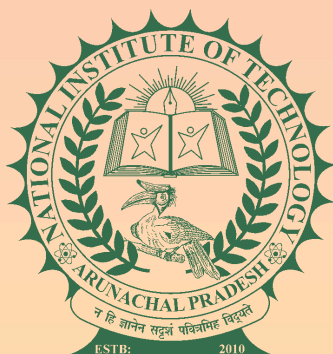


**NATIONAL INSTITUTE OF TECHNOLOGY-  
ARUNACHAL PRADESH  
(An Institute of National Importance)  
(YUPIA, ARUNACHAL PRADESH)**

**ANNUAL REPORT (2014-15)**



**Phone No.:0360-2284801, 2001581, 2001582; Fax:0360-2284972  
Email:nitarunachal@gmail.com, admin@nitap.in**

*(Established by the Ministry of Human Resource  
Development, Government of India)*



## **Preface:**

**From the Desk of the Director:**



**Prof. C.T. Bhunia**

**"Quality is not an act, but it is a habit"**

I am privileged and honoured to write this message for the Annual Report 2014-15 in respect of National Institute of Technology, Arunachal Pradesh. With a pool of scholastic young members of faculty, dedicated officers and a handful of sincere members of staff, the Institute has, by this time, established a credible position in the academic world in the country. The major success stories of 2014-15 are duly portrayed in this Annual Report.

The Institute is running in IQ (Innovation + Quality) model and not just on Q (Quality) model in the process of which the Institute follows:

- i) RTI - Research, Teaching and Innovation as the rightful principal duty of members of faculty
- ii) RTI - Responsibility, Transparency and Integrity as the emphatic & sincere practices of the officers, members of staff.

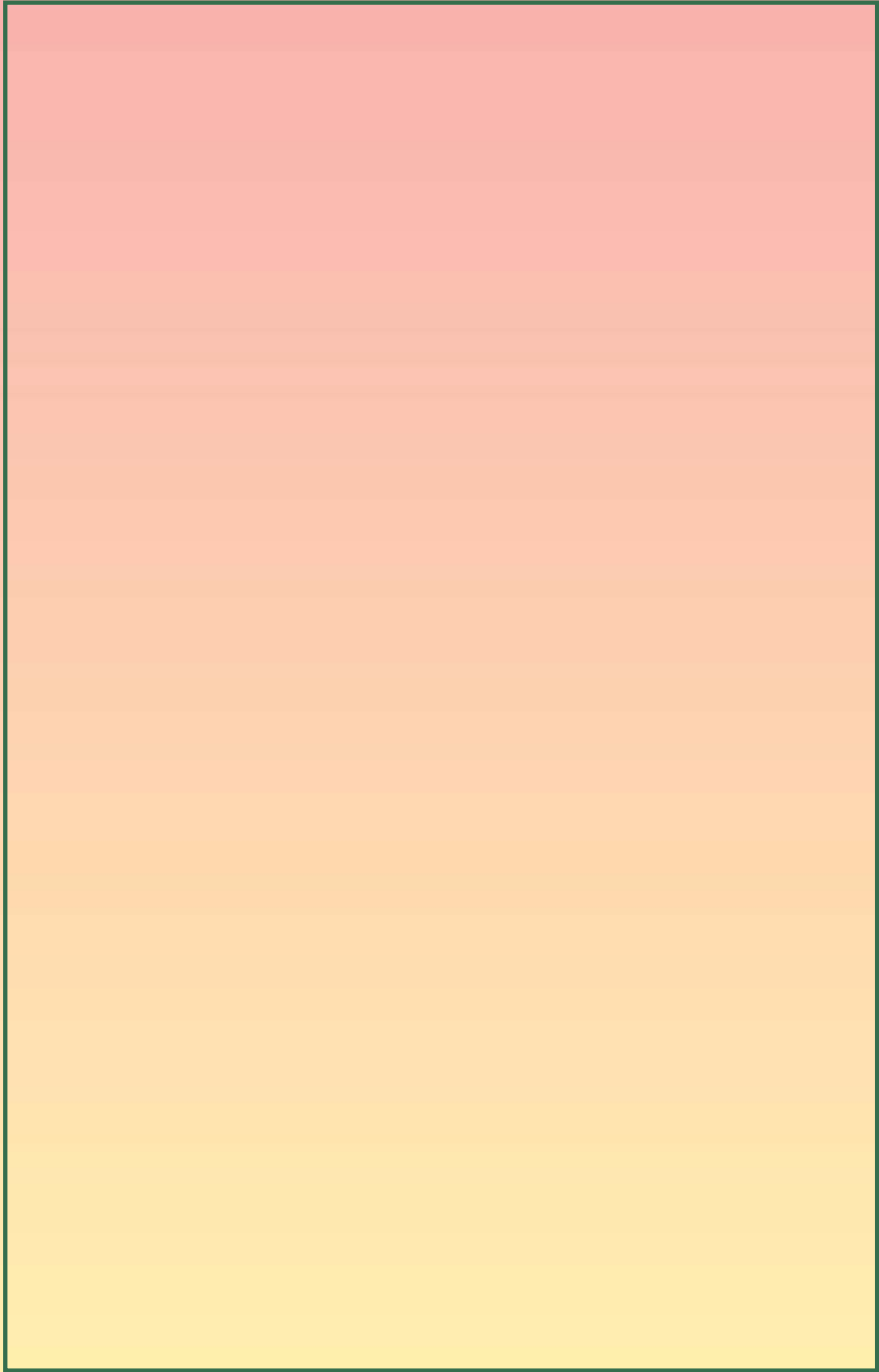
The practices of RTI under already established E-plan & B-plan culture is faithfully followed in a clean and green environment with adaptability, flexibility and honesty.

Legality, reasonability and rationality are duly exercised for measuring the performance of students. The Institute has given utmost care for noble practice of teaching, learning evaluation, campus recruitment process as duly reflected in this Annual Report of 2014-15.

I congratulate entire NIT family for taking splendid efforts in preparing Annual Report 2014-15.

"Doing things differently and not different things" is real innovation.

