh Appointments (Contractual)

S.N.	Name	Designation	Date of Joining
1.	Mr. Arnab Paul	Lecturer (CSE)	08.07.10
2.	Miss. Surabhi H Choudhury	Teaching Asstt. (Elect.)	30.08.10
3.	Mr. Abhijit Saha	Lecturer (CSE)	30.08.10
4.	Mr. Sourajit Deb	Teaching Asstt. (Mech.)	01.09.10
5.	Dr. Dipannata Das	Lecturer (Chem)	01.09.10
6.	Mr. Nirjhar Bhattacharjee	Teaching Asstt. (Elect.)	13.09.10
7.	Dr. Ranjit Das	Medical Officer	12.04.10
8.	Mr. Prajesh Kr. Deb	Supdt. Engineer (Civil)	28.05.10
9.	Mr. Kunal Dey	Asstt. Engineer (Civil)	26.05.10
10.	Mr. Panchanan Chakraborty	Tech. Asst. (Mech)	12.07.10
11.	Mr. Pankaj Ghose	Tech. Asst. (Mech)	03.09.10
12.	Mr. Manjit Singha	Tech. Asst. (Mech)	08.09.10
13.	Miss Ranjana Jha	Accounts Asst.	30.08.10
14.	Mr. Niladri Bhattacharjee	Accounts Asst.	01.09.10
15.	Mr. Sambhu Kumar Das	Store Keeper	14.03.11
16.	Mr. Rajib Kahar	Store Keeper	18.03.11

2.14 Staff Relieved on Retirement

S.N.	Name	Designation	Date of Relieve
1	Mr. Shyamal Kanti Dey	Store Keeper	30.11.10
2	Mrs. Sabita Deb	Lib. Asst.	31.12.10
3.	Mr. Sarif Uddin Laskar	Jr. Asst.	31.07.10
4.	Mr. Surendra Chandra Roy	Watchman	31.10.10
5.	Mr. Mainul Uddin Laskar	Mali	30.04.10
6.	Mr. Fakar Uddin Laskar	Cook-cum-Helper	31.12.10

2.15 Staff Expired

S.N.	Name	Designation	Date of Relieve
1	Mr. Aaur Rahaman Chaudhury	Store Keeper	19.04.10
2	Mr. Gias Uddin Mazarbhuiya	Asstt. Instructor	02.06.10
3	Mr. Nizam Uddin Laskar	Asstt. Instructor	26.03.11
4	Mr. Pranesh Ch. Sutradhar	Peon	04.02.11
5	Mr. Nizam Uddin Ahmed	Peon	04.12.10

2.16 Staff (Contractual) Relieved on Resignation

S.N.	Name	Designation	Date of Relieve
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1	Ms. Anindita Purkayastha	Teaching Asstt.	01.02.11
2	Ms. Swetla Barwal	Lecturer	01.04.10
3	Mr. Nirjhar Bhattacharjee	Teaching Asstt.	30.06.10
4	Dr. Dipannita Das	Lecturer	26.02.11
5	Ms Arunima Gogoi	Lib. & Inf. Asstt.	30.09.10
6	Mr. Rahul Suklabaidya	Jr. Engineer (Civil)	05.10.10
7	Mr. Ratnadeep Das	Technical Asstt.	13.09.10
8.	Mr. Prajesh Kumar Deb	Supt. Engineer (Civil)	28.02.10
9	Ms. Jarina Bahar Mazumder	Technical Asstt.	14.03.11

2.17 Staff Members (Non-Teaching) Deputed/Sponsored for Training/Learning

Sl. No.	Name of Staff	Name of programme	Organizing Institute	Duration
NIL				

3. THE STAFF

3.1 ACADEMIC STAFF (TEACHING) & DEPARTMENTAL ACTIVITIES

3.1.1 DEPARTMENT OF CIVIL ENGINEERING

3.1.1.1 Academic Staff

HEAD		
Name	Qualification	Specialization Area(s)
Prof. D.N. Bhattacharjee	PhD	Water Resource Engineering
FACULTY		
Professor		
Prof. D.N. Bhattacharjee	PhD	Water Resource Engineering
Prof. A.K. Dey	PhD	Geotechnical Engineering
Prof. S. Choudhury	PhD	Earthquake Engineering

Prof. P.S. Choudhury	PhD	Water Resource Engineering
Associate Professor		
Dr. A.K. Das	PhD	Geology
Dr. D. Chakraborty	PhD	Water Resource Engineering
Dr. M.A. Ahmed	PhD	Transportation Planning
Dr. P. Rajbangshi	PhD	Transportation Engineering
Dr. A. K. Barbhuiya	PhD	Water resource Engineering
Dr. A. I. Laskar	PhD	Building Technology
Dr. U. Kumar	PhD	Environmental Engineering
Assistant Professor		
Dr T. Rahman	PhD	Structural Engineering
Mr. A. M. Choudhury	MTech	Structural Engineering
Mr. P. Roy	MTech	Water Resource Engineering
Ms. N. Borthakur	MTech	Geotechnical Engineering
Mr. P. Das	MTech	Structural Engineering
Mrs. P. Sultana	MTech	Geotechnical Engineering

Faculty Promotion			
Prof.	P. S. Choudhury	PhD	Water Resource Engineering

3.1.1.2 Research and Development

(i) PhD Programs existing :

S.N.	Specialization Areas
1	Water Resource Engineering
2	Geotechnical Engineering
3	Earthquake Engineering
4	Structural Engineering

(ii) PhDs done so far:				
Submitted: 02		Continuing: 09		
(iii) Brief descriptions of on-going activities:				
(i)	Field-1: PhD Research work on			
	(a)	Sediment flow modeling for river reaches		
	(b)	Soil characterization under dynamic loading		
	(c)	Flood flow modeling for ungauged watersheds		
	(d)	ANN application in river flood fore casting		
	(e)	ANFIS models development for river network flow modeling		
	(f)	Flood risk & vulnerability assessment for sub zone (2b) & (2c) in India		
	(g)	Rheological behavior of fly ash based geopolymer concrete		
	(h)	Geotechnical investigation at Sonapur site		
	(i)	Effect of clay damper on seismic wave amplitude reduction		
	(j)	Environmental pollution		
	(k)	Multi objective design of aquifer remediation system using simulation optimization approach		
(ii)	Field-2: Sponsored Research			
	(a)	Water Resource Engineering		
	(b)	Geotechnical Engineering		
(iv) Thrust Areas:				
1	Water Resource Engineering			
2	Geotechnical Engineering			
3	Earthquake Engineering			
4	Structural Engineering			
(v) On-going research projects				
Sponsored Research Projects (Innovation and Technology Transfer):				
S.N.	Title of the project	Sponsor(s)	Name of P.I.	Amount (Rs.)

1	Sediment & Flood flow modeling for river networks incorporating contribution from ungauged water sheds	NRDMS (DST)	Prof. P.S. Choudhury	25.00 Lacs completed
2	ANN – GA & ANFIS Models for flood forecasting in river networks	SERC (DST)	Prof. P.S. Choudhury	9.00 Lacs
3	L – moment based extreme rainfall and runoff analysis for hydro metrological sub zone (2b) & (2c) of India	Ministry of Earth Science (MOES)	Prof. P.S. Choudhury	31.00 Lacs
4	River Bank erosion & its counter measures	DST	Dr. A.K. Borbhuiya	31.00 Lacs
5	Bridge pier scour in cohesive soil	AICTE	Dr. A.K. Borbhuiya	17.00 Lacs
6	Eco-restoration of Bank under shed using RS & GIS	DST	Dr. D. Chakraborty	25.00 Lacs
7	Modernization of GIS Lab	AICTE	Prof. P.S. Choudhury	15.00 Lacs

(vi) Institute – Industry Collaboration**Consultancy Projects:**

S.N.	Title of the project	Name of P.I.	Sponsor(s)	Amount (Rs.)
1	Geotechnical Investigation of NF Railway	Dr. A.K. Borbhuiya	NF Railway	10.00 Lacs
2	Seismic performances	Dr. A I Laskar	AICTE	9.00 Lacs
3	Reduction of stress waves	Dr. A K Dey	AICTE	20.00 Lacs
4	Clay dampers	Dr. A K Dey	MOES	29.00 Lacs
5	MODROB – 4 labs	Dr. A K Dey	AICTE	57.00 Lacs

3.1.1.3 Book Reviewed:

S.N.	Name of Faculty	Name of Book
1	Dr. U. Kumar	Air Pollution by M.N. Rao & H.V.N. Rao. Book published by Tata McGraw-Hill

3.1.1.4 Visits Abroad By Faculty Members:

Faculty Name	Details
Dr. A.M. Choudhury	Visited Singapore
Dr. U. Kumar	Visited University of Mauritius for ICER-10 on Sept 16-18 2010

3.1.2 DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**3.1.2.1 Academic Staff**

HEAD		
Name	Qualification	Specialization Area(s)

Mr. P. K. Paul	BE, MTech	Analog VLSI Design.
FACULTY		
Professor: Nil		
Associate Professor		
Dr. B. Purkayastha	PhD	Soft Computing, Image Processing
Assistant Professor		
Mr. A. Bhattacharjee	MTech	Computer Science and Engineering
Ms. Ujwala Barua	MTech	
Ms. Pinki Roy	MTech	Speech Processing of Languages
Mr. P. S. Neog	MTech	Distribute and Ubiquitous Systems, Information Security
Mr. Samir Borgohain	MTech	Symbol Grounding, NLP
Mr. Biswanath Dey	MTech	Computer Network, Wireless Sensor Network, Soft Computing
Mr. Pantha Kanti Nath	MTech	Human Computer Interaction, Computer Network
Mr. Marchang Jims	MTech	
Mr. Saroj K Biswas	MTech	Multimedia and Software System, VLSI

3.1.2.2 Research and Development

(i) PhDs done so far :

Completed : Nil	Continuing: 05
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3.1.2.3 Seminars / Workshops / Conferences / Short Term Courses Attended:

S.N.	Name of Faculty	Name of programme	Organizing Institute	Duration
1	Dr. B. Purkayastha	North-Eastern Region on Intelligent Data Analysis: Theory an Applications	Assam University, Silchar	1-5 March 2011
		Language Recognition of Three Indian Languages	Pondicherry	24-27 Dec

2		based on Clustering and Supervised Learning		2010
3	Ms. Pinki Roy	Review of Language Identification Techniques,2010	Coimbatore	28-29 Dec 2010
4		A scalable Energy Efficient and Delay Bounded Data Gathering Framework for Large Scale Sensor Network	Kolkata (IEEE Press)	18-20 Feb 2011
5	Mr. Biswanath Dey	Mobility Assisted Efficient Coverage Control in Cluster Based Sensor Networks	Kolkata (IEEE Press)	18-20 Feb 2011

3.1.3 DEPARTMENT OF ELECTRICAL ENGINEERING

3.1.3.1 Academic Staff

HEAD		
Name	Qualification	Specialization Area(s)
Dr. A. K. Sinha	BE, MTech, PhD	Power System Protection
FACULTY		
Professor	Qualification	Specialization Area(s)
Prof. A. K. Roy	BE, ME, PhD	Electric Drives
Prof. A. K. Sinha	BE, MTech, PhD	Power System Protection
Prof. N. Sinha	BE, MTech, PhD	Power System Optimization
Associate Professor		
Dr. B. K. Roy	BE, MTech, PhD	Control System
Dr. S. Choudhury	BE, MTech, PhD	CAD of VLSI
Mr. S. H. Laskar	BE, MTech	Instrumentation
Assistant Professor		
Mr. N. B. DevChoudhury	BE, MTech	Power System
Mr. L. C. Saikia	BE, MTech	Power System

Mr. T. Malakar	BE, M. E. E	Power System
Dr. J. P. Mishra	MTech, PhD	Energy Management, Electric Drives
Mr. D. C. Das	BTech, MTech	Power and Energy System
Mr. C. Bhattacharjee	BE, MTech	Elect. Machine, Power System
Dr. Arup Goswami	M Tech, PhD	Power System
(A) Research and Development		
(i) PhD Programs Existing:		
S.N.	Specialization Areas	
1	Electric Drives	
2	Signal Processing in Electrical Engineering	
3	Wavelet Applications in Electrical Engineering	
4	Power System Protection	
5	Control Systems	
6	Industrial Automation	
7	Automatic Generation and Control	
8	Power Quality	
9	Fault Detection, and Diagnosis of Dynamic System	
10	Soft Computing Techniques	
11	Power System Optimization, Deregulation	
12	VLSI Design	
(ii) PhDs done so far:		
S.N.	Completed	Continuing
1	Nil	07
(iii) Proposed Plan for Research:		
S.N.	Name of the lab / Workshop	Purpose/linkages to an existing/new programme
1	High Voltage Lab	Power System

(iv) Thrust Areas:		
1	Power and Energy System	
(v) New Acquisitions:		
S.N.	Name of Laboratory	Equipment Details (purpose, facilities, etc.)
1	Control Systems	<ol style="list-style-type: none"> 1. NI Academic Site License - Department Teaching Includes 1 Year standard service for Site License of all adds on software's available in NI self till date complete 1 year Free upgrade & updates + maintenance. Onsite complete installation & Training Start up assistance by NI Person (Free) 2. SHC68-C68-S, 68 pin VHDCI to 68 pin VHDCI, 2m 3. UMI-7774 4-Axis Motion Interface with D-Sub Connectors for Industrial Applications 4. P70360 Stepper Drive, 120 or 240 VAC powered, 2.5 A continuous current, 1 Axis 5. Serial Programming Cable for P70530 & P70360 Stepper Drives 6. D-Sub to D-Sub Cable to connect P70530 & P70360 Stepper Drives & UMI 7774, 2.5 m 7. T22NRLC-LDN-NS-00 Stepper Motor for P70360 AC drive, NEMA 23, 280 oz-in, dual shaft 8. 2-pin connection IMI Accelerometer 100 mV/g 9. General Purpose Shear Accelerometer, 10 mV/g 10. BNC to MIL-type2-socket conn cable for IMI Accelerometer; Cable length 10 ft 11. Coaxial cable: 10-32 plug to BNC plug for shear Accelerometer; Cable length 10 ft 12. NI ELVIS II+ Basic (For Academic Use Only) 13. Camera, NI 1744 Smart Camera 14. NI 17xx 5m Pigtail breakout cable 15. E - Type Thermocouples Wire, Fiberglass (32 deg F to 900 deg F) 2 m 16. J - Type Thermocouples Wire, Fiberglass (32 deg F to 900 deg F) 2 m 17. K - Type Thermocouples Wire, Fiberglass (32 deg F to 900 deg F) 2 m 18. T - Type Thermocouples Wire, Fiberglass (32 deg F to 500 deg F) 2 m 19. Lens, 16mm, F1.4, Megapixel, Computer 20. Light, Ring Light (Red)
2	Process Control	<p>The newly commissioned Process Control Lab has industrial setup rather than usual laboratory prototype to measure and control</p> <ol style="list-style-type: none"> 1. Temperature Profile Control Loop 2. Level Control Loop 3. Flow Control Loop 4. Pressure Control Loop

		5. Typical Duct Air Flow Control Loop All these loops have (a) Local PID controller (b) Controlled through PLC and SCADA (c) Control through DCS and SCADA
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(vi) On-Going Research Projects**Sponsored Projects:**

S.N.	Title of the project	Sponsor(s)	Amount (Rs.)
1	Application of Intelligent Technique to Improve the Flexibility of Power System	AICTE	05 Lakhs
2	Co-developer for the Subject 'Control Systems' in the Project on - Developing Suitable Pedagogical Methods for Various Classes, Intellectual Calibers and Research in e-learning	Nationally coordinated project sponsored by MHRD	5 Crores for Pilot Phase

(B) Visits Abroad By Faculty Member

S.N.	Faculty Name	Details
1	Dr. A. K. Sinha	Visited Fukuoka City, Japan for Paper Presentation in IEEE TENCON10
2	Mr. Tanmoy Malakar	Visited Fukuoka City, Japan for Paper Presentation in IEEE TENCON10
3	Dr. A. K. Goswami	Visited Hong Kong, China for Paper Presentation in March 2011
4	Dr. Saurabh Chaudhury	Visited Athens, Greece for Paper Presentation in ICECS December, 2010
5	Dr. J.P. Mishra	Visited Jeju, Korea for Paper Presentation in ICPE 2011, ECCE Asia
6	Dr. B.K. Roy	University of Mauritius, Reduit, Mauritius

(C) Theses: MTech

S.N.	Name of Scholar	Supervisor	Title of Thesis
1	Soumyakanta Samantary	Dr A.K.Sinha	Voltage Collapse and Dynamic Studies
2	Subir Dutta	Dr. A. K. Roy	Artificial intelligent based FACTS controller for enhancement of power for power system dynamics and voltage stability
3	Shuma Adhikari	Dr N.Sinha	Optimal sizing and setting of SSSC controller to minimize transmission loss, power production cost and voltage variation

4	S Clarles Wesly	Dr. B.K.Roy	Principle component analysis based fault detection and diagnosis in power system simulation based study
5	Debirupa Hore	Dr. J.P. Mishra	Fuzzy Logic based vector control of active and reactive power for variable speed wind power generation using DFIG
	Anaga Bhattacharjee	Mr. D. C. Das	Micrigrid Modelling and Simulation
6	Anirban Dutta (ECE Deptt)	Dr. Saurabh Chaudhury	BDD optimization for area power and testability

(D) Paper Reviewed:			
S.N.	Name of Faculty	Name of Journal or Conference or Name of Organizing Institute	Number of Papers Reviewed
1	Dr. A. K. Sinha	World Renewable Energy Congress 2011, Sweden.	05
2	Dr. N. Sinha	IEEE Transaction Power System	05
		IEEE Transaction on Evolutionary Computation	01
		IEEE Transaction on Power Delivery	01
		IET,UK	01
		Elsevier: Electric Power System Research	
		Electrical Power System Research	02
		Taylor Francis	01
3	Dr. A. K. Goswami	IET Generation Transmission & Distribution	01
		Taylor Francis, Electric Power Component and System	01
4	Dr. Saurabh Chaudhury	IEEE ICCCT Conference	05
		TATA-McGraw-Hill Book Chapters	03
		ACEEE Conferences	02

5.	Mr. L.C.Saikia	AUPEC 2010, International Conference	01
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(E) Seminars / Workshops / Conferences / Symposia / Short Term Courses / Training Programme Attended				
S.N.	Name of Faculty	Name of Programme	Organizing Institute	Duration
1	Dr. A. K. Sinha	IEEE TENCON 2010 conference on Japan	IEEE	21-24 Nov 2010
		International conf. on Renewable Energy, Jaipur	Jaipur University	17-21 Jan 2011
		International conf. on Electrical & Electronics Engineering	MIT Moradabad	25 -26 Feb 2011
		International conf. on Emerging Trends in Electrical and Computer Technology	St.Xavier,s College of Engineering	23-24 March 2011
		National conf. on Emerging Trends in Energy System & Control.	Federal Institute of Science & Tech. Kerala	20 -21 May 2010
2	Mr. S.H.Laskar	National Conference on Power Instrumentation Control (PICON 2011).	ZHCET, AMU, Aligarh	12-13 Feb 2011
		National Symposium on Development of instrumentation & Control Engg.	EED, ZHCET, AMU, Aligarh	27-28 March 2010
3	Dr. J.P. Mishra	National Power Electronics Conference (NPEC – 10)	IIT Roorkee	10-13 June 2010
		IEEE 8 th Int. Conference on Power Electronics – ECCE Asia (ICPE 2011-ECCE Asia)	Jeju, Korea	30 May-3 June 2011
4	Mr. D. C. Das	Faculty development programme Micro-grid and Distributed generation	NIT Calicut	21 June-2 July 2010
		Faculty Induction programme for Engg College Teachers of N-E region conducted by NITTTR	NITTTR	26 April-8 May 2010
5	Dr. A. K. Goswami	International Conference IMECS -2011	Hong Kong, China	16-18 March 2011
6	Dr. Saurabh Chaudhury	IEEE Int. Conf. ICCCT 2010	MNNIT Allahabad	15-17 Sept.2010
		IEEE Int. Conf. ICECS 2010	Athens, Greece	12-15 Dec. 2010