**(Prof. C. T. Bhunia)**  
Director, NIT, AP



## **VISITOR**

**Dr. Pranab Mukherjee**  
**Hon'ble President of India**



## **Chairperson**

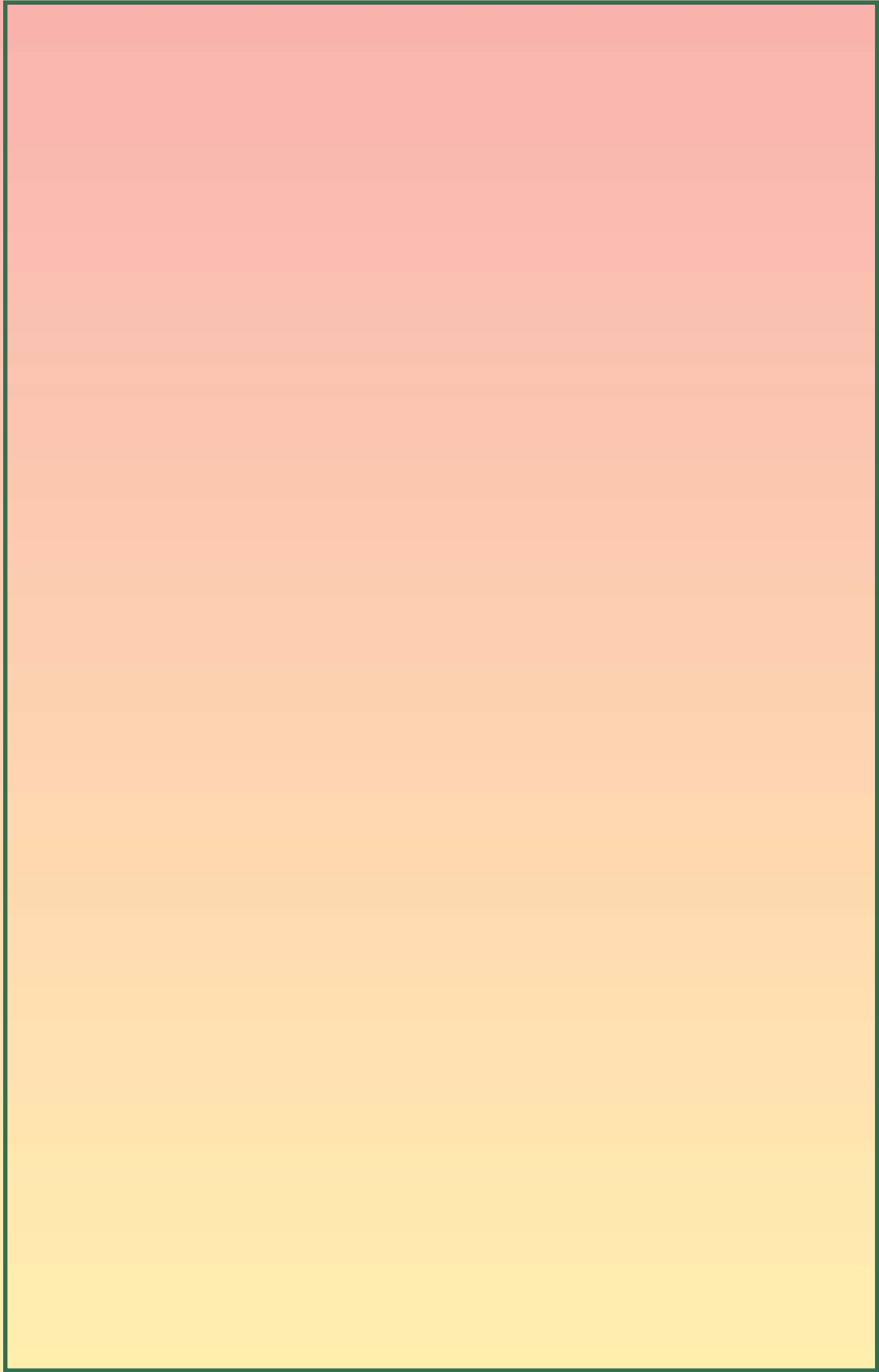
**Board of Governors**  
**Dr. Gangan Prathap**



## **Director**

**Prof. (Dr.) Chandan Tilak Bhunia**





# CONTENTS

## PART -I

<b>Section - A</b>		
<b>Chapter</b>	<b>Subject</b>	<b>Page No.</b>
1	Overview	1-4
2	Executive Summary	5-16
3	Academic Activities	17-32
4	Developmental Activities	33-54
5	Academic Departments	55-84
6	Research Activities	85-106
7	Students' Amenities and Activities	107-130
8	Innovations and Emerging needs	131-140
9	Miscellaneous	141-146

<b>Section - B</b>		
10	Institute's Authorities (2014 - 2015)	149-156
11	News Paper Cuttings (different events performed by NIT-Arunachal Pradesh in 2014-2015)	157-158

## PART -II

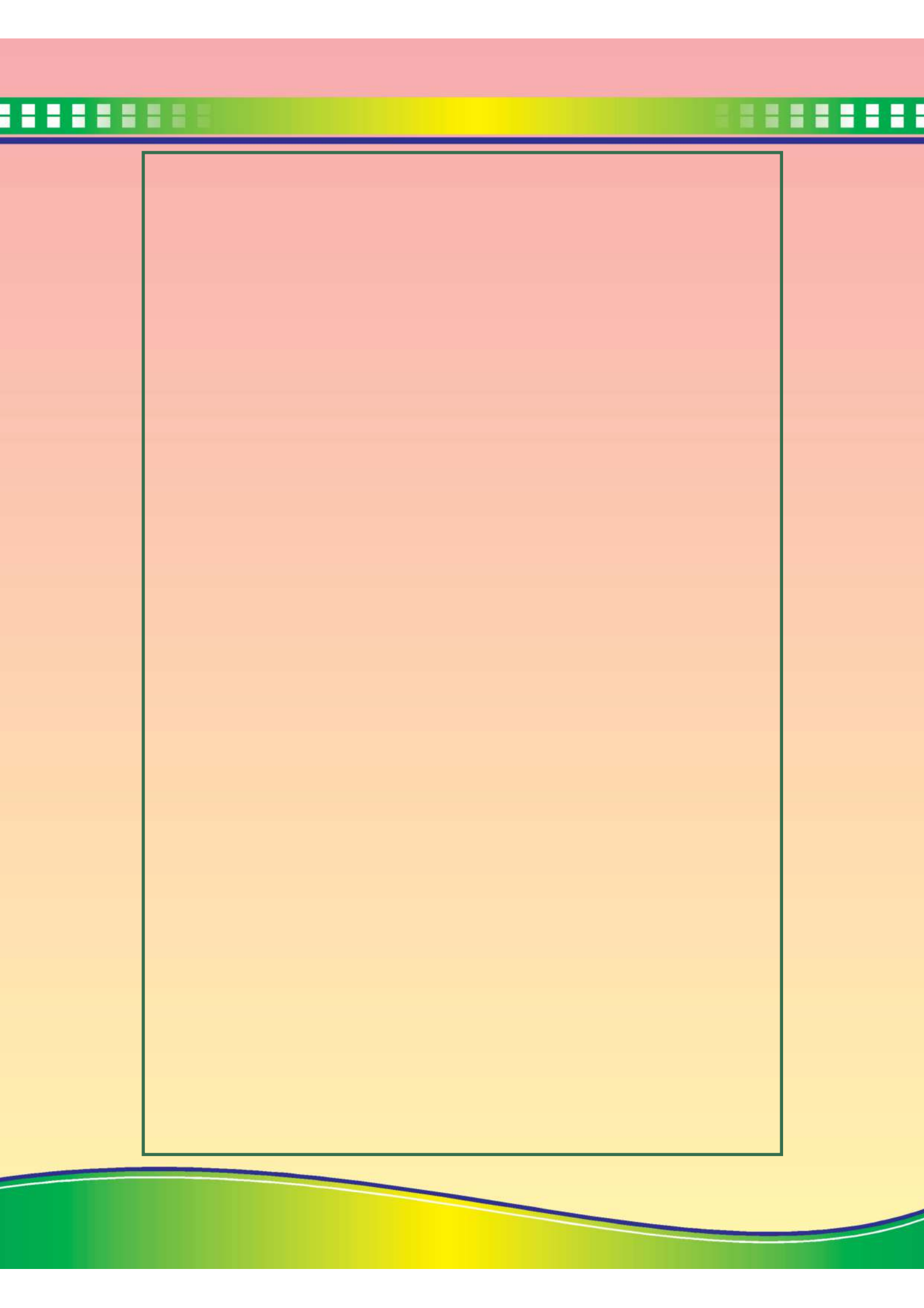
<b>Table/ sections</b>	<b>Descriptions</b>	<b>Page No</b>
1	List of New Appointments (Group A)	13
3.1	Students Statistics of CSE Dept. (B. Tech)	19
3.2	Students Statistics of ECE Dept. (B. Tech)	20
3.3	Students Statistics of EE Dept. (B. Tech)	21
3.4	Students Statistics of ME Dept. (B. Tech)	22
3.5	Students Statistics of CE Dept. (B. Tech)	23
3.6	Students Statistics of Bio-technology Dept. (B. Tech)	24