7	Mr. L.C.Saikia	20th Australasian Universities Power Engineering Conference (AUPEC), 2010	Christchurch, New Zealand	Dec. 2010
		Annual IEEE India Conference (INDICON), 2010	Jadavpur University, Kolkata	Dec. 2010
8	Dr. B.K. Roy	3 rd International Congress of Environmental Research	JERD, Bhopal (India) and University of Mauritius, Reduit (Mauritius)	Sept 16-18, 2010
		7 th Control Instrumentation System Conference, CISCON-10	Manipal University, Manipal	Nov 12-13, 2010
		International conference on Industrial Electronics, Control and Robotics (IECR – 2010)	N I T Rourkela	Dec 27-30, 2010
		National Conference on Recent Advances in Electrical Power and Energy System Management (RAEPESM – 2011)	M.M.M. Engineering College Gorakhpur	March 25-26, 2011

3.1.3.2 Research Publications

(a) Published in : International Journals

SN	Author(s)	Title	Publication details
1	Dr. A. K. Sinha	Power Quality Monitoring of a power system using Wavelet Transform	International Journal of Electrical Engineering, Code 9188, Nov 2010
2	Dr. N. Sinha	Impact of DG Placement and Sizing on Distribution System	The Journal of CPRI, V. 6 (1), 2010
3	Mr L. C. Saikia	Performance comparison of several classical controllers in AGC for multi-area interconnected thermal system	International Journal of Electrical Power & Energy Systems, V. 33 (3), March 2011, pp. 394-401
4	Dr. A. K. Goswami	Placement of FACTS devices for minimizing financial losses due to voltage sag in distribution system	International Journal of Technology, Policy and Management, V.10 (4), 2010, pp. 316-332
		Minimization of financial losses due to voltage sag in an Indian distribution system using FACTS devices	International Journal of Electric Power System Research V.81, 2011, pp. 767-774

(b) Published in : National Journals

SN	Author(s)	Title	Publication details
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1	Mr. Tanmoy Malakar	Impact of DG Placement and Sizing on Distribution System	The Journal of CPRI, V. 6 (1), 2010
(c) Published in : International Conferences / Seminars / Workshops			
1	Dr. A. K. Roy	Genetic Algorithm based PI Controller for Frequency Control of an Autonomous Hybrid Generation System	IMECS-2011, 16 -18 March 2011
2	Dr. A. K. Sinha	Design and Testing of PV Maximum Power Tracking System with Matlab. Simulation	IEEE TENCON 2010 conference, Japan
		Meeting Energy Demand with Wind as an Energy Source	International conf. on Renewable Energy, Jaipur University, Jaipur
		Online Power Swing Analysis	International Conf. on Electrical & Electronics Engineering, MIT Moradabad
		Power System Fault Detection Classification Based on PCA and PNN	International Conf. on Emerging Trends in Electrical and Computer Technology 2011, St. Xavier's College of Engineering, Tamilnadu
3	Dr. N. Sinha	Genetic Algorithm based PI Controller for Frequency Control of an Autonomous Hybrid Generation System	IMECS-2011, 16 -18 March 2011,
		Improved real Quantum Evolutionary Algorithm for optimum Economics load Dispatch with Non-convex Loads, SEMCCO-2010	SRM, Chennai
		Hybrid Bacterial Foraging – DE based Algorithm for ELD with Non-convex load. (Best Paper Award)	TCE, Coimbatore
4	Mr. S.H.Laskar	Oxford Solar Initiative and the Oxford Climate Change Action Plan	Proceedings of National conference, NCRE 2010
		Power Quality Issues and Impact of Poor PQ on Global Economy with reference to India.	Proceedings of National conference, PICON 2011, 12-13 Feb 2011
5	Mr. T. Malakar	Optimal Location and Size Determination of FACTS Devices using Multi-objective Optimal Power Flow	IEEE TENCON10 Conference, Nov. 2010

6	Mr. D. C. Das	Genetic Algorithm Based PI Controller for Frequency Control of an Autonomous Hybrid Generation System	IMECS-2011, 16 -18 March 2011
7	Dr. A. K. Goswami	RBF and BPNN Combi Model Based KALMAN Filter Application for Maximum Power Point Tracker of PV Cell	IMECS conference, HongKong and published in Lecture notes in engineering and Computer science IMECS 2011, 16-18 March 2011, pp 1006-11
8	Dr. Saurabh Chaudhury	An Efficient Variable Ordering Technique for BDD-Based Multi-Level Logic Synthesis with Area and Power Trade-Offs	ICCCD Dec. 2010, Kharagpur, India
		Genetic Algorithm Based Variable Ordering of BDDs for Multi-Level Logic Synthesis with Area and Power Trade-Offs	IEEE ICECS, 12-15 Dec. 2010, Athens, Greece
		A New Approach to Image Segmentation with MATLAB	ICCCT 2010, Allahabad
9	Mr L. C. Saikia	Maiden application of fuzzy logic based IDD controller for automatic generation control of multi-area hydrothermal system: A preliminary study	20th Australasian Universities Power Engineering Conference (AUPEC), 2010 , pp.1 – 6
		Detection and classification of power quality disturbances using wavelet transform, fuzzy logic and neural network	Annual IEEE India Conference (INDICON), 2010, pp. 1 – 5
11.	Dr. J.P. Mishra	Fuzzy Logic based improved active and reactive power control operation of DGIG for wind power generation	IEEE 8 th Int. Conference on Power Electronics – ECCE Asia (ICPE 2011 – ECCE Asia)
(d) Published in : National Conferences / Seminars / Workshops			
SN	Author(s)	Title	Publication details
1	Dr. A. K. Sinha	Causes of voltage collapse Identification and effects on Power System	National conf. on Emerging Trends in Energy System & Control, Federal Institute of Science & Tech. Kerala
2	Dr. J.P. Mishra	Sensorless vector control of induction motor using direct adaptive RNN speed estimator	NPEC – 2010, Page no. 15, Conference proceeding

3.1.4 DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

3.1.4.1 Academic Staff

HEAD		
Name	Qualification	Specialization Area(s)
Prof. S. Baishya	PhD	Semiconductor Devices Physics, MOS Modelling, VLSI, MEMS
FACULTY		
Professor		
Prof. F.A. Talukdar	PhD	Energy, Analog Circuit Design for Soft Computing, Power Electronics and Drives
Prof. S. Baishya	PhD	Semiconductor Devices Physics, MOS Modelling, VLSI, MEMS
Associate Professor		
Mr. P. K. Paul	MTech	Analog VLSI Design.
Ms. M. Chaudhury	MTech	Automation & Control
Ms. M. Paul	MTech	Radiophysics & Electronics
Assistant Professor		
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
Mr. S. K. Gupta	MTech	Digital Signal Processing, VLSI Design
Ms. B. Bhowmick (Shome)	MTech	Power Electronics ,Solid State Device
Mr. J. Mehedi	ME	Ad-hoc and Sensor Networks, Digital System Design
Mr. Kaushik Guha	MTech	Microwave, Antenna & RF Circuit.
Mr. Wasim Arif	ME	Communication System & MEMS

3.1.4.2 Research and Development

(i) PhD Programs Existing:				
S.N.	Specialization Areas			
1	Semiconductor Device Modelling and Simulation			
2	Microelectronics & VLSI Design			
3	Power Electronics & MEMS			
4	Mobile Communication			
(ii) PhDs done so far :				
Completed : Nil			Continuing: 04	
(iii) Proposed Plan for Research:				
S.N.	Name of the Lab / Workshop	Purpose/linkages to an existing/new programme		
1	National MEMS Design Center	Device Simulation Lab		
(iv) Brief Descriptions of On-going Activities:				
(i)	Field #1: MOS Modelling and Simulation			
	Modelling and Simulation of FinFETs and TunFETs			
(ii)	Field #2: MEMS Design Center, Analog VLSI Design			
	Micro-Actuator			
(v) Thrust Areas :				
1	MEMS Design, Analog VLSI Design			
(vi) New Acquisitions:				
S.N.	Name of Laboratory	Equipment Details (purpose, facilities, etc.)		
1	DSP laboratories	Vx Work for Embedded System Development		
(vii) On-Going Research Projects				
Sponsored Research Projects (Innovation and Technology Transfer):				
S.N.	Title of the project	Sponsor(s)	Name of P.I.	Amount (Rs.)
1	Modelling and Simulation of FinFETs	AICTE	Head of the Department	8.30 Lacs
2	National MEMS Design Center	DRDO	Head of the	---

			Department	
3	MODROB (Modernisation of DSP Lab)	AICTE	Mr. K.L. Baishnab	12.00 Lacs
4	Investigation of some binary Metal Oxide material for Resistive Switching Memory Applications		Prof. F A Talukdar	18.40 Lacs

3.1.4.3 Visits Abroad by Faculty Member

S.N.	Faculty Name	Place Visited
1	Ms. M. Paul	Singapore
2	Mr. R. H. Laskar	Bangladesh

3.1.4.4 Theses: MTech

1	Mr. Achinta Baidya	Simulation and Analysis of Lightly Doped Ultra-Thin Triple metal Double Gate (TM-DG) MOSFETS with High-K Dielectric for Diminished Short Channel Effects
2	Mr. Antaryami Panigrahi	Design of Low Voltage Low Power Four Quadrant Analog Multiplier in Weak Inversion
3	Mr. Victor Pal	Ultra Thin Body Partial SOI MOSFET with Suppressed Floating Body Effect
4.	Mr. Amit Jain	A Design and analysis of a 2.4GHz Ultra Low Power and low voltage Low noise Amplifier with forward Body bias Technology
5	Mr. Rajsekhar Kar	Optimization of Hetero-materials gate Tunnel Source (PNPR) MOSFET
6.	Ms. Jahnvi Sen	Optimization and height Scaling of Tunnel FET

3.1.4.5 Seminars / Workshops / Conferences / Symposia / Short Term Courses Attended

S.N.	Name of Faculty	Name of programme	Organizing Institute	Duration
1	Mr. S.K. Gupta	6 th ZOPP workshop for SMDP-II Project	IISc Bangalore	11-12 Feb 11
2	Mr. Wasim Arif	Instruction Enhancement Programme on VLSI Applications in Biomedical Engineering	IIT Kharagpur	7-12 March 11

3	Mr. K.L. Baishnab	Attended workshop on Semiconductor Memory Design & Test	NIT Jaipur and CEERI Pilani	11-15 Dec 10
4	Mr. K. L. Baishnab	Instruction Enhancement Programme on VLSI Applications in Biomedical Engineering	IIT Kharagpur	7-12 March 11
5	Mrs. Madhumita Paul	Attended workshop on Frontiers in Silicon Photonics	Beijing, China	29-30 Aug 10

3.1.4.6 Research Publications

A. Published in International Journals			
S.N.	Author(s)	Title	Publication details
1	K.L. Baishnab, Amlan Nag, and F. A. Talukdar	A High speed voltage mode CMOS Loser-Take-All for image processing	IUP Journal of Telecommunication, V. II(1), 2010, pp. 235-242
2	Anirban Dutta, K.L. Baishnab, and S. Choudhury	A new evolutionary algorithm based BDD optimization for Area and Power	International Journal of Electronics and Electrical Engineering (IJEEE), 2010
3	Jishan Mehedi and M. K. Naskar	A Fuzzy Based Centralized Approach for Maintaining Node Connectivity with Fault Tolerance Scheme for Mobile Ad-hoc Networks	International Journal of Technology & Engg. Sciences, V.1(2), 2010, pp. 70-78
4	S. S. Nath, M. Choudhury, & D. Chakdar	Acetone sensing property of ZnO quantum dots embedded in PVP	Accepted for publication in Journal (4 th June 2010) "Sensor & Actuator" B 148, 2010, pp. 353-357
5	M. Choudhury, S. S. nath, ssn, and, R. K. Nath	ZnO quantum dots in SBR latex for Methanol Sensing	Journal of Science and Technology: Physical Sciences and Technology, V. 6, 2010, pp. 46-50
6	S. S. Nath and M. Choudhury	PVA embedded ZnO Quantum dots for methanol sensing	Nanotgrands (A Journal of Nanotechnology and its Applications), Aug.'10
B. Published in International Conferences / Seminars / Workshops			
S.N.	Author(s)	Title	Publication details
1	Saumyabrata Deb, Jainul Haque, and K. L. Baishnab	An efficient heap management technique with minimum Fragmentation and Auto Compaction	IEEE ICIIIS 2010 during 29 July-1 Aug.10 at NIT Suratkal
2	Amlan Nag,	Low power, high	IEEE ICIIIS 2010 during 29

	K. L. Baishnab, and F. A. Talukdar	precision and reduced size CMOS Comparator for ADC Design	July-1 Aug.10 at NIT Suratkal
3	Pavan K. Manchi And S. K. Gupta	Corner Effects In SOI Tri-Gate FINFET Structure By Using 3D Process And Device Simulations	IEEE International Conference on Computer and Communication Technology (ICCCT 2010), MNNIT Allahabad, India, 17-19 September 2010
4	S. K. Gupta, Abhash Garg, Nitin Prabhakar Singh	Design And Simulation Of An Improved Dual Band LNA For WLAN Applications	IEEE International Conference on Computer and Communication Technology (ICCCT 2010), MNNIT, Allahabad, 17-19 Sept 2010
5	J. Mehedi and M. K. Naskar	A Distributed Algorithm for Self-controlled Mobile Ad-hoc Network	EAIT, 2011, Kolkata during 19-20 Feb. 2011
6	Satyanand Namana, S. Baishya, and Kalyan Koley	A Subthreshold Surface Potential Modeling of Drain/Source Edge Effect on Double Gate MOS Transistor	Proceedings of 2 nd International Conference on Electronics and Information Engineering, Kyoto, Japan, pp. V1-87 - 91, Aug. 2010
7	V. Ramanjaneyulu, S. Baishya, and R. H. Laskar	Optimization consideration of undoped raised source/drain FinFET with effective SCE control	Proceedings of 2 nd Int. Conference on Electronics and Mechanical Engineering (ICMEE), Kyoto, Japan, pp. V1-150 – 153, Aug. 2010
8	P. K. Patowari, A. S. Bharali, M. M. Nath, J. Gogoi, C. K. Singh, and S. Baishya	Analysis of a monometallic two arm horizontal thermal actuator for MEMS	Proceedings of 2 nd International Conference on Electronics and Mechanical Engineering (ICMEE), Kyoto, Japan, pp. V1-184 – 188, Aug. 2010
9	A. K. Bharali, P. K. Patowari, and S. Baishya	Design and analysis of multilayer electrothermal actuator for MEMS	Proceedings of 2 nd International Conference on Electronics and Mechanical Engineering (ICMEE), Kyoto, Japan, pp. V1-127 - 131, Aug. 2010
10	Kalyan Koley and S. Baishya	A Subthreshold Surface Potential Modelling of Drain/Source Edge Effect in MOS Transistors	Proceedings of 3 rd IEEE Conference on Computer Science and Information Technology (ICCSIT), China, pp. 157 – 161, Jul. 2010
11	R. H. Laskar, S. Baishya,	Color image denoising in wavelet domain using	Proc of ICECE, IEEE, Dhaka, Bangladesh, pp. 498-501,

	S. K. Kar, R. Sharma, N. Medhi, and R. D. Purkayastha	adaptive thresholding incorporating the Human Visual System model	December, 2010
12	Vinay Rao M M & P K Paul	A new folding technique for flash A/D converter using tape reference modifier	3 rd IEEE ICCSIT 2010

C. Published in National Conferences / Seminars / Workshops

S.N.	Author(s)	Title	Publication details
1	Mr. Koushik Guha	RF Energy Harvesting in Agriculture	All India National Congress organized by FOSET on 11-12 Feb.11 in Kolkata
2	Ms. M. Paul	Size Dependent Study of second d Order nonlinear Susceptibility of CDS Quantum Dot	National Seminar organized by Dept. of Physics, Assam University on 3-5 Feb 2011

3.1.5. DEPARTMENT OF ELECTRONICS & INSTRUMENTATION ENGINEERING

3.1.5.1 Academic Staff

HEAD		
Name	Qualification	Specialization Area(s)
Dr. A.K. Sinha	BE, MTech, PhD	Power System Protection

3.1.6. DEPARTMENT OF MECHANICAL ENGINEERING

3.1.6.1 Academic Staff

HEAD		
Name	Qualification	Remarks
Prof. K.M. Pandey	PhD	Up to 13-07-2010
Prof. R.D. Misra	PhD	W.e.f. 14-07-2010
FACULTY		

Professor		
Name	Qualification	Specialization Area(s)
Prof. R. Gupta	PhD	Thermo-Fluid, Design of two-phase Flow Systems, Non-conventional Energy, CFD, Soft-computing
Prof. K.M. Pandey	PhD	Combustion, IC Engine, CFD, Gas Dynamics, Numerical Methods
Prof. A.C. Paul	PhD	Design
Prof. R.D. Misra	PhD	Thermal Engineering, Refrigeration & Air Conditioning, Alternative Fuels, IC Engine
Associate Professor		
Dr. K. Chakraborty	PhD	Machine Tools, Material Science
Mr. D.H. Das	MTech	Thermal Engineering
Mr. A. Biswas	MTech	Management Sciences
Mr. K.K. Sharma	MTech	Machine Design, Renewable Energy Systems
Dr. P.K. Patowari	PhD	Manufacturing
Dr. D. Datta	PhD	Optimization/ Operational Research
Assistant Professor		
Mr. P.L. Choudhury	MTech	Design
Mr. L. Roy	MTech	Tribology, Vibration, Kinematics
Mr. S.K. Pattanayak	ME	Production Engg.
Mr. K. Mukherjee	MTech	Design, Robotics
Mr. S. Chatterjee	MME	Applied Mechanics, Energy, Alternative Fuels

Faculty Appointment, Promotion, Retirement, Re-Employment & Resignation

Faculty Promotion

Post	Name	Qualification	Date
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Professor	Prof. R.D. Misra	PhD	21 st April, 2010
Associate Professor	Dr. D. Datta	PhD	12 th April, 2010

3.1.6. 2 Research and Development

(i) PhD Programs existing:		
S.N.	Specialization Areas	
1	Renewable Energy	
2	Alternative fuels	
3	Combustion	
4	Computational Fluid Dynamics	
5	Thermo-fluids	
6	Energy, productivity & quality management	
(ii) PhDs done so far :		
Completed : 01		Continuing: 07
(iii) Proposed Plan for research:		
S.N.	Name of the Lab/Workshop	Purpose
1	Petroleum Engg. Lab.	Alternative Fuels Research, IC Engine Research
2	Gas Dynamics Lab.	Wind Tunnel, Air-flow Bench, Fluid Mechanics Laboratory
3	Advanced Manufacturing Lab.	Research on Nontraditional/Advanced Manufacturing Processes and this is linked to RPS of AICTE titled: Experimental Investigation of Surface Integrity in Electrodischarge Machining (EDM)
(iv) Brief descriptions of on-going activities :		
(i)	Field #1: Alternative fuels	
	(a)	Engine performance & emission characteristics with Bio-fuels
	(b)	Engine combustion characteristics study with CFD
(ii)	Field #2: Renewable energy	
	(a)	Experimental & computational works

(iii)	Field #3: Combustion in supersonic flow	
	(a)	Supersonic nozzle
(iv)	Field #4: International collaborative works on Operational Research.	
	(a)	Spatial aggregation and compactness of census areas in Canada with a multi-objective genetic algorithm. Collaboration with Instituto Superior Técnico, Portugal, and University of Western Ontario, Canada.
	(b)	Efficient health geographies for England: A multi-objective optimisation approach. Collaboration with Instituto Superior Técnico, Portugal, and London School of Economics and Political Science, UK.
	(c)	Satellite image segmentation through multi-objective metaheuristics. Collaboration with Instituto Superior Técnico, Portugal, and Complutense University of Madrid, Spain.
	(d)	Facility layout with minimum cost. Collaboration with Instituto Superior Técnico, Portugal, and Nancy School of Mines, France.
(v)	Field #5: International collaborative works on Optimization.	
	(a)	Integer-coded differential evolution for design problems. Collaboration with Instituto Superior Técnico, Portugal, and Nancy School of Mines, France.
	(b)	Integer-coded particle swarm optimization for design problems. Collaboration with Instituto Superior Técnico, Portugal, and Nancy School of Mines, France.
	(c)	Graph partitioning by multi-objective real-valued metaheuristics. Collaboration with Instituto Superior Técnico, Portugal, and Nancy School of Mines, France.
	(d)	M-ary metrics for comparing performances of multi-objective optimizers. Collaboration with Instituto Superior Técnico, Portugal, and Nancy School of Mines, France.
(vi)	Field #6: Advanced manufacturing processes.	
	(a)	Study on Surface integrity in EDM.
(vii)	Field #7: MEMS	
	(a)	Design and analysis of Electrothermal actuators for MEMS applications using COMSOL.
(viii)	Field #8: Energy, productivity & quality management.	