<b>Table/ sections</b>	<b>Descriptions</b>	<b>Page No</b>
3.7	Students Statistics of M. Tech in MCC	25
3.8	Students Statistics of M. Tech in ATEP	26
3.9	Students Statistics of M. Tech in EDM	27
3.10	Students Statistics of M. Tech in MBA (online)	28
3.11	Faculty Members pursuing PhD	29
3.11(a)	List of Faculty members pursuing PhD	30
3.12	Total No. of students on roll (Gender-wise) from 2011 to 2014	31
3.13	Total No. of students on roll (Category-wise) from 2011 to 2014	32
5.1	Number of Faculty positions filled up in 2014-15	55
5.3	Current Strength of Faculty Members (Category-wise)	56
5.8	Foreign visits of faculty members during 2014-15	58
5.18	Academic Growth plan of the Institute	82
5.19	Present Faculty positions (Department-wise)	83
6.1	List of faculty members joined PhD in 2014	85
6.1 (A)	Lists of Projects Sanctioned during 2014-15	86
6.1 (B)	Lists of Projects proposed (submitted) during 2014-15	86-87
6.2	List of Publications by Faculty Members in Journals/Conferences during 2014-15	87-94
6.3	List of all Publications by students	94-97
6.4.	Lists of all published & accepted papers in our Institute journals (IJCST)	97-100
6.6	Lists of Major academic initiatives by R & D Cell	101-103
6.8	Total number of Patents during last five years	104
6.9	Number of publications (by Faculty members & department wise)	104-105
7.2	Hostel Strength	107
7.7	Scholarship	109-112
7.8	Placement Details	113-115
7.9	Research Related Information of students	115-116
7.10	Best Achievements by our students (Research)	116

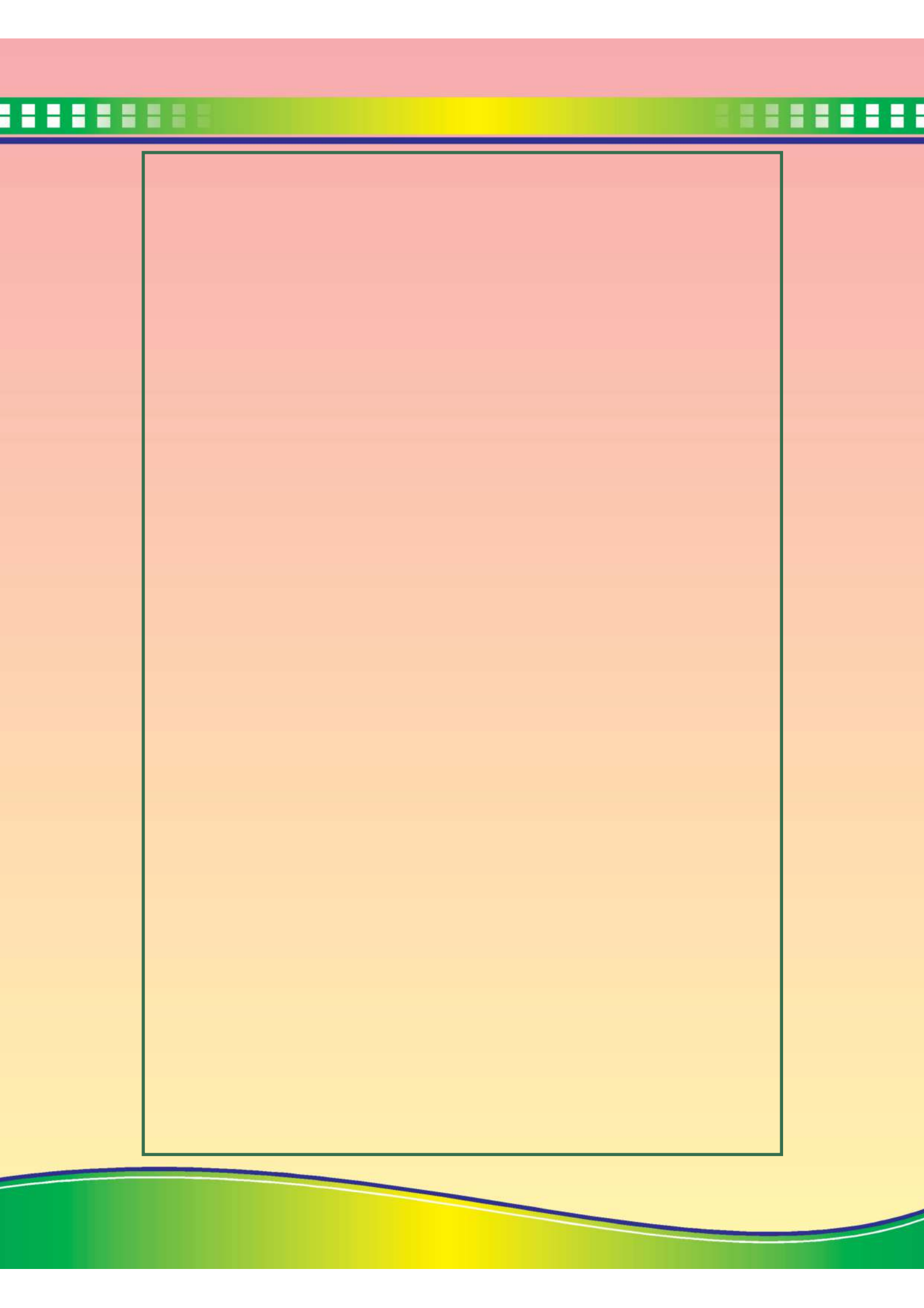


**ANNUAL REPPORT  
PART - I**





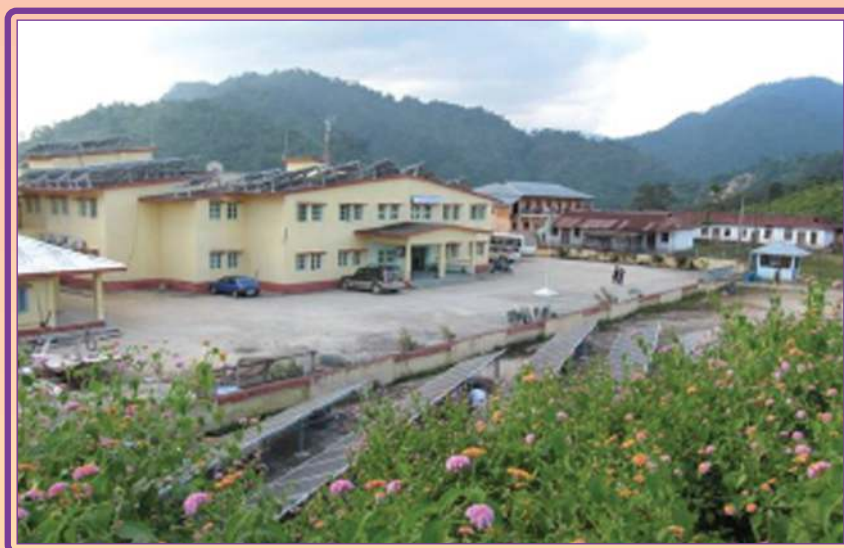
**SECTION - A**



## 1. OVERVIEW

### 1. Introduction

National Institute of Technology-Arunachal Pradesh was inaugurated on 18<sup>th</sup> August 2010 as a member of a group of ten new NITs. These new NITs were established as centres of excellence in technical education to combat the growing needs of technological professionals at the National and International level as well. The Institute has been through many trials since its establishment in 2010; but ultimately it has triumphed over all the challenges and is thriving today with more than 450 students on roll and many distinguished members of faculty as well as a good many numbers of competent administrative personnel.



A view of the present campus at Yupia, Arunachal Pradesh

### 1.1. Location (Temporary Campus)

The campus of the Institute is temporarily housed in Yupia, the headquarters of the Papum Pare district of Arunachal Pradesh. The land, buildings and structures were made available to the Institute by the Government of Arunachal Pradesh. Yupia is about 18 km from Itanagar (the capital of Arunachal Pradesh) and is about 11 km from Naharlagun town, which is the twin capital town. The place has a healthy climate with moderate temperature ranging from 13°C to 33°C with an average annual rainfall of 365mm. The nearest railway station is Naharlagun, which is about 3 kilometres from Yupia.

## 1.2. Travel Guide to the Present Campus

**Rail Link:** The nearest railway station is Naharlagun, which is about 3 km from Yupia. Overnight train services have started between Guwahati and Naharlagun. Weekly train services have also started between New Delhi and Naharlagun. Taxi services for Yupia are available at Naharlagun Railway station.

**Air Link:** The nearest Airport is Lilabari (North Lakhimpur) in Assam, which is about 50 km and the nearest helipad is at Naharlagun. Daily helicopter services are available between Guwahati and Naharlagun except on Sundays.

**Road Link:** Guwahati is at a distance of 370 km from Naharlagun. Day and Night bus services are available from Guwahati to Naharlagun from where taxi service can be availed to reach Yupia.

## 1.3. Permanent Campus

The Government of Arunachal Pradesh has also provided free of cost a land of 302 acres (After surveying it is found to be about 133 acres) in Jote (District: Papum Pare) in Arunachal Pradesh. The hilly areas and the undulating terrain therein have been levelled so as to bring out a vast plot of land fit for a series of robust structural constructions for the Institution. During the year under report, the construction works for boundary wall, approach roads, water supply system, power supply system, shopping complex are in good progress and are likely to be completed shortly. The construction works for Administrative Building, Academic Block, and Director's residence have also been started simultaneously. The construction works are underway through Government agencies at the permanent site and it is anticipated that the Institute would be shifted in part to the Permanent Campus by 2015.

## 1.4. Human Resources

The Institute has since received sanction for faculty and non-faculty posts as per its students' strength. However, the entire process of recruitment could not be completed due to non-availability of qualified candidates willing to serve in this remote area of the country. In fact, this particular problem is now being faced by most of the Centrally-funded Technical Institutes in the North-Eastern Region. This aspect needs immediate attention at an appropriate level. The Institute has however started its colourful journey with the available human resources, infrastructural facilities etc.

### 1.5. Journey Ahead

In the aforesaid process, the Institute is trying its level best to take care of the necessary Academic activities, Research work etc. with the existing faculty members, laboratories, libraries, IT facilities etc. It has also provided full-fledged hostel facilities to all of its students. All the students are residing in the hostels located either in the temporary campus or outside it. Due compassion and care is being ensured that the students do not feel that they are staying away from home. This is essential to provide a congenial ambience to enable the students to continue their studies in a proper manner.