	(a)	Experimental & computational works.		
(v) Thrust Areas:				
1	Renewable energy			
2	Alternative fuels			
3	Combustion			
4	CFD			
5	Non-traditional machining			
(vi) New Acquisitions:				
S.N.	Name of Laboratory	Equipment Details (purpose, facilities, etc.)		
1	IC Engine Lab	4-Stroke VCR Diesel engine test rig with necessary instrumentations, AVL 5-Gas analyser, AVL Smoke meter.		
2	Advanced Manufacturing Lab	Optical microscope, Surface profilometer, Precision balance, Powder compaction machine.		
(vii) On-Going Research Projects				
Sponsored Research Projects (Innovation and Technology Transfer):				
S.N.	Title of the project	Sponsor(s)	Name of P.I.	Amount (Rs.)
1	Energy Quality and Productivity Audit of KVIC based Industries in Barak Valley of Assam	Directorate of Science & Tech., KVIC, Mumbai	Dr. R. Gupta	17.043 Lacs
	Extraction of pineapple Fibre for making Commercial Products	-do-	Dr. R. Gupta	15.318 Lacs
2	Experimental Investigation of Surface Integrity in Electro discharge Machining (EDM)	RPS of AICTE	Dr. P.K. Patowari and Dr. R. Gupta	20.00 Lacs
3	National Programme on Micro and Smart Systems (NPMAS) related to National MEMS Design Centre (NMDC)	DRDO, GOI	Dr. S. Baishya, Co-Coordinator: Dr. P.K. Patowari and	Only technical support

			Dr. A.Bhattacharjee	
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3.1.6.3 Visits Abroad by Faculty Member

S.N.	Faculty Name	Details
1	Dr. D. Datta	Visited Turkey in April 2010 under CPDA funding for attending EvoCOP-2010 Conference at Istanbul.
		Visited Portugal in the period of May-August 2010 in connection with a collaborative research at Lisbon (funded by FCT, Govt. of Portugal).

3.1.6.4 Invited Lectures by Faculty Members

S.N.	Faculty Name	Details
1	Dr. R. Gupta	Performance Analysis of Vertical Axis Wind Turbines- A Review. Renewable Energy and Technology: Issues and Prospects (RETIP-2010), 23-24 Sept 2010, NERIST, Itanagar.
2	Dr. K.M. Pandey	Delivered an Invited Lecture on the topic Collaborative Research Work Among Academic Institutions in National Seminar on Networking of library and Information Centres of North East India in Digital Environment, 21-23 March 2011, Central Library, NIT Silchar

3.1.6.5 Chairing of any technical session by Faculty Members

S.N.	Faculty Name	Details
1	Prof. K.M. Pandey	Session Chair, 3 rd International Congress of Environmental Research, September 16-18, 2010, University of Mauritius, Reduit, Mauritius. Chaired a session of Technology on 16 th September 2010, 2nd Technical Session.
2	Prof. K.M. Pandey	Chair, Program Committee, 3 rd International Conference on Machine Learning and Computing, February 26-28, 2011, Singapore

3.1.6.6 List of PhD thesis submitted and degree awarded:

S.N.	Name of Scholar	Title of Thesis	Status
1	Agnimitra Biswas (Guide: Prof. R. Gupta)	Experimental & Computational Analysis of Vertical Axis Wind Turbines (VAWTs)	Provisional degree awarded

3.1.6.7 Theses: MTech

(a) Thermal Engineering

S.N.	Name of Scholar	Title of the Thesis	Name of Guide
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1	Bhaskor Jyoti Bora	Energy Audit and Energy Analysis of Muga Silk and ERI Silk Production Units under Khadi and Village Industries Commission using CFD	Dr. R. Gupta
2	Biswajit De	Energy Audit, Energy and Techno Economical Analysis of Few Small Industries uhnder KVIC in Barak Valley, Assam	Dr. R. Gupta
3	Sukanta Roy	CFD Analysis of Airfoil Shaped Two-bladed and Three-bladed H-Darrieus Rotors made from Fibreglass Reinforced Plastic (FRP)	Dr. R. Gupta
4	Sachidanand Pandey	CFD Analysis of Combustion of Methane at High Speed inlet with and without Bluff Body by Using Fluent Software	Dr. K.M. Pandey
5	Ravindra Kumar	Studies on Coal Combustion in Circulating Fluidized Bed Using CFD Analysis	Dr. K.M. Pandey
6	Bidesh Roy	Design of SI Engine Intake Valve for High Level of Intake Swirl Generation Using CFD	Dr. K.M. Pandey
7	Hadimi Rick Ford Hadem	Performance Optimization of Bio-Diesel Blending using Exergetic Efficiency	Dr. R.D. Misra
8	Nani Kano	Finite Time Thermodynamic Analysis of a Stirling Cycle Based Refrigeration System	Dr. R.D. Misra
9	Kapil Jigdung	CFD Analysis of Helical Tube Heat Exchanger for Waste Heat Recovery Applications	Mr. D.H. Das

(b) Design and Manufacturing

S.N.	Name of student	Title of the Thesis	Name of Guide
1	Akan Kumar Das	Optimization of Process Parameters of Advanced Machining Process by using a Genetic Algorithm	Dr. Dilip Datta
2	Anup Kumar Bharali	Analysis of Multilayered Electrothermal Actuators for MEMS Applications	Dr. P.K. Patowari

8 Paper Reviewed

S.N.	Name of	Name of Journal or Conference or Name of	Number
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	Faculty	Organizing Institute	of Papers Reviewed
1	Prof. R.D. Misra	Energy- The International Journal (Elsevier)	1
		The Int. Journal of Refrigeration (Elsevier)	1
2	Prof. K.M. Pandey	International Conference on Applied Simulation and Modelling, on June 22-24, 2011, Crete, Greece Organised by IASTED in March 2011	5
		ASME International Conference to be held in Canada in IMECE 2010 at Vancouver 12-18 November 2010	1
		Journal of Environmental Research and Development, an International Journal	3
		International Journal of Environmental Engineering, an International Journal of Science Journal Publications in March 2011.	1
		SRE-10-472, for International Journal Scientific Research and Essays of academicjournals.org	1
		African Journal of Microbiology Research	2
		JETR-10-007 (www.academicjournals.org/JETR)	1
3	Dr. P.K. Patowari	Journal papers for International Journal of Advanced Manufacturing Technology.	2
		Journal papers for Materials and Manufacturing Processes	1
4	Dr. D. Datta	Applied Soft Computing	6
		Evolutionary Computation (MIT Press)	1
		Knowledge-Based Systems	1
		Int. Journal of Computer Engineering Research	1

3.1.6.9 Seminars / Workshops / Conferences / Training Programme Attended

S.N.	Name of Faculty	Name of Programme	Organizing Institute	Duration
1	Mr. S. Chatterjee	Recent Trends in fuels and Combustion (under QIP)	MED, IIT Guwahati	29 Aug- 02 Sept 2011

3.1.6.10 Research Publications

A. Published in International Journal			
S.N.	Author(s)	Title	Publication details
1	Gupta, R. & Biswas	A CFD Analysis of a Twisted Three-Bladed H-Darrieus Rotor	Journal of Renewable and Sustainable Energy, V.2(4) 043111-043126, 2010
2	Gupta R., Roy S. & Biswas	A. Computational Fluid Dynamics analysis of a twisted airfoil shaped two-bladed H-Darrieus rotor made from Fibreglass	International Journal of Energy and Environment, V. 1 (6), 2010, pp.953-968

		Reinforced Plastic (FRP)	
3	Gupta R. & Biswas	A. CFD Analysis of Flow Physics and Aerodynamic Performance of a Combined Three-bucket Savonius and Three-bladed Darrieus Turbine	Journal of Green Energy, V. 8, 2011, pp. 209–233
4	Gupta R & Dey S.K.	Development of a Productivity Model for Tea Industry	Journal of Engineering and Applied Sciences, V. 5 (12), pp. 1-10, December 2010
5	K.M.Pandey and A.P.Singh	Design and Development of De Laval nozzle for Mach 3 and 4 using method of characteristics with Fluent Software	ISST International Journal of Mechanical Engineering, pp.61-72
6	K.M.Pandey and Amit Kumar	Studies on Base Pressure in Suddenly Expanded Circular Ducts: A Fuzzy Logic Approach	International Journal of Engineering and Technology, V.2 (4), August 2010, pp.379-386
7	K.M.Pandey and Sushil Kumar	Flow through nozzles in sudden expansion in cylindrical ducts with area ratio 2.89 at Mach 2.4	A fuzzy logic approach, international journal of innovation, management and technology V.1 (3), August 2010, pp. 305-311
8	K.M.Pandey and A.P.Singh	CFD analysis of conical nozzle for Mach 3 at various angles of divergence with fluent software. Association for Computer Science and Information Technology, Singapore	Chemical Engineering and Applications, V. 1 (2), September 2010, PP179-185
9	K.M.Pandey and A.P.Singh	Recent advances in experimental and numerical analysis of combustor flow fields in supersonic flow regime	Journal of Chemical Engineering and Applications, V. 1 (2), September 2010, pp.132-137 , ISSN: 2010-0221
10	Geeta Kumari, Jyoti Bhatt and K.M.Pandey	Recruitment and Selection Process: A Case Study of Hindustan Coca-Cola Beverage	Innovation, Management and Technology V.1 (4), October 2010, pp.441-446
11	Dr. K.M.Pandey and S.K.Yadav	CFD Analysis of a Rocket Nozzle with Four Inlets at Mach 2.1	International Journal of Environmental Research and Development (JERAD), V. 4 (2), Oct-Dec 2010
12	K.M.Pandey and Virendra	CFD analysis of twin jet flow at Mach 1.74 with	Environmental Science and Development, V. 1 (5), December

	Kumar	fluent software	2010, pp.423-428, ISSN: 2010-0264
13	Geeta Kumari, K.M.Pandey and S.S.Khanka,	Studies on health problems of software people: a case study of faculty of Gurgaon College of Engineering, Gurgaon	Published in International Journal of Innovation, Management and Technology V.1 (4) October 2010, pp.388-397
14	K.M.Pandey , D.H.Das and B. Acharya	Effects of variation of specific heat on temperature in gaseous combustion with fluent software	Environmental Science and Development, V.1 (3), December 2010, ISSN: 2010-0264 ,pp.419-422
15	K.M.Pandey and M. Mahesh	Determination of temperature distribution in a cylindrical nuclear fuel rod-a mathematical approach	Innovation, Management and Technology V. 1 (5), December 2010, pp.464-468
16	Geeta Kumari, Neha Kaleramna and K.M.Pandey	Study on Performance Management system of Private companies: a case study of Endurance Pvt. Ltd	Innovation, Management and Technology V. 1 (5) , December, 2010,pp.521-526
17	K.M.Pandey and S.K. Yadav	CFD Analysis of a Rocket Nozzle with Four Inlets at Mach 2.1	Journal of Chemical Engineering and Applications, V.1 (4), pp. 319-325
18	K.M.Pandey and T. Sivasakthivel	Recent Advances in Scramjet Fuel Injection - A Review	Journal of Chemical Engineering and Applications, V. 1 (4), pp. 294-301
19	Geeta Kumari, K.M.Pandey and S.S.Khanka,	Studies on health problems of software people: a case study of SAP LAB Gurgaon	International Journal of Innovation, Management and Technology V.1 (5), December 2010, pp.493-501
20	Geeta Kumari and K.M.Pandey	Studies on Performance Management System of Sona Group of Companies , Gurgaon, India	International Journal of Innovation, Management and Technology V.1 (5) , December 2010, pp.527-533
21	K.M.Pandey and Virendra Kumar	CFD Analysis of Four Jet Flow at Mach 1.74 with Fluent Software	Journal of Environmental Science and Development, V. 1 (4), pp. 302-308
22	K.M.Pandey and A.P.Singh	Numerical Analysis of Combustor Flow Fields in Supersonic Flow Regime With Finite Rate Chemistry Mode	Journal of Mechanical Engineering, www.isst.org.in, Intellectuals society for socio-techno welfare, B-401

23	K.M.Pandey and A.P. Singh	Numerical Analysis of Supersonic Combustion by Strut Flat Duct Length with S-A Turbulence Model	Journal of Engineering and Technology V. 3 (2), pp. 193-198, April, 2011
24	K.M. Pandey, V. B. Singh, Anup Baishya, Prashant Jha and Vikas Kumar	CFD Analysis of Cantilevered Expansion and Compression Type Ramp Injector	Journal of Engineering and Technology V. 3 (2), pp. 116-121, April, 2011
25	Geeta Kumari and K.M.Pandey	Analysis of an Individual's Behaviour in Work Environment for a Better Output	Journal of Innovation, Management and Technology V. 2 (2), pp. 156-161, April, 2011
26	K. M.Pandey, B. K. Azad, S. P. Sahu and M. Prajapati	Computational Analysis of Mixing in Strut Based Combustion at Air Inlet Mach number 2	International Journal of Environmental Science and Development V. 2 (1), pp. 73-80, 2011
27	K.M.Pandey and T Sivasakthivel	CFD Analysis of a Hydrogen Fueled Mixture in Scramjet Combustor with a Strut Injector by Using Fluent Software	Journal of Engineering and Technology V. 3 (2), pp. 109-115, April, 2011
28	K. M.Pandey, P Kalita , K Barman, A. Rajkhowa and S.N.Saikia	CFD Analysis of Wall Injection with Large Sized Cavity Based Scramjet Combustion at Mach 2	International Journal of Engineering and Technology V. 3 (2), pp. 122-129, April, 2011
29	S.N. Pandey and K.M. Pandey	CFD Analysis of Turbulence Combustion	International Research Publication House, http://www.irphouse.com International Journal of Fluids Engineering, V. 3 (2), 2011, pp.173-186
30	Misra, R.D., Murthy, M.S.	Straight vegetable oils usage in a compression ignition engine-A review	Renewable and Sustainable Energy Reviews, V. 14 (9), Dec. 2010, pp. 3005-13
31	Misra, R.D., Murthy, M.S.	Blending of additives with biodiesels to improve the cold flow properties, combustion and emission performance in a compression ignition engine-A review	Renewable and Sustainable Energy Reviews, V.15 (1), Jan. 2011, pp. 2413-22
32	Misra, R.D., Murthy, M.S.	Jatropha-The future fuel of India	Renewable and Sustainable Energy Reviews, V. 15 (2), Feb. 2011, pp. 1350-59

33	Misra, R.D., Murthy, M.S.	Performance, emission and combustion evaluation of soapnut oil–diesel blends in a compression ignition engine	Fuel, Available online from March 2011
34	P.K.Patowari, Upendra K. Mishra, Partha Saha, Prasanta K. Mishra,	Surface modification of C40 steel using WC-Cu P/M green compact electrodes in EDM	Journal of Manufacturing Technology and Management, V. 21 (1/2), 2010, pp. 83-98
35	P.K.Patowari, Partha Saha, P. K. Mishra	Artificial neural network model in surface modification by EDM using tungsten–copper powder metallurgy sintered electrodes	Int. Journal of Advanced Manufacturing Technology, V. 51, 2010, pp. 627–638
36	D. Datta, A.R.S. Amaral and J.R. Figueira	Single row facility layout problem using a permutation-based genetic algorithm	European J. of Operational Research (IF-2.093), 213(2):388-394, doi:10.1016/j.ejor.2011.03.034
37	D. Datta and J.R. Figueira	Graph partitioning by multi-objective real-valued metaheuristics: A comparative study	Appl. Soft Computing (IF-2.415), 11(5):3976-3987, doi:10.1016/j.asoc.2011.01.044
38	D. Datta and J.R. Figueira	A real-integer-discrete-coded particle swarm optimization for design problems	Applied Soft Computing (IF-2.415), 11(4):3625-3633, doi:10.1016/j.asoc.2011.01.034
39	M. Ghosh, B.K. Tiwary and D. Datta	Maintaining optimal state probabilities in biological systems	Systems and Synthetic Biology, 4(2):117-124. doi:10.1007/s11693-010-9058-z
40	K.M.Pandey , D.H.Das and B.Acharya,	Effects of variation of specific heat on temperature in gaseous combustion with fluent software	Journal of Environmental Science and Development, V. 1 (3), December 2010, ISSN: 2010-0264, pp.419-422
41	Roy L, Kalitha H, Das D.J. and Choudhury S.N.	On the Kinematic and Dynamic Analysis of the Slider-crank Mechanisms for Approximate Straight Line Motion and its Application in Threshing Chick-peas	International Journal of Mathematics and Engineering with Computers, V. I (1-2), 2010, pp. 35-52

B. Published in National Journal

S.N.	Author(s)	Title	Publication details
1	Dey S.K. & Gupta R	Integration of Safety and Productivity in the tea industries of Assam- An Overview	Journal of Industrial Safety Chronicle, V. XL1 (2), July-September 2010

C. Published in International Conferences/ Seminars/Workshops			
S.N.	Author(s)	Title	Publication details
1	Roy S., Gupta R. & Biswas A	CFD Analysis of an Airfoil Shaped Two-Bladed H-Darrieus Rotor made from Fibreglass Reinforced Plastic (FRP)	Accepted for World Renewable Energy Congress XI and Exhibition, September 25-30, 2010, Abu Dhabi, UAE
2	Biswas A. & Gupta R	Study of blockage effects on the performance of twisted three-bladed airfoil shaped & twisted three-bladed straight shaped H-Darrieus rotors	Accepted for World Renewable Energy Congress XI and Exhibition, September 25-30, 2010, Abu Dhabi, UAE
3	Biswas A. & Gupta R	Performance measurement of a two-bladed H-Darrieus turbine made from Fibreglass Reinforced Plastics (FRP) blades	Accepted for 4 th International & 37 th National conference on Fluid Mechanics & Fluid Power (FMFP-2010), December 16-18, 2010, IIT Madras, India
4	Roy S, Biswas A. & Gupta R	Computational Fluid Dynamics analysis of an airfoil shaped three-bladed H-Darrieus rotor made from Fibreglass Reinforced Plastic (FRP)	Accepted for 4 th International & 37 th National conference on Fluid Mechanics & Fluid Power (FMFP-2010), December 16-18, 2010, IIT Madras, India
5	Bhaumik T. and Gupta R	Performance measurement of a two-bladed helical Savonius rotor	Accepted for 4 th International & 37 th National conference on Fluid Mechanics & Fluid Power (FMFP-2010), December 16-18, 2010, IIT Madras, India
6	Bora B. and Gupta R	Energy and exergy analysis of a Eri silk production unit of Bijoy Nagar, Assam, India – a case study	Accepted for 4 th International & 37 th National conference on Fluid Mechanics & Fluid Power (FMFP-2010),

			December 16-18, 2010, IIT Madras, India
7	Singha Y.K and Gupta R	Simulation of wind tunnel by open channel flow model.	Accepted for AIAA Modeling and Simulation Technologies, August 2-5, 2010, Toronto, Ontario
8	Shukla N., Biswas K., Das H. J., Gupta R. and Biswas A	Study of static torque of a helical Savonius rotor at different twist angles using Computational Fluid Dynamic (CFD) analysis	Accepted for 3 rd International Congress of Environmental Research (ICER-10), September 16- 18, 2010, Reduit, Mauritius
9	Dey S.K. & Gupta R	Impact assessment of air pollution of Cachar Paper Mill, Assam India: A case study	Accepted for 3 rd International Congress of Environmental Research (ICER-10), September 16- 18, 2010, Reduit, Mauritius
10	Dey S.K. & Gupta R	Safety, Productivity and Environmental Issues of a Tea Industry- a case study	Accepted for 3 rd International Congress of Environmental Research (ICER-10), September 16- 18, 2010, Reduit, Mauritius
11	Bora B and Gupta R.	Design and analysis of cocoon heating chamber using Computational Fluid Dynamics (CFD)	Accepted for 3 rd International Congress of Environmental Research (ICER-10), September 16- 18, 2010, Reduit, Mauritius
12	Deka S.S., Gautam R., Das R., and Gupta R.	Pressure contours and velocity vectors analysis of a two-bucket Savonius wind turbine using Fluent package. 1 st India	International Energy Summit, January 28-31, 2011, VNIT Nagpur, Nagpur, India
13	K.M.Pandey, P.L.Choudhury and A.K.Singh	CFD analysis of horizontal axis wind turbine, , Mauritius	3 rd International Congress of Environmental Research, September 16- 18, 2010, University of Mauritius, Reduit
14	K.M.Pandey	A review on wind energy generation	3 rd International Congress of Environmental Research, September 16- 18, 2010, University of Mauritius, Reduit, Mauritius
15	K.M.Pandey, D.H. Das and	Numerical Studies on Variation of Pressure and Velocity inside the	3 rd International Congress of Environmental

	Amitava Roy	Combustion Chamber of a Turbojet Engine with Fluent Software	Research, September 16-18, 2010, University of Mauritius, Reduit, Mauritius
16	K.M.Pandey and A.K.Johri	A review on recent research in CFD area in context with hydraulic turbines	3 rd International Congress of Environmental Research, September 16-18, 2010, University of Mauritius, Reduit, Mauritius
17	K.M.Pandey and Videsh Roy	Intake valve design for high level swirl induction in carbureted spark ignition engine	3 rd International Congress of Environmental Research, September 16-18, 2010, University of Mauritius, Reduit, Mauritius
18	Sangeeta Pathak and K.M.Pandey	Experimental studies on genotoxic effects of pesticides on M1 generation of peas	3 rd International Congress of Environmental Research, September 16-18, 2010, University of Mauritius, Reduit, Mauritius
19	K.M.Pandey and S.N.Pandey	CFD analysis of combustion phenomena at high speed fuel inlet of Mach 0.9 for methane without bluff body	3 rd International Congress of Environmental Research, September 16-18, 2010, University of Mauritius, Reduit, Mauritius
20	K.M.Pandey and S.K.Yadav	CFD Analysis for pressure and temperature for a rocket nozzle with two inlets at mach 2.1 and the comparison with single inlet	3 rd International Congress of Environmental Research, September 16-18, 2010, University of Mauritius, Reduit, Mauritius
21	K.M.Pandey, A.P.Singh and R.Sudarshan	CFD analysis of a Kaplan turbine at a head of 15 meters with Fluent software	3 rd International Congress of Environmental Research, September 16-18, 2010, University of Mauritius, Reduit, Mauritius
22	K.M.Pandey, D.H. Das and Amitava Roy	Numerical Studies on Variation of Pressure and Velocity inside the Combustion Chamber of a Turbojet Engine with Fluent Software	3 rd International Congress of Environmental Research, September 16-18, 2010, University of Mauritius, Reduit, Mauritius
23	Anup Kumar	Design and Analysis of Multilayer	2nd International

	Bharali P. K. Patowari S. Baishya	Electrothermal Actuator for MEMS	Conference on Mechanical and Electronics Engineering (ICMEE 2010), Kyoto, Japan, August 1-3, 2010, pp V1-127- V1-131
24	P. K. Patowari, A. S. Bharali, M. M. Nath, J. Gogoi, C. K. Singh, S. Baishya	Analysis of a Monometallic Two Arm Horizontal Thermal Actuator for MEMS	2nd International Conference on Mechanical and Electronics Engineering (ICMEE 2010), Kyoto, Japan, August 1-3, 2010, pp V1-184- V1-188
25	P.K. Patowari Nath M.M., Bharali A.S., Gogoi J., Singh C.K.	Comparative Study of Different Micro-Thermal Actuators for MEMS Application	Proc. of 3rd International and 24th AIMTDR Conference, Andhra University, Visakhapatnam, December 13-15, 2010 pp 425-428
26	Gogoi D.J., Patowari P.K., Barthakur A., Talukdar P., Sharma M	Training of an Industrial Manipulator Using a Trainer Arm	Proc. of 3rd International and 24th AIMTDR Conference, Andhra University, Visakhapatnam, December 13-15, 2010 pp 591-596
27	D. Datta and A.K. Das	Tuning process parameters of electrochemical machining using a multi-objective genetic algorithm: A preliminary study. SEAL-2010, Kanpur (India)	Lecture Notes in Computer Science 6457/2010:485-493; doi:10.1007/978-3-642-17298-4_52
28	D. Datta and J.R. Figueira	A real-integer-discrete-coded differential evolution algorithm: A preliminary study. EvoCOP-2010, Istanbul (Turkey)	Lecture Notes in Computer Science (LNCS), 6022/2010:35-46; doi:10.1007/978-3-642-12139-5_4
29	A.K. Das and D. Datta	Optimization of process parameters of ultrasonic machining using a genetic algorithm	All India Manufacturing Technology Design and Research (AIMTDR)
30	D. Datta, J.R. Figueira and J. Malczewisk	Aggregating census units with a multi-objective genetic algorithm: Preliminary results of a case study in Canada	24 th European Conf. on Operational Research (EURO-XXIV), Lisbon (Portugal), page 98 (Abstract)
31	J.R. Figueira and D. Datta	Graph partitioning by a real-coded multi-objective genetic algorithm	24 th European Conf. on Operational Research (EURO-XXIV), Lisbon (Portugal), page 98

			(Abstract)
32	K.M.Pandey, P.L.Choudhury and A.K.Singh	CFD analysis of horizontal axis wind turbine	3 rd International Congress of Environmental Research, September 16- 18, 2010, University of Mauritius, Reduit, Mauritius
33	S.K. Pattanayak, B.B. Biswal, R.N. Mahapatra and P K Parida	Robot Kinematics using Quaternion Theory	11 th International Conference on “Towards Autonomous Robotic Systems, University of Plymouth, UK from 31.08.2010 to 02.09.2010
34	S.K. Pattanayak, B. B. Biswal, D. Mishra, and R.N. Mahapatra	Analysis of Outsourcing Models – A Case Study on Manufacturing Plant	International Congress of Environmental Research, University of Mauritius, Reduit, Mauritius from 16.09.2010 to 18.09.2010
35	S. K. Pattanayak, K. C. Satpathy, and S. Pattanaik	E-Waste Analysis And Management of A Technical Institute – A Case Study	International Congress of Environmental Research held at University of Mauritius, Reduit, Mauritius from 18.09.2010

D. Published in National Conferences/ Seminars/Workshops			
S.N.	Author(s)	Title	Publication details
1	Biswas A. & Gupta R	Performance measurement of a two-bladed H-Darrieus turbine made from Fibreglass Reinforced Plastics (FRP) blades	Accepted for 4 th International & 37 th National conference on Fluid Mechanics & Fluid Power (FMFP-2010), December 16-18, 2010, IIT Madras, India
2	Roy S., Biswas A. & Gupta R	Computational Fluid Dynamics analysis of an airfoil shaped three-bladed H-Darrieus rotor made from Fibreglass Reinforced Plastic (FRP)	Accepted for 4 th International & 37 th National conference on Fluid Mechanics & Fluid Power (FMFP-2010), December 16-18, 2010, IIT Madras, India
3	Bhaumik T. and Gupta R	Performance measurement of a two-bladed helical Savonius rotor	Accepted for 4 th International & 37 th National conference on

			Fluid Mechanics & Fluid Power (FMFP-2010), December 16-18, 2010, IIT Madras, India
4	Bora B.J. and Gupta R	Energy and exergy analysis of a Eri silk production unit of Bijohnagar, Assam, India – a case study	Accepted for 4 th International & 37 th National conference on Fluid Mechanics & Fluid Power (FMFP-2010), December 16-18, 2010, IIT Madras, India
5	Bora B.J. and Gupta R	Energy and exergy analysis of a muga silk production unit of Bijohnagar, Assam, India – a case study	Accepted for Emerging Trends in Mechanical Engineering (ETME-2010), May 14-15, 2010, Haryana College of Technology and Management, Haryana
6	Bora B.J. and Gupta R	Design and Computational Fluid Dynamics (CFD) analysis of a modified system for cooking and drying of Muga silk cocoons	Accepted for Emerging Trends in Mechanical Engineering, TQM and other aspects, May 08, 2010, Gwalior Engineering College, Gwalior, India
7	Bora B.J. and Gupta R	Design & Comparison of two Modified Systems for Cooking & Drying of Muga Silk Cocoons using Computational Fluid Dynamics (CFD) Analysis	Golden Jubilee National Conference on Modelling and Simulation in Heat Transfer & Fluid Flow, June 11-12, 2010, NIT Jamshedpur, India
8	De B. and Gupta R	Energy audit and techno-economic analysis of a rice mill under KVIC in Barak Valley, Assam, India	Accepted for Emerging Trends in Mechanical Engineering, TQM and other aspects, May 08, 2010, Gwalior Engineering College, Gwalior, India
9	Deb B. & Gupta R	Studies of some aspects of helical Savonius rotors- A review	RETIP-2010, Sept 23-24, 2010, NERIST, Itanagar
10	Bhaumik T. and Gupta R	Experimental Analysis of a Two-Bladed Helical Savonius Rotor with 45 ⁰ Twist Angle	RETIP-2010, Sept 23-24, 2010, NERIST, Itanagar
11	A.K. Das and D. Datta	Maximizing the material removal rate in advanced machining processes using a genetic algorithm: A preliminary study	25th NCPE 2010 and National Seminar on Recent Developments in Manufacturing Technology, Agartala (India), 115-119

12	Anup Kumar Bharali, P. K. Patowari, S. Baishya	Thermomechanical Sensitivity Analysis of an Electrothermal Actuator for MEMS Application	25th NCPE 2010 and National Seminar on "Recent Developments in Manufacturing Technology", Agartala, May 8-9, 2010, pp. 222-228
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3.1.7 DEPARTMENT OF CHEMISTRY

3.1.7.1 Academic Staff

HEAD		
Name	Qualification	Specialization Area(s)
Dr. S.S. Dhar	PhD	Green Chemistry
FACULTY		
Professor		
Prof. A K Sil	PhD	Environmental Chemistry specific to water
Associate Professor		NIL
Assistant Professor		
Dr. S.S. Dhar	PhD	Green Chemistry
Dr. M.A. Zaman	PhD	Energy and Environment
Dr. P. Barman	PhD	Synthetic Organic Chemistry
Dr. (Mrs) R. Rano	PhD	Coal Utilization

3.1.7.2 Research and Development

PhD Programs existing:	
S.N.	Specialization Areas
1	Energy & Environment, Green chemistry, Reaction mechanism and Kinetics
2	Synthetic Organic Chemistry, Coal utilization
PhDs done so far :	
Completed: Nil	Continuing: 06
Proposed Plan for Research:	

S.N.	Name of the Lab / Workshop	Purpose/linkages to an existing/new programme
1	NA	PhD programmes will continue in the existing areas

Brief descriptions of on-going activities :

(i)	Field #1: Research and Development	
	(a)	Energy & Environment, Green chemistry and Reaction mechanism
	(b)	Synthetic Organic Chemistry, Coal utilization
(ii)	Field #2: MSc Programme	
	(a)	Applied Chemistry started in July 2009

Thrust Areas:

1	Green Chemistry and Energy and fuels
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New Acquisitions :

S.N.	Name of Laboratory	Equipment Details (purpose, facilities, etc.)
1	MSc Laboratory	Major equipment yet to be purchased

On-Going Research Projects**Sponsored Research Projects (Innovation and Technology Transfer):**

S.N.	Title of the project	Sponsor(s)	Name of P.I.	Amount (Rs.)
1	Solvent free oxidations and bromination of organic substrates catalyzed and/or promoted by peroxo-metal complexes	DST, New Delhi	Dr. S.S. Dhar	8.52 Lacs
2	Studies of Co-operative assistance of nucleophilic substitution reactions at disulphide bridge	AICTE	Dr. P Barman	10.00 Lacs
3	Development of Surface modified adsorbents for the removal of Cr (VI) and Fe (III) from freshwater	AICTE	Dr. M. A. Zaman	10.00 Lacs
4	Solvent free oxidations and brominations of organic substrates catalyzed and / or promoted by peroxo – metal complexes	DST-SERC	Dr. S. S. Dhar	8.52 Lacs

3.1.7.3 Paper Reviewed

S.N.	Name of Faculty	Name of Journal or Conference or Name of Organizing Institute	Number of Papers Reviewed
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1	Dr. M.A. Zaman	Microporous and Mesoporous Materials	01
2		Journal of Hazardous Materials	01
3		Chemical Engineering Journal	01
4		Indian Journal of Chemical Technology	01
5		Water Science and Technology	01
6		Applied Clay Science	01
7		Environmental Technology	01

3.1.7.4 Research Publications

A. Published in International Journals			
S.N.	Author(s)	Title	Publication details
1	Zaman M.A.	Role of Fly Ash in the Removal of Organic Pollutants from Wastewater	Energy & Fuels, 2009, 23, 1494-1511
2	Zaman M.A., Lakshmi Gayatri S.	Batch Adsorption of 4-Nitrophenol by Acid Activated Jute Stick Char: Equilibrium, Kinetic and Thermodynamic Studies	Chemical Engineering Journal, 2010, 158, 173-180
3	Zaman M.A.	A Review on the Utilization of Fly Ash	Progress in Energy and Combustion Science, 2010, 36, 327-363

B. Published in National Journals			
S.N.	Author(s)	Title	Publication details
1	Zaman M.A., Lakshmi Gayatri S.	Adsorption Technique Used for the Removal of Phenolic Compounds from Wastewater Using Low-Cost Adsorbants	Assam University Journal of Science and Tech: Physical Sciences and Tech, 2010, 5(11), 156-166

3.1.8 DEPARTMENT OF PHYSICS

3.1.8.1 Academic Staff

HEAD

Name	Qualification	Specialization Area(s)
Dr. Asim Roy	MSc, PhD	Condensed Matter Physics
FACULTY		
Professor	NIL	
Associate Professor		
Dr. (Mrs) B. Choudhury	MSc, PhD	Condensed Matter Physics (Liquid Crystals)
Assistant Professor		
Dr. A. Roy	MSc, PhD	Condensed Matter Physics
Dr. A. Bhattacharjee	MSc, PhD	Condensed Matter Physics, Liquid Crystals, Raman Spectroscopy, Thin Films
Dr. Smrutisikha Bal	MSc , PhD	Polymer Nano Composite
Dr. Subrat Kumar Barik	MSc, PhD	Ferroelectric Materials

3.1.8.2 Research and Development

(i) PhD Programs existing :		
S.N.	Specialization Areas	
1	Experimental Condensed Matter Physics	
2	Field of Liquid Crystals, Oxide Materials	
(ii) PhDs done so far :		
Thesis submitted: Nil		Continuing: 07
(iii) Proposed Plan for Research:		
S.N.	Name of the Lab / Workshop	Purpose
1	Experimental Condensed Matter Physics lab	Up gradation of existing lab

3.1.8.3 Paper Reviewed:

A. Published in National Journals		
S.N.	Name of Faculty	Details
1	Dr. S K Barik	Reviewer of an International Journal - Advanced Materials Letters
2	Dr. S Bal	The Journal of Physical Chemistry (ACS Publication) Tribology International (Elsevier)

3.1.8.4 Research Publications:

B. Published in International Journals			
S.N.	Author(s)	Title	Publication details
1	S.K. Barik, R.N.P. Choudhary and A.K. Singh	Ac Impedance Spectroscopy and Conductivity Studies of Ba _{0.8} Sr _{0.2} TiO ₃ Ceramics	Advanced Materials Letters
2	Smrutisikha Bal	Experimental Study of Mechanical and Electrical Properties of Carbon Nanofiber/Epoxy Composites	Materials & Design, Elsevier, V.31, 2010, pp. 2406-2413
3	A. Bhattacharjee & S. Tewari	Structural, Electrical and Optical Studies on Spray-Deposited Aluminum-Doped ZnO Thin Films	Pramana V. 76 (1), January 2011
C. Published in National Journals			
S.N.	Author(s)	Title	Publication details
1	Smrutisikha Bal	Carbon Nanotubes: Dream To Reality	Science Vision, Orissa Bigyan Academy, 2 nd issue, Feb 11, pp. 11-14

D. Papers Presented in Conferences:**i) International Conference:**

S. N.	Author (s)	Title	Publication details
1	A. Roy, A. Dhar & S. K. Ray	Characteristics of Strontium Bismuth Tantalate Film with ZrO ₂ Buffer Layer for Non-Volatile Memory Applications	(ISIF 2010) San Juan, Puerto Rico, USA
2	Smrutisikha Bal	Carbon nanotube and Carbon nanofiber polymer composites: A comparative assessment	1 st Int. Conference on Composites and Nanocomposites (ICNC 2011): January 7, 8 and 9, 2011, Kottayam, Kerala, India
3	S.K. Barik and S. Bera	Electrical and magnetic properties of (BiLi) _{1/2} (FeV) _{1/2} O ₃	International Conference on Physics Science and Technology (ICPST 2010), December 28-30, 2010, Hong Kong, China

ii) National Conference:

S.N.	Author (s)	Title	Publication details
1	A. Bhattacharjee	A study of Liquid crystalline dimer 6.O12O.6 with its constituent monomer using Laser Raman spectroscopy	17th national Conference on Liquid crystal held during 15-17 Nov. 2010
2	A. Bhattacharjee	Electrical and optical studies	Recent trends in

	& S. Tewari	on microcrystalline Aluminium doped ZnO thin film prepared by the technique of chemical spray pyrolysis	materials and devices held during 20-22 May 2010 at Amity Institute of Applied Sciences
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5. Visit Abroad:

S.N.	Faculty Name	Details
1	Dr. Asim Roy	Visited San Juan, Puerto Rico, USA in connection with the presentation of research paper in International Symposium on Integrated functionalities (ISIF 2010) held during June 13-17, 2010