### 1.6. Responsibilities

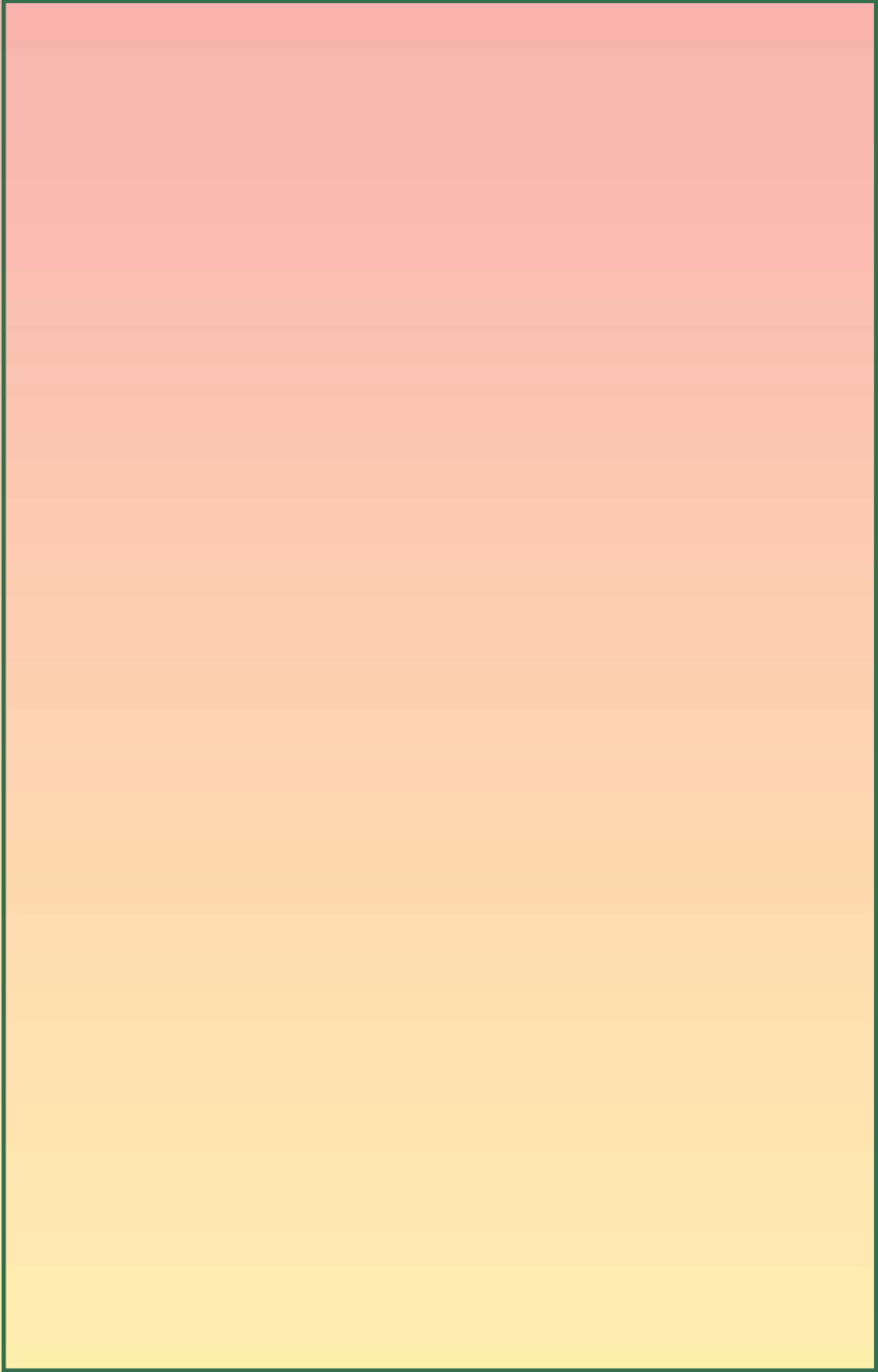
NIT-Arunachal Pradesh is also responsible for accomplishing a noble task of catering to the needs of the local people and fulfilling the aspirations of the talented youths belonging to the poorest among poor people residing in the remotest areas of the State. In order to ensure that the students can avail the facilities of Technical Education, the Institute has to play a bigger role while providing suitable training programme to the students at 10 + 2 level in the schools of the State. The Institute is also striving hard to provide necessary technological know-how to the local industries so that the overall industrial development of the State can move forward in a faster pace.

### 1.7. Conclusion

The Institute is quite confident to accomplish the tasks bestowed upon it and fulfil its cherished dreams in near future.

*"Everything that is done in the world is done by hope." ~ Martin Luther*

\*\*\*\*



## 2. EXECUTIVE SUMMARY

### 2.0. Introduction

National Institute of Technology-Arunachal Pradesh was inaugurated on 18<sup>th</sup> August, 2010 as an Institute of National Importance in technical education to combat the growing needs of technical professionals.

### 2.1. Vision and Mission statement

The Institute has passed through many trials since its establishment in 2010; but ultimately has triumphed over all the challenges and is now marching ahead with more than 450 students on roll and many distinguished members of faculty as well as a good many numbers of competent administrative personnel.

#### Vision statement

Our vision is to impart quality technical education with strong underpinning of sound knowledge in the domain. Our approach is interactive, innovative and quintessentially holistic. Our goal is to produce imaginative entrepreneurs, technology leaders of the new millennium and researchers with a profound sense of humanistic and ethical values.

#### Mission statement

Our mission is that of producing such Technical Engineers who will not run after jobs; but for whom jobs will run after them, and such that they will create employment and develop new technologies for a faster, sustainable and inclusive growth.

In order to realize the goals of its Vision and Mission, NIT-Arunachal Pradesh has framed a strategic and progressive academic plan for the next ten (10) years which may be seen at the Institute's website. This speaks of the determination and sound temperament of the members of the faculty and staff of the Institute. It is planned to make this Institute a global leader so as to earn global accolades.

Culturally and environmentally, this place is so rich that it would facilitate the Institute to become a fusion of scholastic students, academically bright and credible members of the faculty, innovative researchers and visionary leaders in India's "Land of the Rising Sun." By no stretch of imagination, it may, therefore, be said that NIT-Arunachal Pradesh is second to no other institute in its fields of development and momentum built by this time.

### 2.2 Academic information

National Institute of Technology-Arunachal Pradesh started 4-years B. Tech degree programmes in Computer Science & Engineering, Electronics &

Communication Engineering and Electrical & Electronics Engineering since its inception in 2010. The First batch of students passed out in June, 2014. The Institute has added two more B. Tech degree programmes in Civil Engineering and Mechanical Engineering and two M. Tech programmes in Mobile Communication & Computing and Appropriate Technology & Entrepreneurship Practices from 2013-14. Besides five B. Tech programmes, The Institute has introduced one new B. Tech. programme in Bio-technology, one M. Tech programme in Electronics Design & Manufacturing and online MBA programme in the academic sessions 2014-15. The Institute has also started Research programme leading to Ph.D. in Computer Science & Engineering, Electronics & Communication Engineering, Physics, Chemistry, Mathematics and Management Science.