3.1.9 DEPARTMENT OF MATHEMATICS**3.1.9.1 Academic Staff:**

HEAD		
Name	Qualification	Specialization Area(s)
Mr. S. Roy	MSc	Modern Algebra & Functional Analysis
FACULTY		
Professor	Nil	
Associate Professor		
Mr. B. Nath	MSc	Modern Algebra & Functional Analysis
Dr. P.K .De	MSc, PhD	Fuzzy Optimisation & Decision Making
Assistant Professor		
Mr. S. Roy	MSc	Modern Algebra & Functional Analysis
Dr.(Mrs) M. Sen	MSc, PhD	Modern Algebra & Functional Analysis
Dr. G. Ramesh	MSc, PhD	Complex Analysis
Dr. K. N. Das	MSc, PhD	Operations Research, Evolutionary Computing

3.1.9.2 Research and Development:

(i) PhD Programs existing:	
S.N.	Specialization Areas
1	Fuzzy Optimization and Decision Making, Optimization through Evolutionary Methods, Optimization Techniques
(ii) PhDs done so far:	
Completed : Nil	Continuing: 07
(iii) Proposed Plan for Research:	

S.N.	Name of the Lab / Workshop	Purpose/Linkages to an existing/new programme
1	One Computational Lab having 20 PCs with internet connectivity	To start MSc Programme in Mathematics & taking more PhD scholars in diversity field
(iv) Thrust Areas:		
1	Fuzzy Mathematics, Optimization and Evolutionary Methods	

3.1.9.3 Paper Reviewed:

Name of the Faculty	Name of Journal	Number of Papers Reviewed
Dr. Kedar Nath Das	Applied Mathematics and Computation, Elsevier	02

3.1.9.4 Visit Abroad by Faculty:

S.N.	Faculty Name	Details
1	Dr. Kedar Nath Das	Visited Malaysia in Dec 2010 for presentation of Paper in conference

3.1.9.5 Paper Publications:

(i) In the peer reviewed International Journal:

Name of faculty	Title of Paper	Publication Details
S. Roy & M. Sen	On Paranormed Type Fuzzy Real Valued Class Of Sequences ${}_2\ell^F(p)$	Kyungpook Mathematical Journal
M. Sen	A Remark on the Separability and Approximation Property in Intuitionistic Fuzzy n-normed Linear Spaces	International Mathematical Forum
P.K.De	Propagation of Channel Wave in an Incompressible Initially Stressed Plate of Finite Thickness	Tamkong Journal of Science and Engineering, V.13 (2), pp. 127-134, June 2010
P.K.De	Approach to Defuzzify the Trapezoidal Fuzzy Number in Transportation Problem	International Journal of Computational Cognition, V. 8 (4), pp.64-67, Dec 2010
P.K.De	Computation of Shortest Path in a Fuzzy Network: Case Study with Rajasthan Roadways Network	International Journal of Computer Applications, V. 11 (12), pp.24-30, Dec. 2010
P.K.De	An Algorithm for Obtaining Optimal Compromise Solution of a Multi Objective Fuzzy Linear Programming Problem	International Journal of Computer Applications, V. 17 (1), pp.20-24, 2011
P.K.De	A fuzzy inventory model without shortages using triangular fuzzy number	Fuzzy Information and Engineering, Springer, V. 3 (1), pp.59-68, 2011
P.K.De	Dynamic Programming and Multi Objective Linear Programming	Applied Mathematics & Information Sciences, V. 5

	approaches	(2), pp. 253–49, 2011
P.K.De	A Mathematical Model of Multi-Criteria Transportation Problem with Application of Exponential Membership Function	International Journal of Computational Science and Mathematics, V. 3 (1), pp.111-120, 2011

(ii) In the National Journal:

Name of faculty	Title of Paper	Publication Details
S. Roy & M. Sen	On Paranormed Type Fuzzy Real Valued I-Convergent Double Sequences	Far East Journal of Mathematical Sciences (FJMS)
M. Sen	Ideal convergence in intuitionistic fuzzy n-normed linear spaces	Advances in Fuzzy Sets and Systems
P.K.De	A method based on Fuzzy Linear Programming for Solving Transportation Problem	Acta Cincia Indica, V. XXXVI M, (1.83), 2010, pp.83-90
P.K.De	A New Algorithm for Finding Fuzzy Shortest Path Length in a Fuzzy Network	Advances in Fuzzy Mathematics, V. 6 (2), 2011, pp. 227-234

3.1.9.6 Paper presented in Conference:

(i) Paper presented in International Conference:

Name of faculty	Title of Paper	Publication Details
K. N. Das	Minimum Labelling Spanning Tree Based on Genetic Algorithms: An Over View	Proceedings of Global Conference on Power Control and Optimization (PCO-2010), Malaysia, 2-4 Dec, 2010

(ii) Paper presented in National Conference:

Name of faculty	Title of Paper	Conference Details
P.K.De	An algorithm for solving general linear programming problems with fuzzy variables and fuzzy resources	RAMSA 2010, Assam University, Silchar, Nov. 2010

3.1.10 DEPARTMENT OF HUMANITIES & SOCIAL SCIENCE

3.1.10.1 Academic Staff

HEAD		
Name	Qualification	Specialization Area(s)
Dr. A.K. Das	MCom, MPhil, PhD	Financial Management

FACULTY		
Professor	NIL	
Associate Professor		
Dr. G. Das	MA (Economics), PhD	Development Economics & International Trade
Assistant Professor		
Dr. R. Sanasam	MA (English), PhD	Feminist literature
Dr. N. B. Singh	MA (Economics), PhD	Agricultural Economics & Econometrics
Dr. A.K. Das	MCom, MPhil, PhD	Financial Management

3.1.10.2 Research and Development

PhD Programs existing :		
S.N.	Specialization Areas	
1	Development Economics	
2	International Trade	
3	Economics of Education	
4	Economic Sociology	
5	Regional Economics	
6	Agricultural and Rural Development	
7	Small Scale Industry	
8	Industrial Management & Feminism	
PhDs done so far:		
Completed: 01 Submitted: 01 Continuing: 25		
Proposed Plan for Research:		
S.N.	Name of the Lab/Workshop	Purpose
1	Electronic Data Bank	
Brief descriptions of on-going activities:		
Currently there are 24 PhD Students pursuing their research programme. The field of their		

respective area of research are given below:	
1	Indo-Bangladesh Bilateral Trade Relations: With special Reference to Border Trade of North East India
2	Education and Economic Well Being: Study of Inter linkages (With Special Reference to Barak Valley of Assam)
3	A Study on Reforms and Development Inter linkages --With Special Reference to Farm Sector of Assam
4	Marketing of Tea in India: A Study on the Tea Industry of Assam
5	Teaching English with Technology : A Case Study of Institutes of Technology in North East India
6	Continuity and Change: A Study of Adjustment of the Kaibarta Community of Barak Valley
7	The Quality of Primary Education in Assam
8	The Role of Foreign Direct Investment in Economic Development: The Indian Experience since Economic Reforms
9	Formation of Ethnic Identity: A case study of the Nagas
10	Economics of Small Tea Growers: A Study on Golaghat District of Assam
11	National Periphery and Economic Development: A Case Study of Barak Valley in Assam
12	Agriculture in Char Areas of Assam
13	An Evaluation of National Rural Health Mission: A case study of three districts of Barak Valley
14	Solid Waste Management: A case study of Silchar Municipality
15	Emergence of Ethnic Identity among the Hmar's of Mizoram
16	Livelihood Security of Tea Garden Workers: A study of Tea Garden in North Bengal with Special reference to SC/ST Community
17	Industrial sickness in micro and small industries - A Case Study of Tripura
18	SME and Industrial Cluster in Assam
19	Agriculture and Rural Development in North East
20	Femism and Virginia Wolf
21	Political Economy of India's Look East Policy
22	Human Resource Management in Indian PSU Bank.
23	Health and Lifestyle: A case study of Cancer Patients in Silchar
24	Transculturalism in the work of Amitabh Ghosh
Thrust Areas:	
1	Development Economics
2	Regional Economics
3	Agricultural and Rural Development
4	Industrial Management
5	Feminism

3.1.10.3 Research Project Completed:

Faculty Name	Title of the project	Sponsor	Consultant	Amount (Rs.)

Dr. Gurudas Das	Trade Facilitation in South Asia	ADB	NER-Bangladesh Segment, ICRIER, New Delhi, NER-Bangladesh Segment.	2.5 Lacs
	Cost of Non-Cooperation in Transport in SAARC Sub region, SACEP/CPD Study	DoNER		2 Lacs
	Expansion of North East India's Trade and Investment with Bangladesh and Myanmar- An assessment of the opportunities and constraints		RIS, New Delhi	6.5 Lacs
	India-ASEAN Connectivity: The Indian Perspective, NER-ASEAN Segment		RIS, New Delhi	1.10 Lacs

3.1.10.4 Theses: PhD

S.N	Name of Scholar	Title of Thesis
1	Ms. R. Nath Choudhury (Awarded)	Swami Vivekananda: Modernity and Social Ethics-A Critical Study
2	Ms. Shally Borbhuiya (Submitted)	Indo-Bangladesh Bilateral Trade Relations: With special Reference to Border Trade of NE India

3.1.10.5 Book /Chapters Published

Sl. No	Name of Author(s)	Title	Publisher	Year
1	Dr. Das G., Thomas C.J. (eds)	India-China: Trade and Strategy for Frontier Development	Bookwell, New Delhi	2010
2	Dr. Gurudas Das	Identity, Underdevelopment, and Violence: A Roadmap for the Restoration of Peace in North East India	Gautam Kumar Borah, et al, (eds), 2011, Social Unrest and Peace Initiatives: Perspectives from North East India, EBH Publishers, Guwahati ISBN:9789380261256	2011

3	Dr. Gurudas Das	Development of National Peripheries through Mobilizing Cross-Border Synergies: A Case for Sino-Indian Cooperation for the Development of India's Northeast and China's Southwest	Gurudas and C Joshua Thomas, (eds), 2010, India-China: Trade and Strategy for Frontier Development, Book well, New Delh119-134	2010
4	Dr. Ashim Kr. Das	Sustainability in Tea Industry: An Indian Perspective	Sustainability in Food Security, edited by P.K Jain (eds), Mittal Publication, New Delhi, 2010	2010

3.1.10.6 Seminars / Workshops / Conferences / Symposia / Short Term Courses Attended

S.N .	Name of Faculty	Name of programme	Organizing Institute	Duration
1	Dr. Reena Sanasam	English Literature in Transition	IAES & AIETA at JKC College, Guntur	10-12 Jan. 2011
2	Dr. Reena Sanasam	Dynamics of Higher Education: Role of the Teacher	Assam University Teachers' Association at Assam University, Silchar	21-22 July 2011
3	Dr. Reena Sanasam	Linguistic Movement in Southern Assam	SS College, Hailakandi, Assam	19-20 Aug 2011

3.1.10.7 Research Publications

A. Published in International Journals			
S.N.	Author(s)	Title	Publication details
1	Dr. Ashim Kr. Das	Industrial Cluster: An Approach for Rural Development in North East India	International Journal of Trade, Economics and Finance V.2 (2), April 2011, Singapore
2	Dr. Ashim Kr. Das	Financial and Management Accounting Practices in Small Business: An Exploratory study in India	Independent Business Review, V.3 (2), 2010-11, Dhaka
B. Published in National Journals			
1	Dr. Ashim	Industrial Cluster Concept: A	SEDME Journal, V.38 (1),

	Kr. Das	Literature Review	March 2011, Hyderabad
C. Published in International Conferences / Seminars / Workshops			
1	Das G.	Connectivity and Regional Development: The Case of India's North East	Int. workshop on Regional Consultations on Enhancing Regional Connectivity in the Decade of 2010-2020: Issues and Approaches in South Asia at IIC, New Delhi, Friedrich Ebert Stiftung, New Delhi, Feb 14-16, 2010
D. Published in National Conferences / Seminars / Workshops			
1	Das G.	Politics of Boundary Maintenance: Who is an Assamese in Assam?	National seminar on "Politics of Boundary Maintenance: Inclusion-Exclusion Dynamics in North East India", IAS, Shimla and ICSSR-NERC, Shillong, Nov. 17-18, 2009
2	Das G.	Identity, Underdevelopment and Violence: A Roadmap for the Restoration of Peace in India's North East	National seminar on "Social Unrest and Peace Initiatives in North East India", Sanskriti: North Eastern Institute of Culture and Religion, Guwahati, Nov. 20-22, 2009
3	Das A.K.	Small Tea Garden-A New Opportunity for the People of Assam	1 st National conference on "Indigenous Technology, Livelihood Options and Habitat Utilization: Concepts and Perspectives of Development", Nov. 22-24, 2009, North Eastern Center for Research and Development, Guwahati

4. TEACHING PROGRAMMES

4.1 Courses Offered

(i) A four year 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)
- ✚ Geo-Technical Engg. (Under Civil Engineering)
- ✚ Transportation Engg. (Under Civil Engineering)
- ✚ Earthquake Engineering (Under Civil Engineering Department)
- ✚ Power and Energy system Engineering (Under Electrical Engineering Department)
- ✚ Control & Industrial Automation (Under Electrical Engineering Department)
- ✚ Thermal Engineering (Under Mechanical Engineering Department)
- ✚ Design & Manufacturing Engineering (Under Mechanical Engineering Department)
- ✚ Microelectronics & VLSI Design (Under Electronics & Com. Engineering Department)
- ✚ MSc in Applied Chemistry (Chemistry Department)

(iii) Enrolment for PhD programme took place in the following departments during reporting year July 2010 & January 2011.

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

4.2 B. Tech Enrolment

The following table shows the semester-wise, course wise enrolment with sex and caste breakup for the period 2010-11.

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 Enrolment
		Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Total
1st & 2nd	Civil	45	03	24	01	13	01	06	01	NIL	01 OB	95
	Mech	44	01	24	01	14	NIL	07	NIL	NIL	1OB, 2 OP	94
	Elect.	37	08	25	NIL	11	03	06	01	1 OP	NIL	92
	ECE	39	02	26	01	12	02	05	03	1OP	NIL	91
	EIE	08	01	05	02	02	02	02	NIL	NIL	1 OP	23
	CSE	29	07	21	04	09	03	03	02	1 OP	NIL	79
		202	22	125	09	61	11	29	07	03	05	474

3 rd & 4 th	Civil	37	05	31	01	12	01	06	02	01	NIL	96
	Mech	37	04	31	NIL	15	NIL	07	01	04	NIL	99
	Elect.	43	05	27	03	12	02	07	01	01	NIL	101
	ECE	34	07	31	04	09	03	03	03	NIL	NIL	94
	EIE	04	NIL	05	01	02	01	03	NIL	NIL	NIL	16
	CSE	26	02	20	03	06	02	04	01	01	NIL	65
		181	23	145	12	56	09	30	08	07	NIL	471
5 th & 6 th	Civil	30	02	18	05	10	02	06	-	01	-	74
	Mech	44	-	28	-	15	-	09	-	02	01	99
	Elect	44	04	21	04	12	01	09	-	01	-	96
	ECE	46	04	25	-	13	01	05	02	01	01	98
	CSE	36	03	22	04	10	01	03	01	01	01	82
	TOTAL	200	13	114	13	60	05	32	03	06	03	449
7 th & 8 th	Civil	32	05	-	-	08	-	03	-	-	-	48
	Mech	42	01	-	-	05	-	05	-	-	-	53
	Elect	34	06	-	-	05	04	01	03	-	-	53
	ECE	44	09	-	-	07	01	04	-	-	-	65
	CSE	39	06	-	-	06	01	03	01	-	-	56
	TOTAL	191	27			31	06	16	04	-	-	275
Grand Total	774	85	384	34	208	31	107	22	16	08	1669	

Note: Reservation of OBC started from 2008 batch of students.

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 2010-11.

Year	CE	ME	EE	ECE	CSE	EIE	TOTAL
2 ND	95	94	92	91	79	23	474
4 TH	96	99	101	94	65	16	471
6 TH	74	99	96	98	82	NIL	449
8 TH	48	53	53	65	56	NIL	275

TOTAL-1669

4.3 Admission Statistics

(a) Indian Students Admitted

The following table shows the state-wise and course-wise admission statistics with category breakup for the year -2010-11.

States	Category	CE	ME	EE	ETC	CSE	EIE	Total
Assam	Open	23	27	23	23	24	7	127
	OBC	11	16	14	14	13	4	72
	SC	7	8	9	9	7	3	43
	ST	4	7	5	6	4	1	27
	OPPH		2		1		1	4
	OBPH	1						1
Rajasthan	OBC		1		3	3		7
	Open	6	1	6	6	2		21
	SC	1		1	1	2		5
	ST	2		2			1	5
	OPPH					1		1
Bihar	OBC	9	4	7	3	4	3	30
	Open	2	1	1	1	1		6
	OPPH			1				1
	SC	4		2	1	2	1	10
Uttar Pradesh	OBC	2	1	3	1	5		2
	Open	3	8	6	2	5	1	25
	SC	1	4	1		2		8
Andhra Pradesh	OBC			1	4			5
	Open	4		2	5		1	12
	SC	1			2			3
	ST				2	1		3
Jharkhand	OBC		2	1	2		1	6
	Open		1					1
	SC		1					1
Delhi	OBC	1	1		1			3
	Open	1	1	2	1	1		6
	SC				1			1
Haryana	Open	5	1	1		1		8
Arunachal Pradesh	ST	1						1
Madhya Pradesh	OBC	1						1
	Open		1	2		2		5
	SC		1					1
Uttarakhand	Open	1	1					2
Tripura	Open		1					1
Chattisgarh	OBPH		1					1
Mahashetra	Open			1	3	1		5
	OBC					1		1
	SC			1				1
Foreign	Open	4	2	2				8
	Total	95	94	94	92	82	24	481

(b) Foreign Students Admitted

The following table shows the admission statistics of foreign students (Sri Lanka, Bhutan, Vietnam & Mozambique) for the year 2010-11

S.N.	Courses	Admitted*
1.	Civil Engineering	04
2.	Mechanical Engineering	02
3.	Electrical Engineering	02
Total		08

* 02- Sri Lanka, 04-Bhutan , 01- Vietnam & 01- Mozambique

Course-Wise Admission statistics (BTech)-2010-11

S.N.	Courses	Intake Capacity	Admitted	Remarks
1.	Civil Engineering	92	95	The excess intake (over & above the intake capacity) was carried out as distribution foreign students.
2.	Mechanical Engineering	92	94	
3.	Electrical Engineering	92	94	
4.	Electronics & Communication Engineering	92	92	
5.	Computer Sc. & Engineering	92	82	
6.	Electronics & Instrumentation Engineering	30	24	
Total		490	481	

4.4 MTech MSc & PhD Enrolment

The following table shows course admission statistics of PG programmes (MTech, MSc and PhD) for the year 2010-11.

Deptt.	Sanctioned strength	MTech & M. Sc. Specialization	No. of PG students	
			MTech/MSc/PhD	Total
CE	20	MTech in water Resource Engg.	05	05
	20	MTech in Earthquake Engg. Engg.	04	04
	10	MTech in Transportation Engg.	04	04
	10	MTech in Geo-Technical Engg.	05	05
	-	PhD	04	04
ME	20	MTech in Thermal Engg.	12	12
	20	MTech in Design & Manufacturing	09	09
		PhD	01	01
EE	20	MTech in Power & Energy system Engg.	15	15
	10	Control & Industrial Automation	-	-
		PhD	02	02
ECE	20	MTech in Micro-Electronics & VLSI Design	10	10
	-	PhD	02	02
CSE	-	PhD only	01	01
PHY	-	PhD only	02	02
CHEM	10	MSc in Applied Chemistry	07	07
	-	PhD	-	-
MATH	-	PhD only	02	02
HSS	-	PhD only	02	02

Grand Total (MTech + MSc + PhD) =	64+ 07+16	87
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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.

The following is a summary table of the number of PG students on the roll of NIT Silchar during 2010-11

Courses	CE	ME	EE	ECE	CSE	PHY	CHY	MATHS	HSS	TOTAL
MTech	39	41	25	17	-	-	-	-	-	122
MSC	-	-	-	-	-	-	14	-	-	14
PhD	14	07	06	07	07	08	08	06	27	90
Total	53	48	31	24	07	08	22	06	27	226

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 2010-11 at NIT Silchar.

Courses	Branches	Total students strength (course-wise)
UG (BTech)	Civil Engineering	313
	Mechanical Engineering	345
	Electrical Engineering	342
	Electronics & Communication Engg.	348
	Computer Sc. & Engineering	282
	Electronics & Instrumentation Engg.	39
PG	MTech	122
	MSc	14
	PhD	90
Total (BTech + MTech + PhD) =		1895

4.6 The Hostels

The institute is essentially 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 hostels. However, under special and extraordinary cases a student may be permitted on application during beginning of each semester to live with his/her parents or local guardian at Silchar. Students permitted to stay outside hostels are exempted from payment of mess charges, seat rent, electricity and water charges under hostel fees but they will have to pay the hostel establishment charges and seat rent. The name, full address, office and residence telephone number, designation and willingness of local guardian have to be furnished at the time of admission. Room allotment in the hostels is done in such way that students from different region of the country freely intermingle with each other, depicting national integration.

4.7 Scholarships/Assistantship

The students of this Institute are awarded various types of scholarships. Institutional Merit and Merit-cum-Means scholarships are awarded by this 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 also, students receive various scholarships offered by various State Governments, PSUs, Charitable Trust/Organizations. During the period under review, 249 students received scholarships/stipends from various sources.

S.N.	Name Of The Scholarship	Name of the State	Amount of Scholarship awarded in 2010-11	No. of students received the Scholarship	Remarks
1	Govt. Rajasthan	Rajasthan	3,000/-	1	
2	Govt. of Nagland	Nagland	9,400/-	1	
3	Govt. of Tripura	Tripura	11,000/-	2	
4	DTE, Assam	Assam	18,075/-	3	
5	Govt. of Bihar, Jharkhand	Bihar	7,65,515/-	27	
6	Govt. of Uttar Pradesh	Uttar Pradesh	2,08,950/-	5	
7	Govt. of Andhra Pradesh	Andhra Pradesh	71,600/-	3	
8	Assam Govt. SC/ST/OBC (ITDP)	Assam	22,45,488/-	10	
9	Govt. of Himachal Pradesh	Himachal Pradesh	17,250/-	4	
10	Govt. of Kerela	Kerela	37400/-	2	
11	State Sholarship	Delhi	23,970/-	1	
12	Indian Oil Scholarship	IOS	1,44,000/-	4	
13	ICCR, Foreign Students	ICCR	29,74,405/-	11	
14	Central Sector Scholarship	Central Sector	7,93,010/-	4	
15	Govt. of West Bengal	West Bengal	75,540/-	3	
16	N. E. C. (Shillong)	Shillong	8,26,800/-	4	
17	L & T Ltd., Chennai	Chennai	11,000/-	1	
18	U.G.C. (New Delhi)	New Delhi	4,15,725/-	3	
19	Minority, Assam	Assam	9,69,640/-	7	
20	Doctoral Fellowship ICSSR	ICSSR	75,000/-	1	

	(New Delhi)				
21	Junior Research Fellowship	Delhi	1,82,600/-	1	
22	Govt. of Jammu & Kashmir	Jammu & Kashmir	3,04,380/-	4	
23	Various Bank (S.B.I, U.C.O., etc)	---	61,100/-	5	
24	Railway, BSNL, MHRD, Parent Depts. etc.	NIT Silchar only Recommending & forwarding application			

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 and PhD programmes in the Institute are awarded Assistantship as per norms of this Institution. To be eligible for this Assistantship, a student must have cleared GATE/NET/UGC exams and must be a regular non-sponsored student.

4.8 Games and Sports

Apart from academic activities, NITians are very enthusiastic in games and sports. Students play football, volleyball, basketball, cricket and others games. 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 activities of all NITs.

4.9 Awards

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

(A) Institute Gold Medal			
S.N.	Title of the Medal	Department	Awardees
1.	Best BTech Graduate	Mechanical Engineering	Shri Palash Sharma

(B) Institute Silver Medals		
S.N.	Title of the Medal	Awardees
1.	Best BTech Graduate in Civil Engineering	Shri Babla Roy
2.	Best BTech Graduate in Computer Sc. & Engg.	Shri Ravi Shankar Bhardwaj
3.	Best BTech Graduate in Electrical Engineering	Smti. Asmita Paul
4.	Best BTech Graduate in Electronics & Communication Engineering	Shri Soumyabrata Dev

(C) Kalikrishna Mrinalini Krori Gold Medal			
S.N.	Title of the Medal	Department	Awardees

1.	Best BTech Graduate on overall performance, sponsored by Institute of Engineers (India)	Electrical Engineering	Shri Chanchal Rana
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4.10 Examination Details

Even semester examinations were held in the month of May/June, 2010 (both BTech & MTech & PhD) and Odd semester examinations were held in the month of December, 2010 (both BTech & MTech & PhD).

4.10.1 Statistics of the Results

a) End semester examinations held in May-June, 2010

Programme	Branch & Course	Number Appeared	Number Passed	Percentage passed	Remarks
MTech	Civil Engg. (Water Resources Engg.)	04	04	100%	
	Civil Engg. (Earthquake Engg.)	05	05	100%	
	Mech. Engg. (Thermal Engg.)	10	10	100%	
	Design & Manufacturing	02	02	100%	
	Electrical Engg. (Power & Energy system Engg.)	07	06	85.71%	
	Electronics & Comm. Engg. (Microelectronics & VLDI Design)	05	05	100%	
BTech	Civil Engg.	44	42	95.46%	Withheld - 02
	Mechanical Engg.	57	56	98.25%	Withheld - 01
	Electrical Engg.	45	40	89%	Withheld - 05
	Electronics & Comm. Engg.	59	55	93.22%	Withheld - 04
	Computer Sc. & Engg.	57	53	92.98%	Withheld - 04

b) BTech (old Batches) passed prior to May, 2010 and Degree awarded in convocation - 2010

Branch	Appeared	Passed
Civil Engineering	02	02
Mechanical Engineering	01	01
Electrical Engineering *	01	01
Electronics & Communication Engg.	04	04
Computer Science & Engg.	06	06
Total:	14	14

c) PhD during 2010-11

S.N.	Name of Scholar	Department
1.	Shri Rajarshi Krishna Nath	Physics

2.	Shri Shri Sujit Tewari	Physics
3.	Shri Briti Sundar Sil	Civil Engineering
4.	Shri Sanjay Paul	Civil Engineering
5.	Shri Thangjam Somchand Singh	Civil Engineering
6.	Shri Agnimitra Biswas	Mechanical Engineering

d) Summary of Results

Programme	Branch & Course	Number Appeared	Number Passed	Percentage passed	Remarks
MTech	Civil Engg. (water Resources Engg.)	04	04	100%	
	Civil Engg. (Earthquake Engg.)	05	05	100%	
	Mech. Engg. (Thermal Engg.)	10	10	100%	
	Design & Manufacturing	02	02	100%	
	Electrical Engg. (Power & Energy system Engg.)	07	06	85.71%	
	Electronics & Comm. Engg. (Microelectronics & VLDI Design)	05	05	100%	
BTech	Civil Engg.	46	44	95.65%	
	Mechanical Engg.	58	57	98.27%	
	Electrical Engg.	46	41	89.13%	
	Electronics & Comm. Engg.	63	59	93.65%	
	Computer Sc. & Engg.	63	59	93.65%	
PhD	Physics Department	-	02	-	Degree awarded
	Civil Engineering	-	03	-	Provisionally awarded Aug. to Dec/10
	Mechanical Engineering	-	01	-	Provisionally awarded Oct./10

4.11 Statistics of Training and Placement:

NIT SILCHAR BTECH PLACEMENT STATISTICS 2010-11									
S.N..	NAME OF THE ORGANISATION	DATE OF VISIT	CTC	CE	EE	ME	ECE	CSE	TOTAL
1	Samsung India Software Centre	25th July,2010	4.76	0	0	0	1	4	5
2	Telcon	4th August,2010	4.09	0	0	1	0	0	1
3	Energy Infratech	10th-11th August,2010	3.26	4	0	2	0	0	6

4	BCH	17th August,2010	4	0	2	0	0	0	2
5	ShapoorjiPallonji & Co. Ltd	24th August,2010	3	7	0	3	0	0	10
6	BOC	7th Sept, 2010	4.62	0	0	0	0	0	0
7	ABB	13th Sept, 2010	4.75	0	1	0	0	0	1
8	NTPC	14th Sept, 2010	9.87	0	2	2	0	0	4
9	Ingersoll Rand		3.3	0	0	3	0	0	3
10	Indian Army			0	0	0	0	0	0
11	Interra IT	8th Oct,2010	3	0	0	0	0	4	4
12	L&T	15th Oct, 2010	3.3	1	1	3	0	0	5
13	Reliance Power	11th Nov,2010	5.47	3	3	0	0	0	6
14	Indian Navy	12th Nov,2010		0	0	0	0	0	0
15	L&T ECC	19th Nov, 2010	3	2	0	0	0	0	2
16	PunjLlyod	16th Nov,2010	3.7-4.3	6	0	0	0	0	6
17	Gammon	24th Nov,2010	3	1	0	0	0	0	1
18	IOCL	27th Nov,2010	8.3-8.8	1	0	3	0	0	4
19	Mahindra and Mahindra	7th-8th Dec,2010	4.32	0	3	5	0	0	8
20	JCB	14th Dec,2010	4	0	1	4	0	0	5
21	TCS	16th Dec,2010	3.16	4	20	10	36	31	101
22	Capgemini	18th Dec, 2010	3.15	2	4	1	8	8	23
23	ACCENTURE	22nd Dec, 2010	3.28	0	2	1	7	6	16
24	Era Group	24th Dec, 2010	2.8	3	0	0	0	0	3
25	IBM	27th Dec, 2010	3.2	1	0		10	11	22
26	Sankalp Semiconductor	28th Dec, 2010	4	0	0	0	2	0	2
27	Sony India	6th Jan, 2011	4.53	0	0	0	4	4	8
28	Tata Motors	17th Jan, 2011	5.31	0	0	2	0	0	2
29	ITDC	19th Jan, 2011		5	0	0	0	0	5

30	HCL	19th Jan, 2011	3.2	0	2	0	2	2	6
31	HCC	20th Jan, 2011	3	0	7	0	0	0	7
32	Powergrid	25th Jan, 2011	11.7	0	8	0	0	0	8
33	Indian Air Force	25th Jan, 2011	6	0	0	0	0	1	1
34	Subros	2nd-4th Feb, 2011	3	0	2	2	0	1	5
35	Soma Infrastructures	6th Feb,2011	2.8	4	0	3	0	0	7
36	ONGC	17th Feb,2011	10.05	0	0	12	0	0	12
37	Bharti Infratel	17th Feb,2011	3.65	2	4	0	0	0	6
38	Sapient	20th Feb,2011	4.23	0	0	0	4	8	12
39	LNJ Bhilwara	3rd March,2011	3.82,6.8	3	1	5	0	0	9
40	EIL	4th March, 2011	9.3	1	1	2	0	0	4
41	Alstom	7th March,2011	4	1	2	1	1		5
42	Huawei Technologies	9th March, 2011	4.5	0	0	0	0	1	1
43	Microsoft	13th March 2011	8.7	0	0	0	0	0	0
44	Tata Auto Comp	17th March 2011	3.5	0	2	3	0	0	5
45	HNG	20th March 2011	3.6	0	2	3	0	0	5
46	Fosroc	25th March 2011	4.5	10	0	0	0	0	10
47	ABCI	26th March 2011	3.6	8	0	0	0	0	8
48	Denso Ltd. Haryana	30th March 2011	2.4	0	0	0	1	0	1
49	Oil India Limited	3rd April 2011	13	2	0	7	2	0	11
50	IOTL	4th April 2011	3.3	0	2	2	0	0	4
51	Ellenbarrie Industrial Gases Ltd	9th April 2011	2.4	0	0	2	0	0	2
52	STERLITE	15th April 2011	3.6	0	5	2	2	0	9
53	PIDILITE	20th April 2011	4	0	1	3	0	0	4

54	BCPL	28th April 2011	6.48	0	0	7	0	0	7
55	ERICSSON	3rd May 2011	3.36	0	0	0	8	0	8
	TOTAL			71	78	94	88	81	412
Average salary: 4.6 lacs pa.									
Note: Some of the students got more than one offer.									

5. REASEACH AND DEVELOPMENT:

5.1 PhD Programmes Existing and Proposed

The Institution has produced 3 PhDs till date in various Engineering and Science Depts. Experienced and competent faculty are available in the various specializations. The areas in which PhD works are being pursued have been given below:

A. Engineering

S.N.	Department	Specialization Areas
1	Civil Engineering	Water Resource Engineering, Geotechnical Engineering, Earthquake Engineering, Structural Engineering
2	Computer Science and Engineering	-
3	Electrical Engineering	Electric Drives, Signal Processing in Electrical Engg, Wavelet Applications in Electrical Engg, Power System protection, Control system, System Automation, Automatic Generation and control, power Quality, Fault Detection, and Diagnosis of Dynamic System, Soft Computing Techniques, Power System optimization, deregulation, VLSI Design
4	Electronics and Communication Engineering	MOS modelling and simulation, VLSI, Signal Processing
5	Electronics and Instrumentation Engineering	-
6	Mechanical Engineering	Renewable Energy, Alternative fuels, Combustion, Computational Fluid Dynamics, Thermo-fluids, Energy, productivity & quality management

B. Basic Sciences & Humanities

S.N.	Department	Specialization Areas
1	Chemistry	Energy and Environment, Green chemistry, Reaction mechanism and kinetics, Synthetic Organic Chemistry, Coal utilization
2	Physics	Experimental Condensed Matter Physics, Field of Liquid Crystals, Oxide Materials
3	Mathematics	Fuzzy Mathematics
4	Humanities and Social Sciences	Development Economics, International Trade, Economics of Education, Economic Sociology, Regional Economics, Agricultural and Rural Development, Small Scale industry, Industrial Management, Feminism

5.2 Details of PhDs Completed

S.N.	Department	Completed	Continuing
1	Civil Engineering	03+01 (Thesis submitted)	09
2	Computer Science and Engineering	-	01
3	Electrical Engineering	-	05
4	Electronics and Communication Engineering	-	04
5	Electronics and Instrumentation Engineering	-	04
6	Mechanical Engineering	01	06
7	Chemistry	-	06
8	Physics	02	07
9	Mathematics	-	04
10	Humanities and Social Sciences	01 + 01 (Thesis submitted)	24

5.3 Proposed Plan for Research

Department	Name of Lab. / Workshop	Programme
1. Civil Engineering	-	-
2. Computer Science and Engineering	-	-
3. Electrical Engineering	-	-
4. Electronics and Communication Engineering	National MEMS Design Center	Device Simulation lab
5. Electronics and Instrumentation Engineering	-	-
6. Mechanical Engineering	Petroleum Engg. Lab.	Alternative fuels research, IC Engine research
	Gas Dynamics Lab	Wind Tunnel, Air-flow bench, Fluid Mechanics Lab
	Advanced Manufacturing Lab	Research on non-traditional/advanced manufacturing processes and this is linked to Research Promotional Scheme (RPS) of AICTE titled: Experimental Investigation of Surface Integrity in Electrodischarge Machining (EDM)
7. Chemistry	-	Ph. D programmes will continue in the existing areas
8. Physics	Experimental Condensed Matter	Up gradation of existing lab

	Physics lab	
9. Mathematics	One computer Lab having 20 PCs with internet connectivity	To start MSc programme in Mathematics & more PhD Programmes
10. Humanities and Social Sciences	Electronic Data Bank	-

5.4 Institute-Industry Collaboration:

The Institute-Industry collaboration has been executed in various modes, such as Testing, Consultancy Project, 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. The Institute has earned Rs.1,93,882.00 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 Technopreneur Promotion Programme (TePP). Through TUC activities, interaction with industries will improve.

6. THE COUNCIL, BOG AND SENATE

6.1 Institute's 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

S.N.	Name and Address	Position
1	Prof. Gautam Barua, Director, IIT Guwahati	Chairperson
2	Prof. P K Bose, Director, NIT Silchar (Ex-Officio)	Member
3	Sri N.K. Sinha, IAS, Joint Secretary (Technical), MHRD, Deptt. of Higher Education, Govt. of India, Shastri Bhavan, C-Wing, New Delhi	Member
4	Sri S.K. Ray, Financial Adviser & Jt. Secretary, Deptt. of Higher Education, MHRD, Govt. of India, New Delhi	Member
5	Sri H.M. Cairae, IAS, Principal Secretary, Govt. of Assam, Higher Education (Tech.) deptt., Guwahati	Member
6	Dr. P.K. Goswami, 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, Head, Deptt. of Computer Science & Engineering, B.E.S.U., Sibpur, Howrah	Member
9	Dr. K.M. Pandey, Prof. Mechanical Engg. Deptt., NIT Silchar	Ex-officio Member
10	Dr.(Mrs.) Basana Choudhury, Assoc.Prof. Physics, NIT Silchar	Ex-officio

		Member
11	Sri Sushil Kumar, Registrar, NIT Silchar	Ex-officio Secy

6.3 Finance Committee

S.N.	Name and Address	Position
1	Prof. Gautam Barua, Director, IIT Guwahati	Chairperson
2	Prof. P. K. Bose, Director, NIT Silchar (Ex-Officio)	Member
3	Sri Madan Mohan, 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	Dr.(Mrs.) B. Choudhury, Assoc. Professor in Physics, NIT Silchar	Ex-officio Member
6	Sri Sushil Kumar, Registrar, NIT Silchar	Ex-officio Member-Secy

6.4 Building and Works Committee

S.N.	Name and Address	Position
1	Prof. P. K. Bose, Director, NIT Silchar (Ex-Officio)	Chairperson
2	Sri Madan Mohan, 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. Satyabrata Choudhury, Dean(P&D), NIT Silchar	Member
6	Prof. D.N. Bhattacharjee, HOD, Civil Engg., NIT Silchar	Member (Nominee)
7	Sri Sushil Kumar, Registrar, NIT Silchar	Member-Secy

6.5 The Senate

S.N.	Name and Address	Position
1	Prof. P.K. Bose, Director, NIT Silchar	Chairperson
2	Dy. Director, NIT Silchar	Member (vacant)
3	Prof. A.K. Roy, Deptt. of Electrical Engg., NIT Silchar	Member
4	Prof. A.K. Sil, Deptt. of Chemistry, NIT Silchar	Member
5	Prof. D.N. Bhattacharjee, Deptt. of Civil Engg., NIT Silchar	Member
6	Prof. Rajat Gupta, Deptt. of Mechanical Engg., NIT Silchar	Member
7	Prof. A.K. Sinha, Deptt. of Electrical Engg., NIT Silchar	Member
8	Prof. K.M. Pandey, Deptt. of Mech. Engg., NIT Silchar	Member
9	Prof. Fazal A. Talukdar, Deptt. of Elect. Engg., NIT Silchar	Member
10	Prof. Nidul Sinha, Deptt. of Elect. Engg., NIT Silchar	Member
11	Prof. A.K. Dey, Deptt. of Civil Engg., NIT Silchar	Member
12	Prof. Satyabrata Choudhury, Deptt. of Civil Engg., NIT Silchar	Member
13	Prof. S. Baishya, Deptt. of E.C.E., NIT Silchar	Member
14	Prof. P.S. Choudhury, Deptt. of C.E., NIT Silchar	Member

15	Prof. A.C. Paul, Deptt. of Mech. Engg., NIT Silchar	Member
16	Prof. R.D. Misra, Deptt. of Mech. Engg., NIT Silchar	Member
17	Dr.(Mrs.) Basana Choudhury, Deptt. of Physics, NIT Silchar	Member
18	Mr. P K Paul, Deptt. of C.S.E., NIT Silchar	Member
19	Dr. Ashim Kr. Das, Deptt. of H.S.S., NIT Silchar	Member
20	Mr. Santanu Roy, Deptt. of Mathematics, NIT Silchar	Member
21	Dr. S.S. Dhar, Deptt. of Chemistry, NIT Silchar	Member
22	Prof. Purusottam Bhattacharjee, Deptt. of International Relation, Faculty of Arts, Jadavpur University, Kolkata	Member
23	Prof. Mita Nasipuri, Deptt. of Computer Science & Engg., Faculty of Engineering & Technology, Jadavpur University, Kolkata	Member
24	Prof. N.V.S. Rao, Deptt. of Chemistry, Assam University, Silchar	Member
25	Sri Sushil Kumar, Registrar, NIT Silchar	Member-Secretary

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, Handicapped 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.