### Enrolment

The Institute admitted 121 new students under U.G. programmes for six disciplines against the total sanctioned strength of 180 (30 in each discipline) and 55 students under four P.G. programmes against the total sanctioned strength of 80 (20 in each discipline). 17 faculty members of the Institute are also registered to pursue their research work leading to Ph. D. The total enrolment of the students during the year under report was 462 as against 373 in the previous year 2013-14. The strength of the students in the Hostels is 443 (boys and girls).

### Faculty Position

During the year under report, two Associate Professors and thirty-five Assistant Professors were on the roll in various departments as against three Associate Professors and twenty-eight Assistant Professors in the previous year. Further details are given in the Chapter – 5 of this report.

### 2.3. Academic programmes

National Conferences (NC)/International Conferences (IC)/Seminars (S)/Workshops (W)/Continuing Education Programmes (CEP) organized during the last five years and the details thereof are as under:

#### Year-wise Details

Name of the Events	No. of Events				TOTAL
	2011	2012	2013	2014	
IC/NC	-	-	01	02	03
W	-	02	01	01	04
CEP	-		04	01	05
Total	-	02	06	04	12

### Department-Wise Data

Sl. No	Department	Total no. of Seminar organized/conducted						TOTAL
		2012		2013		2014		
		NC+IC	W+CEP+S	NC+IC	W+CEP+S	NC+IC	W+CEP+S	
i	ECE, CSE & EEE	00	02	04	02	02	02	12
	<b>Total</b>	<b>00</b>	<b>02</b>	<b>04</b>	<b>02</b>	<b>02</b>	<b>02</b>	<b>12</b>

#### 2.4 Library

The excellence of any academic Institute is measured by certain infrastructures and parameters. The library facility is one of them. The Institute has central library facility for the faculties, students and staff members. The Central Library has large number of collections of books for all branches of science, engineering, literatures, economics and management science including some journals and magazines. All the books are placed in perfectly order and one can easily get his/her required books. Online Public Access Catalogue (OPAC) service through Libsys is available in the Central Library. The Central Library has also reading room facilities for the students, faculties and other staff members of the Institute.

The Central Library of the Institute started with a small number of books in 2010. The collection development activity gathered momentum in subsequently years. At present, the Library has a collection of 20000+ books and new books are being added to the collection continuously. These include books on all relevant subjects for teaching and are recommended by the distinguished faculty members. The Library also boasts of a select collection of fiction, literature and general interest books such as sports, GK, science magazines etc, to take care of the needs of leisure and recreation reading of the users.

#### Library at a glance :

##### Collection :

Status as on	Books	E-books	E-journals	Print journals	Magazines	News Papers
31st March, 2014	16433	-	IEL Online (One user), Springer Link, ACM Digital Library	26	19	6
31st March, 2015	20212	826 (Titles)	906 Science Direct (621), IEEE ASSP + IEEE POP (160), Conference proceedings (125)	30	20	6

**Usage:**

Avg. No. of books issued per month	Avg. No. of photocopies per month	Avg. No. of print-outs per month	Avg. reading room usage per month
10000	12000	1500	9000

**Periodicals and Newspapers (Print Format):**

At present, the Library subscribes to 20 Magazines and six newspapers regularly.

**Electronic Resources:**

In the present world of Information Explosion, access to electronic information resources is essential, particularly in an academic environment. Therefore, the Central Library has developed a collection of Electronic resources which provide access to thousands of journal articles, research papers, books and other resources. These includes Science Direct (621 Journals) and IEEE ASPP + IEEE POP (160 Journals and 125 Conference Proceedings) and Elsevier E-Books (826 titles) etc.

**The Services:**

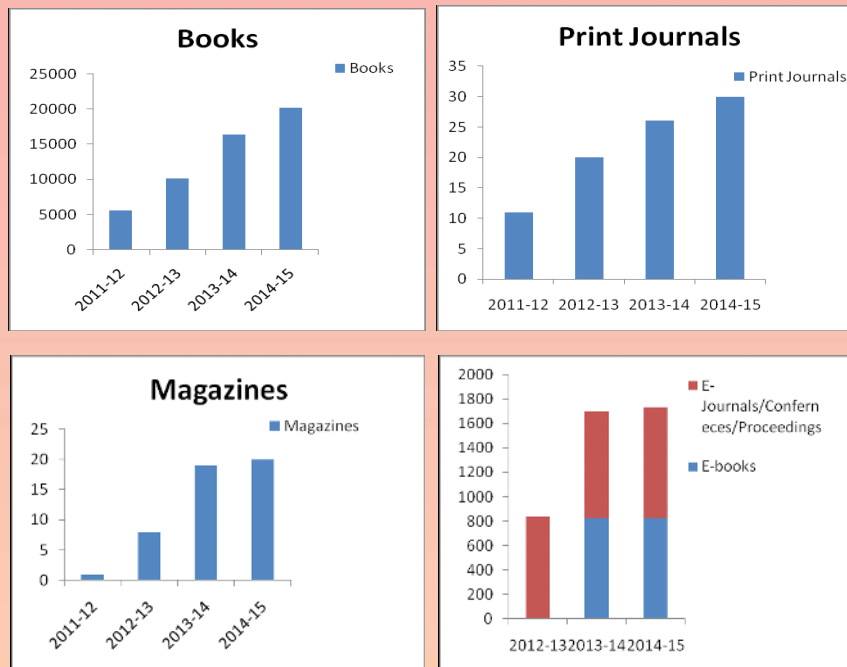
At present, the Library offers services as enumerated below:

- ◆ **Lending facility:** Undergraduate students can borrow 8 books for the period of 15 days, whereas Ph. D. students can borrow up to 10 books for one month. Faculty members can borrow up to 15 books for a semester.
- ◆ **Renewals:** Books can be renewed only if there are no claims.
- ◆ **Reading Room:** The Library provides Wi-Fi enabled reading room with a seating capacity of nearly 35 students and 7 faculty members. Two PCs are reserved for students/faculties for the purpose of accessing E-resources, checking Web OPAC, etc.
- ◆ **Photocopying/printing:** Users are provided photocopying and printing facility (for limited pages), and they have to pay for that.