Concessions Provided in Admission of Students

Course	Types of concessions	Category of students	Magnitude
B. Tech	Reservation at admission stage	ST	7.5%
		SC	15%
		PH	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: There is no concession provided to the SC, ST and PH students for their payments towards Institution and Hostel fees.

MTech & PhD: For ST & SC students tuition fees are waived. All fees for institutional faculty who enrol for doing PhD are waived except their caution money and registration fees.

7.2 Concession Provided for Staff

Statutory reservation policy and concession is followed by the institute for teaching and non-teaching posts. All fees for institute faculty who enrol for PhD are waived except their caution money and registration fees.

8. FINANCIAL STATUS

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

Sl No.	Particulars	Plan (General+OSC)	Non-Plan (General+OSC)
1	Opening balance as on 01.04.2010	1061.13	107.48
2	Grant-in-Aid received from Govt. of India during the year 2010-11	3100.00	2000.00
3	Institute income during the year	0.00	213.77
4	Total (1+2+3)	4161.13	2321.25
5	Expenditure during the year	4119.97	2321.25
6	Balance as on 01.04.2011	41.16	Nil

8.2 Sources of Funds

Plan:	Grant-in-Aid sanctioned by the Govt. of India (MHRD) including OSC Grants on 3/4 installments in a financial year
Non-Plan:	(I). Grant-in-Aid sanctioned by the Govt. of India (MHRD) and (II). Revenue from Institute
OSC:	For implementation of the recommendations of the Oversight Committee on 54% capacity expansion and 27% OBC reservation in NITS, Grant-in-Aid sanctioned by the Govt. of India (MHRD)

8.3 Expenditure Position for Staff

S.N.	Head	Amount (Rupees in Lacs.)
1	Salary Component	1434.57
2	Salary of MR Staff	85.50
3	Leave Salary	21.52
4	Bonus for Group C & D Staff	9.43
5	Contribution to CPF	102.06
6	Contribution to Gratuity Fund	71.12
7	Medical Reimbursement	20.08
8	LTC/HTC	20.02
9	Security Service	79.72
10	Professional Development Allowance	39.56
	Total Rs.	1883.58

8.4 Statement of MHRD/DST/MCIT/DSIR/AICTE Project Account:

Date of Allotment	Name of the Project	Name of Project Co-ordinator	Grants sanctioned	Interest earned	Total	Expendr. Up to 31.03.2011	Balance as on 31.03.2011
DST/MCIT/DSIR PROJECT:							
08.11.2005	SMDP-II of VSLI Design	S K Gupta	2780000	129882	3329882	2372923	956959
04.10.2010			420000				

15.11.2006 13.08.2008	Sediment of Flood Flow ...	Dr. P S Choudhury	1400000 619250	49,782	2069032	2069032	0
02.11.2007	Management of Soil Land Resources ...	Dr. D Chakraborty	1100000	76,315	1176315	627410	548905
30.04.2008	ANN-GA-ANFIS Models	Dr. P S Choudhury	400000 200000	21,127	621,127	415832	205,295
16.06.2008	Solvent Free Oxidation	Dr. S.S. Dhar	655000	23,243	678,243	646694	31,549
11.11.2008	Management of TUC	Dr. F A Talukdar	470000	37,616	507616	70,859	436,757
30.07.2009	River Bank Erosion..	Dr. A K Barbhuiya	2156300	69,782	2226082	472,756	1,753,326
19.10.2009	Energy Quality & Poductivity..	Dr R Gupta	510600	14,515	525115	145,473	379,642
19.10.2009	Extraction of Pineapple ..	Dr R Gupta	568100	14,516	582616	189,789	392,827
24.05.2010	L-Moments Based Regional	Dr P S choudhury	1684000	23,893	1707893	333,487	1,374,406
15.06.2010	Behaviour of Clay Dampers	Dr A K Dey	2990000	43,006	3033006	144,962	2,888,044
AICTE PROJECTS: (RPS)							
31.03.2009	Experimental Investigation of	Dr P K Patowari	2000000	176313	2176313	1580799	595514
31.03.2009	Subthreshold Modeling	Dr S Baishya	1000000	88157	1088157	331453	756704
31.03.2009	Scour of Bridge Piper in Choshesive	Dr A K Barbhuiya	1700000	149342	1849342	179939	1669403
31.03.2009	Characterisation of Flyash from Paper	Dr Ruma Rano	2000000	176314	2176314	11275	2165039
31.03.2009	Appl. of Intelligent Techniques	Dr. N Sinha	500000	44079	544079	31073	513006
31.03.2009	Non-Conventional Energy Systems	Dr A K Roy	2000000	176240	2176240	0	2176240
31.03.2009	Reduction of Stress Wave	Dr A K Dey	2000000	176315	2176315	586156	1590159

	Amplitudes ..						
31.03.2009	Industry Institute Partnership Cell	Dr. Gurudas Das	1000000	88156	1088156	197690	890466
AICTE PROJECTS: (MODROBS)							
31.03.2009	Power Electronics & Electric Drives	Dr N Sinha	1000000	87540	1087540	0	1087540
31.03.2009	Mod of DSP & Embedded Lab	Mr. K L Baishnab	1200000	104540	1304540	865800	438740
31.03.2009	Mod of Structural Egg. Lab	Dr A K Dey	1500000	131358	1631358	0	1631358
31.03.2009	Geotechnical Egg. Lab	Dr A K Dey	1200000	104540	1304540	1036788	267752
31.03.2009	Mod of Earthquake Egg. Lab	Dr A K Dey	1500000	131358	1631358	1292986	338372
31.03.2009	Mod of GIS Lab under Civil Egg	Dr A K Dey	1500000	131359	1631359	0	1631359
AICTE PROJECTS: (Research Promotion Scheme)							
Mar, 2011	Studies of Co-operative Assistance to ...	Dr P Barman	1,000,000	0	1000000	0	1000,000
Mar, 2011	Dev of surface Modifies ...	Md. A Zzaman	1,000,000	0	1000000	0	1000,000
Mar, 2011	Study of Bi-Layered Perovskite	Dr A Roy	1,750,000	0	1750000	0	1750,000
Mar, 2011	Sesmic Performance of Beam Column ..	Dr A I Laskar	900,000	0	900000	0	900,000
Mar, 2011	Investg of some Binary Metal Oxide	Dr F A Talukdar	1,840,000	0	1840000	0	1840,000

9. CENTRAL FACILITIES AND SERVICES

9.1 Central Computer Centre

HEAD		
Name	Qualification	Specialization Area(s)
Mr. S.K. Borgohain	MTech	IT

9.1.1 Facilities:

a) Internet Facility

For Internet access and email access, Internet Bandwidth services of 16 Mbps leased line 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. K.M. Pandey	PhD	Head, Mech. Engg.
Prof. R.D. Misra	PhD	Head, Mech. Engg.
Workshop Superintendent		
Mr. S.K. Pattanayak	MTech	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 following units:

a) Machine Shop

- ✚ Lathe (GD lathe, Capstan lathe, Turret lathe, Speed 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

Chairman		
Name	Qualification	Position
Prof. A.C. Paul	PhD	Dean (Acad.)
Librarian		
Name	Qualification	Specialization Area(s)
Mr. K.C. Satpathy	MA(Edu), MLISc, PGDLAN	Information Management, IT Application in LIS
Asstt. Librarian		
Mrs. K. Singha	MLISc, PGDM, PGDHRM	Library Management

In 2010-11, NIT Silchar Library continued to make progress towards the realization of the key strategies designed to improve support for the institute's learning, teaching and research activities. The Library has developed its collection by acquiring latest information resources during the year.

The library continued to provide basic services like circulation and OPAC (Online Public Access Catalogue) services along with other allied services i.e. scanning, photocopying service and reference services etc. to its users throughout 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>.

9.3.1 Document Collections

The Central Library acquired 3543 general books, 683 book bank books during year. It also added 16 thesis, 64 project reports; besides annual reports of other institutes. The Library subscribed 141 print journals for the subscription year 2010-11. The total collections as of March 2011 are given below:

Sl. No.	Name of Resources	Total Number available as on 31 st March 08	Total Number available as on 31 March 09	Total Number available as on 31 st March 10	Total Number available as on 31 st March 11	No of Documents added during the year
1.	Books	67960	71,668	74,525	78068	3543
2.	Print Journal	121	61	40	141	86
3.	Bound Volume	4921	4921	4921	4921	--
4.	CD-ROMs	2274	2374	3074	3074	--
5.	Databases	20	20	20	20	--
6.	Videos	909	909	909	909	--
7.	ISI Code (Printed)	8621	8621	8627	8627	--
8.	Reports	338	340	340	340	--
9.	Book Bank (General)	8836	8836	8836	8836	--
10.	Book Bank (SC/ST)	6640	6758	5292(SC/ST) + 932 (ST) + 836 (SC) = 7060	5553(SC/ST)+ 1138(ST)+ 1052(SC)=7743	683
11.	IRC Codes			152	152	--
12.	Thesis				16	16
13.	Project Report			43	64	21
14.	Annual Reports			113	213	100

9.3.2 Circulation

The books circulation activities are fully automated and serve the users consisting of the faculty, research scholars, students and staff. The books circulation service is kept open for 40 hours a week. On the average, the monthly circulation transactions are about 3500.

9.3.3 Book Bank Facility

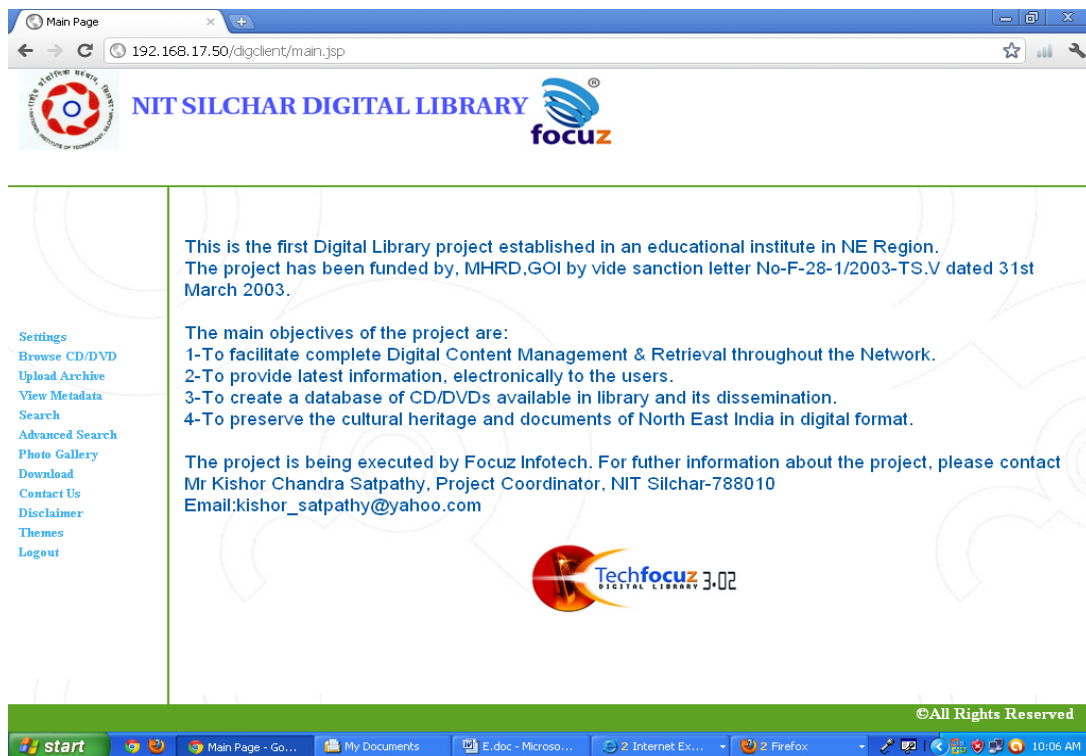
The library maintains a book bank to help students belonging to scheduled castes, scheduled tribes and economically weaker sections of the society. The bank mainly consists of the prescribed text books for undergraduate courses and loans up to 8 books each to these students for full semester.

9.3.4 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, ebooks 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.



The

library renewed subscription to 4 databases that were subscribed during the previous year & added 2 new databases. Library subscribed 51 professional e-journals of Wiley, Elsevier,

Acta Press, Inderscience & T&F etc. during the year. The following e-resources (e-books, e-journals and e-databases) have been procured for Digital library section of the Central Library:

(a) E- book:

Knovel ME books <http://www.knovel.com/web/portal/browse/subject/70/>
LNCS <http://www.springerlink.com/content/105633>

(b) E- journals:

Civil Engineering
Earthquake Engineering and Structural Dynamics [http://onlinelibrary.wiley.com/journal/10.1002/\(ISSN\)1096-9845](http://onlinelibrary.wiley.com/journal/10.1002/(ISSN)1096-9845)
Jl of The American Water Resources Association [http://onlinelibrary.wiley.com/journal/10.1111/\(ISSN\)1752-1688](http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1752-1688)
Ground Water [http://onlinelibrary.wiley.com/journal/10.1111/\(ISSN\)1745-6584](http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1745-6584)
Hydrological Processes [http://onlinelibrary.wiley.com/journal/10.1002/\(ISSN\)1099-1085/issues](http://onlinelibrary.wiley.com/journal/10.1002/(ISSN)1099-1085/issues)
Jl of Earth System Science <http://www.springerlink.com/content/120420/>
International Jl of Pavement Engineering <http://www.informaworld.com/smpp/title~content=t713646742>
Jl of Earthquake Engineering <http://www.informaworld.com/smpp/title~content=t741771161>
Urban Water Jl <http://www.informaworld.com/smpp/title~content=t713734575>
Transportation Research Record <http://trb.metapress.com/home/main.mpx>
Intl jnl of Environment & Waste Management <http://www.inderscience.com/browse/index.php?journalCODE=ijewm>

Computer Science Engineering
Applied Ontology <http://iospress.metapress.com/content/119850/>
Informatica <http://iospress.metapress.com/content/113362/>
International Jl of Hybrid Intelligent Systems <http://www.iospress.nl/loadtop/load.php?isbn=14485869>
Jl of Computer Security <http://www.iospress.nl/loadtop/load.php?isbn=0926227x>
Jnl of high Speed Network <http://iospress.metapress.com/content/103170>

Electrical Engineering
Electric Power Components & Systems <http://www.informaworld.com/smpp/title~content=t713399721>
Control and Intelligent Systems http://www.actapress.com/Content_of_Journal.aspx?journalID=131
International Jl of Modeling and Simulation http://www.actapress.com/Content_of_Journal.aspx?journalID=129
International Jl of Power and Energy Systems http://www.actapress.com/Content_of_Journal.aspx?journalID=128

International JI of Robotics and Automation	http://www.actapress.com/Content_of_Journal.aspx?journalID=127
International JI of Modeling, Identification and Control	http://www.inderscience.com/browse/index.php?journalID=176&year=2011&vol=13&issue=1/2
International JI of Renewable Energy & Technology	http://www.inderscience.com/browse/index.php?journalID=317&year=2011&vol=2&issue=3
International JI of Power and Energy Conversion	http://www.inderscience.com/browse/index.php?journalID=312&year=2010&vol=
Integrating: The VLSI JI	http://www.sciencedirect.com/science/journal/01679260
Wind Energy	http://onlinelibrary.wiley.com/journal/10.1002/(ISSN)1099-1824/issues
ECE	
Analog Integrated Circuits and Signal Processing An International JI	http://www.springerlink.com/content/0925-1030
Jl of Low Power Electronics	http://www.aspbs.com/jolpe.html
Jl of Electronic & communication	
Humanities & Social Science	
American Economic Review	http://www.aeaweb.org/aer/contents/index.php
American Economic Review	http://www.aeaweb.org/jel/contents/index.php
Jl of Economic Literature	http://www.aeaweb.org/journal/contents/index.php
Jl of Economic Perspectives	http://www.aeaweb.org/jep/contents/index.php
American Economic JI: Economic Policy	http://www.aeaweb.org/aej-policy/index.php
American Economic JI: Applied Economics	http://www.aeaweb.org/aej-applied/contents/
American Economic JI : Macroeconomics	http://www.aeaweb.org/aej-macro/index.php
American Economic JI : Microeconomics	http://www.aeaweb.org/aej-micro/index.php
Victorian Studies	http://www.jstor.org/stable/10.2979/victorianstudies.53.1.issue-1
Mechanical Engineering	
Int. Jnl Manufacturing Technology and Management	http://www.inderscience.com/browse/index.php?journalID=21
Int. Jnl Machining And Machinability of Materials	http://www.inderscience.com/browse/index.php?journalCODE=ijmmm

Int. Jnl. Manufacturing Research	http://www.inderscience.com/browse/index.php?journalCODE=ijmr
Int. Jnl Surface Science & Engg	http://www.inderscience.com/browse/index.php?journalID=195&year=2011&vol=5&issue=1
Materials and Manufacturing Processes	http://www.tandfonline.com/action/pricing?journalCode=lmmp
Machining Science & Tech	http://www.tandfonline.com/toc/lmst20/current
Mechanics of Advanced Materials and Structures	http://www.tandfonline.com/toc/umcm20/current
Int Jnl of Production Research	http://www.tandf.co.uk/journals/titles/00207543.asp
Int Jnl of CRM	http://www.tandfonline.com/loi/tcim20
Chemistry	
Chem Comm	http://pubs.rsc.org/en/journals/journalissues/cc
Green Chemistry	http://pubs.rsc.org/en/journals/journalissues/gc
Physics	
Physical Review E	http://pre.aps.org/browse
Applied Physics Letter	http://apl.aip.org/
Jl of Applied Physics	http://jap.aip.org/
Mathematics	
SIAM (LOCUS) (1952-1996 Backfiles)	http://locus.siam.org/
Library	
DELNET-Annual membership	www.delnet.nic.in

(c) E- Database (Full Text) :

Name of the Database	Web Address
ACS Web Edition	http://pubs.acs.org/
ACM Digital Library	http://portal.acm.org/portal.cfm
ASCE	http://www.asce.org/
ASME (including AMR)	http://www.asmedl.org/
ASTM Standards and Journals	http://enterprise.astm.org/
IEL Online (5 Users)	http://ieeexplore.ieee.org/
Nature	http://www.nature.com/
ProQuest Science (formerly ASTP)	http://www.il.proquest.com/pqdauto
Springer Link (234)	http://www.springerlink.com/
Science Direct (Backfiles -Engg & Tech)	http://www.sciencedirect.com/
Mathscinet	http://www.ams.org/mathscinet/
Annual Reviews	http://www.annualreviews.org/
J-Gate Custom Content for Consortia	http://jccc-indest.informindia.co.in/
India stat.com	www.Indiastat.com
EPW	http://epw.in/epw/user/userindex.jsp

Project Muse

<http://muse.jhu.edu/journals/>

American Economic Review

<http://www.aeaweb.org/aer/contents/index.php>**9.3.5 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 three 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.