**The Library Team:**

Mr. Mohit Kumar De : Assistant Librarian  
 Mr. Tapobrata Adhikari : Junior Assistant  
 Ms. Saswati Das : Junior Assistant



**Library Growth Chart:****2.5. Language Laboratory**

The language laboratory has revolutionized the way the faculties teach and the students are enabled to learn a language just within the term of using it. The language laboratory is envisaged to cater to the growing demands of a large pool of fluent English speaking youths in areas like multinational IT companies in particular and in all walks of life in general. It has



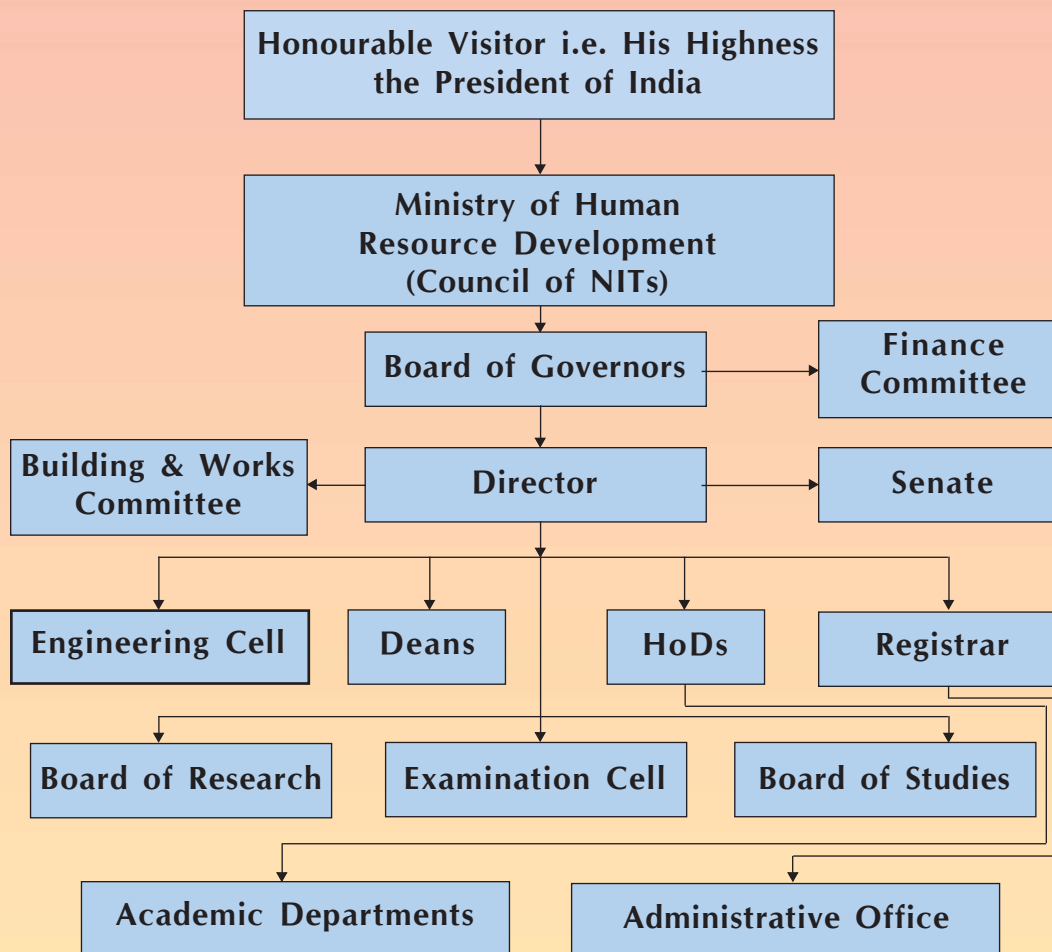
conceptualized customized training programme based on the latest technological tools and the most advanced training methodology to impart simplified and effortless learning of English.

The Institute has this Station-e language laboratory with seating capacity of 32 numbers which will make language learning a whole new experience, while helping students to improve their English speaking powers with ease and in the simplest way.

## 2.6. Internal Quality Assurance Cell

The Institute has its own internal quality assurance programme on the basis of regular evaluation process and students' feedback. After each semester before ending, students give their feedback on different parameters in respect of the faculty members. All the parameters are summarized and then, the best teacher is awarded on the basis of the feedback and other performances.

## 2.7. Organizational Structure



**Details of the structure (as on 31.3.2015)****DEANS (In Charge) OF THE INSTITUTE**

<b>Convenor of Academic Cell</b>	: Prof. P. D. Kashyap,
<b>Academic &amp; Examination</b>	: Dr. U. K. Saha
<b>Research and Development</b>	: Dr. Pinaki Chakraborty
<b>Finance</b>	: Dr. Naba Kumar Pramanik
<b>Planning &amp; Development</b>	: Dr. Ananta Kumar Atta

**HEAD OF DEPARTMENTS**

- ❖ **Department of Computer Science & Engineering**  
Mr. Swarnendu Kr. Chakraborty
- ❖ **Department of Electronics & Communication Engineering**  
Prof. P. D. Kashyap
- ❖ **Department of Electrical & Electronics Engineering**  
Mr. Rajen Pudur
- ❖ **Department of Civil Engineering**  
Ms. Jumrik Taipodia
- ❖ **Department of Mechanical Engineering**  
Mr. Sandip Kumar Mandal
- ❖ **Department of Management and Humanities**  
Dr. Mihir Kumar Shome
- ❖ **Department of Physics, Chemistry and Bio-technology**  
Dr. Ananta Kumar Atta
- ❖ **Department of Mathematics**  
Dr. A. Vanav Kumar

**ADMINISTRATIVE OFFICERS****DIRECTOR'S SECRETARIAT**

P.A. to Director	: Pralay Kumar Samanta
Confidential Assistant	: Ms. Abi Tayeng
Junior Assistant	: Sugrib Kumar

**OFFICE OF THE REGISTRAR**

OSD : S .P. Kar (Officiating In-charge)  
 Junior Assistant : Shibo Chetry  
 Multitasking Staff : Dipak Jana

**OFFICE OF THE FINANCE OFFICER**

Accountant : S P Kar  
 Junior Assistant : Ms Momi Das

**OFFICE OF THE DEAN EXAMINATION**

Junior Assistant : Taw Talo  
 Pinku Sharma  
 Ujjal Samanta

**OFFICE OF THE PUBLIC RELATION & RTI**

CPIO : Taba Tadhe Goyang  
 Assistant Public Relation Officer : Nabam Talar  
 (Addl. charge)