During the reporting year, for better and comfortable reading facility, customized reading tables along with 60 cushioned reading chairs have been procured and placed for the users of the library.

9.3.6. Additional Information**Paper Presentation by Library Staff**

S.N.	Staff Name	Details
1	Kishor Chandra Satpathy	Presented a invited theme paper entitled “North-Eastern Library Information Network: Dream to Reality” and also acted as one of the Panelist in the Panel Discussion on “Collection Development in ICT era: Issues & Challenges” in the national seminar on “Collection Development In academic, public and special library and information centers in digital era with special references to North–East India” held during 10-11 Feb. 2011 at Assam University Silchar sponsored by Central Reference Library Kolkata and Ministry of Culture, Govt of India. Presented a paper entitled “North-East India Education & Library Network” in National Seminar on “Networking of Library and Information Centres of North East India in Digital Environment (NLICDE-2011)” held during 21-23 March 2011, organized under the aegis of National Library, Kolkata sponsored by Ministry of Culture, Govt. of India at NIT Silchar Pattanayak, S K; Satpathy, K C and Pattanaik, S., E-Waste Analysis and Management of A Technical Institute–A Case Study”, presented in International Conference on “International Congress of Environmental Research (ICER – 10)” held at University of Mauritius, Reduit, Mauritius from 16.09.2010 to 18.09.2010.
2	K M Singha	Presented a paper entitled “Role of ICT in Knowledge Management in Libraries’ in National Seminar on Networking of Library and Information Centres of North East India in Digital Environment (NLICDE-2011) during 21-23 March 2011, organized under the aegis of National Library, Kolkata sponsored by Ministry of Culture, Govt. of India held at NIT Silchar.

9.3.7 Other Activities:

Satpathy, K C, Nominated & acted as a member of the “Empowered Committee” constituted by the Director for “Exterior and interior painting of academic building along with major renovation works” during May 2010.

Satpathy, K C, Nominated & acted as a member of the technical committee in the international conference on “Community based Water Resource management in North East India: lessons from a global context” held during 28-30 Jan. 2011, sponsored by Ministry of Water Resources, Govt of India.

Satpathy, K C, Nominated & acted as a member of the organizing committee in the national seminar on “Collection Development in Academic, Public and Special Library and Information Centers in Digital Era with Special References to North – East India” held during 10-11 Feb. 2011 at Assam University Silchar sponsored by Central Reference Library Kolkata and Ministry of Culture, Govt of India.

9.3.8 Support To NIT Nagaland:

Central library extended services to NIT Nagaland community and provided all support and help to setup the library of NIT Nagaland. It procured & processed books for NIT Nagaland. The library also helped in selecting and training of the staff of NIT Nagaland.

9.3.9 Programme Organized:

Satpathy, K C, organized the National Seminar on Networking of Library and Information Centres of North East India in Digital Environment (NLICDE-2011) during 21-23 March 2011, under the aegis of National Library, Kolkata sponsored by Ministry of Culture, Govt. of India held at NIT Silchar.





9.4 Laboratories

Deptts.	Name of the Laboratories	Main equipments available/experiments conducted
Civil Engg.	<ul style="list-style-type: none"> • Strength of Materials • Fluid Mechanics • Environmental Engineering • Transportation Engineering • Concrete • Survey • Soil Mechanics • Computation 	<p>Universal Testing Machine (100 T), Compression, Impact Testing Machines, Hardness Testing Machines, Spring Testing Machines, Torsion Testing Machines.</p> <p>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.</p> <p>Gas Analyser, Digital pH/Turbidity Meter, Spectrophotometer, Universal Titrator, 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, 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 Computerized district shear test set up B & K Pulse analyzer Advanced computational laboratory with computers of latest configuration</p>
Mechanical Engg.	<ul style="list-style-type: none"> • Computational • Machine Dynamic & Vibration • Instrumentation • Energy • I.C. Engine & Automobile • Heat Transfer • CNC lab • Material Science • Metrology • Steam Power • Refrigeration and Air conditioning 	<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, 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 like 3 Jaw S.C. Chuck, 8-Station indexing tool post, Manual quick change tool holder body, Quick change tool holder for external and internal turning, External and internal cutting tools; 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; The infrastructure facilities for different study of microstructure & mechanical properties; Oil fires Boiler; Computerised</p>

		Refrigeration and Air-conditioning test rig, Ice Plant, Refrigeration Lab Unit (R 714) with Data acquisition upgrade (RC 714) etc.
Electrical Engg.	<ul style="list-style-type: none"> • Basic Machines • Basic Electrical Sc • Measurement & Instrumentation • Control System • Microprocessor • Power Electronics & Electric Drives • Computer • Non-conventional Energy • Analog-Digital Electronics 	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.
Electronics & Communications Engg. Computer Science and Engg.	<ul style="list-style-type: none"> • Basic Electronics Lab • Digital Electronics Lab • Communication Engg Lab • CAD of VLSI Lab • Advanced Communication Lab • Data Structure & OOP Lab • Microprocessor & Microcontroller Lab • System Programming & Operating System • DBMS Lab • UNIX/NT Lab • DSP & Embedded System Lab • Computer Graphics & Multi Media Laboratory • ICP Lab • Project Lab 	<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 & 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>
Physics	<ul style="list-style-type: none"> • Physics Laboratory (BTech programme) • Condensed Matter 	<p>Laboratory has the facilities for undergraduate Programmes.</p> <p>Laboratory is well-equipped with advanced</p>

	Physics Research Laboratory • Computer Room	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. PC-Pentium with internet connectivity and other relevant software available
Chemistry	UG Chemistry Lab Instrument Laboratory	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 on 31-3-2011, given below:

S.N.	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

Senior Medical officer retired on 31.1.2008. 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
Mr. L.C. Saikia	MTech

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	
Prof. A.K. Sil	PhD	
ASSOCIATE DEANS (SW)		
Dr. M. Ali Ahmed	PhD	
Dr. P. Rajbongshi	PhD	
BOARD OF HOSTEL MANAGEMENT		
Name	Designation	Qualification
Dr. A.K. Sil	Chairman	PhD
Dr. M. Ali Ahmed	Vice Chairman	PhD

Dr. P. Rajbongshi	Secretary	PhD	
Dr. Asim Roy	Secretary	PhD	
WARDENS			
Hostel No.	Name	Designation	Department
1.	Dr. J. P. Mishra	PhD	EE
2.	Dr. P. Rajbongshi	PhD	CE
	Dr. A. Goswami	PhD	EE
3.	Dr. A. Zaman	PhD	Chemistry
4.	Dr. Ayon Bhattacharjee	PhD	Physics
5.	Dr. Sourav Choudhury	PhD	Mech.
6.	Dr. P. Barman	PhD	Chemistry
7.	Dr. Asim Roy	PhD	Physics
8.	Dr. A.M. Choudhury	PhD	Civil
GH 1	Dr. Mousumi Sen	PhD	Mathematics
GH 2	Dr. Mousumi Sen	PhD	Mathematics
	Dr. N. Barthakur	PhD	CE

GYMKHANA OFFICE BEARERS			
Name	Port-Folios	Semester	Tenure
Mr. Biswadeep Dey	Vice President	6 th	1 Year
Mr. Sourabh Dhal	General Secretary	-do-	-do-
Mr. Ankit Jain	GS, Cultural	-do-	-do-
Mr. Satyaprakash Sahu	GS, Sports	-do-	-do-
Mr. Dhrubajyoti Borah	Secretary, Lit. & Publication	-do-	-do-
No applicant	Secretary, Foot ball	-do-	-do-
Mr. Deepak Kr. Verma	Secretary, Volley ball	-do-	-do-
Mr. Nilesh Bhaskar	Secretary, Basket ball	4 th	-do-
Mr. Saurabh Mazumder	Secretary, Cricket	6 th	-do-
Mr. Debankar Jana	Secretary, Photography	-do-	-do-
Mr. Irfan Maqbul Malik	Secretary, Mountaineering, Trekking & Gymnasium	-do-	-do-

FACULTY ADVISORS OF GYMKHANA			
Port-Folios	Name	Designation	Department
Vice President	Dr. A.K. Barbhuiya	Associate Professor	CE
General Secretary	Dr. B. K. Roy	-do-	EE
GS, Cultural	Dr. Ayon Bhattacharjee	Asst. Professor	Phy.
GS, Sports	Dr. R.D. Mishra	Prof. & H.O.D	Mech.
Secretary, Publication	Dr. A.M. Choudhury	Asst. Professor	CE
Secretary, Foot ball	---		
Secretary, Volley ball	Mr. Dulal Ch. Das	-do-	EE
Secretary, Basket ball	Dr. Asim Roy	Asst. Prof & H.O.D.	Phy.
Secretary, Cricket	Mr. L.C. Saikia	Asst. Professor	EE
Secretary, Photography	Mr. Pallab Das	-do-	CE
Secretary, Mountaineering, Trekking, & Gymnasium	Dr. Zishan Medhi	-do-	ECE

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 2010-2011 was also full of activities and achievements and proud to be matching the high standards of organizational and leadership capabilities.

9.7.1 Sports and Games

- ✚ Intra College, Football
- ✚ Intra College, Cricket
- ✚ Intra College, Night Cricket
- ✚ Intra College, Volley Ball
- ✚ Intra College, Basket Ball
- ✚ Intra College, Gymkhana
- ✚ All India (Inter NIT) Table Tennis Tournaments
- ✚ Incandence 2011

9.7.2 Social and Cultural

- ✚ Debate Competition
- ✚ Quiz Competition

9.7.3 Gymkhana Awards

- ✚ Best Blood Donation Camp award for last four years in Barak Valley

Apart from the above, many steps were taken for improving various activities of gymkhana.



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





(Ekta Daur)

9.9 Training & Placement

Campus recruitment process conducted by the Institute is a very vital activity. A Training and Placement Committee (TPC) was formed during the period under consideration involving a few final year students. The TPC contacted various companies for campus recruitment. 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) under the Office of the Dean (SA). The T&P Cell consists of office, two examination rooms, interview room and a group discussion room. Besides this, the Cell also arranges summer training programmes for all 6th semester BTechstudents.

9.10 Estate

Dean (P&D)			
Name		Qualification	
Prof. S. Choudhury		PhD	
Associate Deans			
Dr. D. Chakraborty		Ph. D	
Mr. D. H. Das		MTech	
Other Officers			
Name	Position	Qualification	Remarks
Mr. D. Dey	Asstt. Estate Engineer	Diploma (Civil)	Regular
Mr. S. Chauhan	Junior Engineer	Diploma (Electrical)	Regular
Mr. A. Das	Junior Engineer	Diploma (Civil)	Contractual
Mr. S. Das	Junior Engineer	Diploma (Civil)	Contractual

Mr. R. Suklabaidya	Junior Engineer	Diploma (Civil)	Contractual w.e.f. 16.10.09
Mr. D. Chakraborty	Junior Engineer	Diploma (Civil)	Contractual w.e.f. 16.10.09
Mr. S. Das Baishnab	Junior Engineer	Diploma (Elect.)	Contractual w.e.f. 16.10.09

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 now continuing.

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

9.11 1. Works completed:

1. Construction of Type-IV(E) (Lecturer qtrs.) -28 units building
2. Construction of Classroom Expansion Part-II building
3. Construction of 100 bed Girls' Hostel No. 2
4. Construction of CEC building
5. Construction of 500 capacity Boys' Hostel No. 8
6. Renovation of computer room at Department of Humanities
7. Construction of discharge drain of kitchen at Boys' Hostel No. 7
8. Chain link fencing for CSE & ETE Building
9. Modification of ICP Laboratory in old CSE building convert into virtual class
10. Modification of Conference Hall in to Director's room at Administrative building
11. Provision of wind tie over poly-coated galvanized sheet roofing at CSE & ETE building, Girls' Hostel-1 & Security Barrack
12. Repairing works of kitchen and dining at Hostel No. 1 & 7
13. Construction of Shallow Well at different locations
14. Construction of security shed at Girls' Hostel No. 1
15. Laboratory Development at Mechanical Engineering Workshop
16. Renovation of computer laboratory (PC Lab.) at Electrical Engineering Dept

17. Repairing & renovation of Officer's Club including boundary wall & extension of a shed in front of main building
18. Special civil repair works of Guest House
19. Renovation of room for provision consultancy cell under Civil Engg. Dept.

9.11 2. Project/ works are on-going:

1. Construction of Type-VI(EL) (Prof. qtrs.) – 12 units building
2. Construction of Type-V(E) (Asst Prof. qtrs.) – 20 units building
3. Production Engineering Laboratory
4. Construction of septic tank at different locations

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

The projects are as under:

1. 1000 capacity Boys' Hostel No. 9
2. 400 capacity Girls' Hostel No. 3
3. Construction of Married Scholars Hostel (PG/PhD students)
(A) 300 capacity P.G Boys &
(B) 100 Married Scholars
4. New Library building
5. Community cum Meditation Centre 1000 capacity
6. Construction of Auditorium building
7. Market Complex
8. Additional Security Barrack 100 capacity
9. Proposed new construction of Administrative building
10. Proposed construction of Estate Department, Central Store office building, T&P, NCC etc.
11. Augmentation of electrical power supply

- (i) 33/11 KV sub station
- (ii) 11 KV distribution
- 12. Renovation of internal road Ph-II
- 13. Provision of Institute main gate
- 14. Improvement of landscaping, Echo Park, Children Park

9.11 3. Project on pipeline:

The following projects are being processed for implementation:

1. Augmentation of treatment plan taken by Assam Govt., PHE Dept. as deposit work.
2. Setting up 33 KVA sub-station by APDCL as deposit work
3. Construction of Sports Complex
4. Expansion of Hydraulics Laboratory

9.11 4. The projects considered priority - I

- 1000 capacity Boys' Hostel No. 9
- 400 capacity Girls' Hostel No. 2

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.

9.11 5. Works completed:

The following constructions works have completed:

1. Installation of electrical wiring for laboratory expansion of Mechanical Engineering Laboratory
 2. Painting of existing street light tubular poles and panels/feeder pillar box
 3. Providing supplying and fitting fixing of building security lamp at Girls' Hostel No.1, Boys' Hostel No. 6 & 7
 4. Providing and laying of electrical wiring, fitting and fixing of socket board at different computer/experiment tables and other ancillary works at new CSE & ETE Building
 5. Renovation of Officer's Club
- SH: Internal & external electrical works

9.12 Vehicle Management

S.N.	Vehicle Registration No.	Type of Vehicle	Purpose
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1.	AS 11-6913	Maruti Van Ambulance	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

The Institute's Alumni association has been established during 2009-2010. The present office bearers are as follows:-

President:-	Mr. D.H.Das, Deptt. of Mechanical Engg.
Secretary:-	Dr. B.K.Roy, Deptt. of Electrical Engg.
Vice-President:-	Dr. A.K.Dey, Deptt. of Civil Engg.
Joint Secretary cum Treasurer:-	Dr. D. Chakraborty, Deptt. of Civil Engg.

NIT, Silchar Alumni Association had organised the first Alumni meet on 2nd November 2010. With the participation of a large number of Alumni the meet was a huge success.





(Glimpses of Alumni Meet)

10. NOTABLE ACHIEVEMENTS

10.1 Past Achievements

Since inception in 1977, the Institute has produced more than 4300 undergraduate engineers in Civil Engineering, Electrical Engineering, Mechanical Engineering, Electronics & Telecommunication Engineering and Computer Science & Engineering streams. The Institute has produced more than 75 MTech recipients in various specializations. A number of scholars have been awarded PhD degree in Science & Engineering discipline. Besides this, a good number of PhD scholars from different Science & Engineering Deptt. are pursuing for PhD degree and some of them are on the verge of submission of their thesis. Many faculty members have publications in reputed International & National journals and a number of research projects have been granted to various faculty members of NIT Silchar.

10.2 Research Projects and Consultation Jobs

a) Research Projects

S.N.	Title of Research Project	Name of PI & Department
1	Special Manpower Development programme for VLSI Design and related software (SMDP-II)	Mr. S.K. Gupta, Asstt. Professor, ECE Department
2	ANN-GA and ANFIS models development for Flood forecasting with multiple inflows in Barak River network	Dr. P. Choudhury, Associate Professor, CE Department
3	L-moments based Regional Extreme Rainfall and Flood Frequency Analysis for Hydro-meteorological sub zones 2(b) & 2(c) of India	-do-
4	Management of Soil and land Resources for Eco-restoration	Dr. Dibakar Chakrabarty,

	of Barak watershed, India using Remote Sensing and GIS Technologies	Associate Professor, CE Department
5	Solvent Free Oxidations and brominations of organic substrates catalyzed and/or promoted by Peroxometal complexes	Dr. S.S. Dhar, Asstt. Prof., Chem. Department
6	Experimental Investigation of Surface Integrity in electro discharge Machining (EDM)	Dr. P.K. Patwari, Associate Prof. & Prof. Rajat Gupta, Mech. Engg. Department
7	Sub threshold Modeling and Simulation of FinFETs	Dr. S. Baishya, Professor in ECE Department
8	Scour of Bridge Pier in Cohesive Soil	Dr. A.K. Barbhuiya, Associate Prof., CE Department
9	Characterization of Fly ash from Paper Mills for Potential	Dr. Ruma Rano. Lecturer, Chem. Department
10	Application of Intelligent Techniques to improve the operating Flexibility of Power systems under both Conventional and Deregulated Environment	Dr. Nidul Sinha, Professor in EE Department
11	Development of a Commercial Rheometer for High Performance Concrete	Dr. A.I. Laskar, Associate Prof., CE Department
12	Behavior of clay damper under impact loading	Dr. A.K. Dey, Prof. in CE Department
13	Reduction of Stress Wave Amplitudes using clay Dampers	-do-
14	Modernization of Structural Engg. lab	-do-
15	Modernization of Geotechnical Engg. lab	-do-
16	Modernization of Earthquake Engg. Lab	-do-
17	Modernization of GIS Lab under CE Department	-do-
18	River bank erosion and its counter measures	Dr. A.K. Barbhuiya, Associate Prof. in CE Department
19	Non Conventional Energy Systems	Dr. A.K. Roy, Prof. in EE Department
20	Modernization of Power Electronics and Electric Drives Lab	Dr. Nidul Sinha, Prof. in EE Department
21	Modernization of DSP and Embedded lab	Mr. K.L. Baishnab, Asstt. Prof. in ECE Department
22	Energy Quality and Productivity Audit of KVIC based industries in Barak Valley of Assam	Prof. Rajat Gupta, Prof. in Mech. Engg. Department
23	Extraction of Pineapple Fibre for making commercial products	-do-
24	Investigation of some binary Metal Oxide material for Resistive Switching Memory Applications.	Prof. F A Talukdar
25	Application of Intelligent Technique to Improve the Flexibility of Power System	Head, EE Deptt.
26	Eco-restoration of Bank under shed using RS & GIS	Prof. D Chakraborty.

b) Consultancy Projects

NIT Silchar is encouraging consultancy works at various levels and NIT Silchar is earning revenue through consultancy works. Many Govt, PSUs, Pvt organizations etc are

approaching & offering consultancy works to NIT Silchar. The total consultancy receipt received during the financial year 2010-11 is around 52 lakhs.

c) Achievements by Faculty Members

"A Joint DWT-DCT Based Robust Digital Watermarking Algorithm for Ownership Verification of Digital Images" by R.H. Laskar, Assistant Prof., ECE was selected for the Best Paper Award in the Fifth International Conference on Information Processing 2011, held at Bangalore from 5th-8th August 2011 organized by Visvesvaraya College of Engineering, Bangalore University, Bangalore and Defence Institute of Advance Technology (Deemed University), Pune.