**VIGILANCE MATTER**

Chief Vigilance Officer : Rajat Subhra Goswami

**CENTRAL LIBRARY**

Assistant Librarian : Mohit Kumar De

**ENGINEERING WING**

Assistant Engineer : Er. T. Ete  
 Electrician : Sriman Ghosh

**HEALTH CENTRE**

Medical Officer (Part-time) : Dr. P. K. Deb

**INSTITUTE'S HOSTELS**

Hostel Provost : Mohit Kumar De

**TRAINING AND PLACEMENT CELL**

Training and Placement Officer : Dr. S. K. Dutta  
 Manash Pritam Dutta

**ENTREPRENEURSHIP CELL**

Professor In-Charge : Dr. Pinaki Chakraborty

**NSS/NCC**

NSS Programme Officer : Dr. Karam Ratan Singh

NCC CTO (Care Taker Officer) : Lt. Achyuth Sarkar

SAS Assistant : Jorjo Jomoh

**2.8. New Appointments**

Group – A : As given in Table-1

Group – B : Nil

Group – C : Nil

**Table -1**

Sl. No.	Name	Designation	Date of joining
i.	Dr. A. Vanav Kumar	Assistant Professor	15/07/2014
ii.	Mr. Shubhajit Das	Assistant Professor	28/08/2014
iii.	Lt. Achyuth Sarkar	Assistant Professor	02/09/2014
iv.	Dr. Deepak Swami	Assistant Professor	03/09/2014
v.	Mrs. Nabam Rich	Assistant Professor	02/01/2015
vi.	Dr. Sanjeev Kumar Metya	Assistant Professor	05/01/2015
vii.	Dr. Dipak Sen	Assistant Professor	31/01/2015
viii.	Dr. Siba Prasad Panigrahi	Assistant Professor	23/02/2015
ix.	Dr. Kim jolly Lhouvum	Assistant Professor	09/03/2015
x.	Mrs. Manjula Das Ghatak	Assistant Professor	09/03/2015

**2.9. Authorities of the Institute**

The meeting of the Board of Governors, Finance Committee, Building and Works Committee, Senate and Board of Studies and Board of Research were held regularly during the period under report, in accordance with the stipulations provided in the NIT Act, 2007, and the NIT (Amendment) Act,

2012 and the First Statutes of the NITs. The details of the meetings held during the period under report are as follows:

Board of Governors : 18<sup>th</sup> May, 2014; 26<sup>th</sup> October, 2014; and 20<sup>th</sup> March, 2015.

Finance Committee : 17<sup>th</sup> May, 2014; 25<sup>th</sup> October, 2014; and 19<sup>th</sup> March, 2015.

Building and Works Committee : 19<sup>th</sup> April, 2014; 29<sup>th</sup> August, 2014 and 28<sup>th</sup> January, 2015.

Senate : 16<sup>th</sup> May, 2014; 21<sup>st</sup> September, 2014; and 9<sup>th</sup> February, 2015.

Board of Studies : Nil

Board of Research : 15<sup>th</sup> May, 2014; 20<sup>th</sup> September, 2014 and 9<sup>th</sup> February, 2015.

## 2.10. Memorandum of Understanding

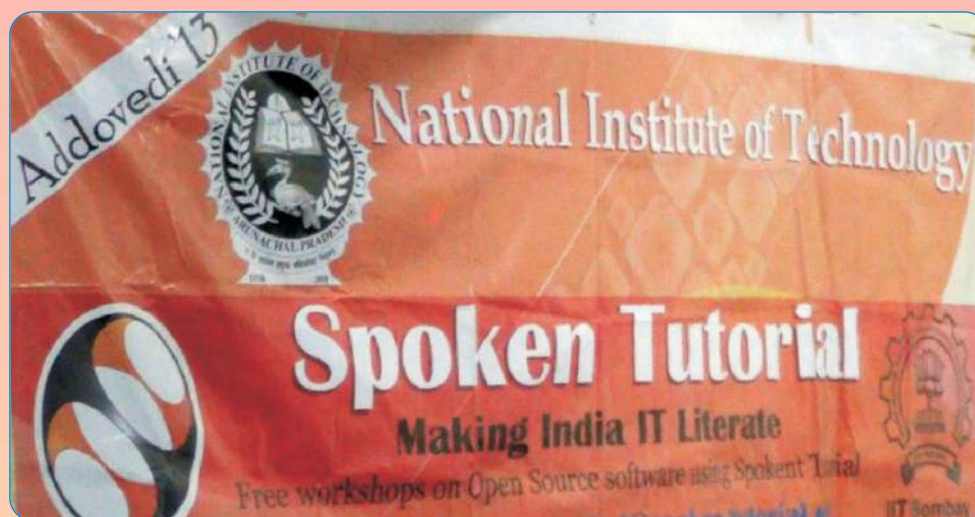
### Memorandum of Understanding with prestigious Organizations

- (i) In order to encourage Entrepreneurship Practices at national level, the Institute has started a new M. Tech Programme, first of its kind in the country, on 'Appropriate Technology and Entrepreneurial Practices' in collaboration with the National Institute of Rural Development, Government of India, Hyderabad. A MoU in this respect was signed between the Director, NIT-Arunachal Pradesh and the Director General, NIRD, Hyderabad on 11<sup>th</sup> May, 2013.



Dr. M. V. Rao, Director General, NIRD and Prof. (Dr) C. T. Bhunia, Director, NIT –Arunachal Pradesh exchanging the signed MoU

- (ii) The Institute has also signed a MoU with the IIT-Bombay on 11th May 2013, for RESOURCE (Robust Extensions for Spoken Tutorial Project on Open Source Software Usage for Recruitment Community and Education) Centre for promoting the Spoken Tutorial Project, which is one of the Talks to a Teacher Project supported by NMEICT, Ministry of Human Resource Development, Government of India.



**Free workshop on Open Source Software**

### **2.11. Power back-up**

Besides having electric supply from the State Power Department, the Institute has installed its own 100 kW Solar Power System, which is operational since 28.10.2012 and in this way, the Institute has been able to minimize expenditure on utilisation of grid power. Throughout the year under report, the solar power system has functioned very satisfactorily. The specifications of the Solar Power System are as follows:

#### **Specification of Solar panels**

Voc = 37.08 V

Isc = 8.45 A

Diode Rating = 15 A

Total number of Solar Panels: 410

#### **Battery Specification**

Each Battery Back-up: 600 Ah

Voltage: 2V

Total number of Batteries: 240



**Solar panels of NIT- Arunachal Pradesh (This is reportedly the first of its kind among the thirty NITs)**



**Solar Inverter and Battery back-up**



**Solar panels on top of the building of NIT- Arunachal Pradesh**

### 3. ACADEMIC ACTIVITIES

#### 3.0. Introduction

During this year under report, the Institute offered Undergraduate and Postgraduate programmes in the following disciplines apart from the Ph.D. programmes:

#### U. G. Programme:

- Computer Science & Engineering
- Electronics & Communication Engineering
- Electrical & Electronics Engineering
- Civil Engineering
- Mechanical Engineering
- Bio-technology

#### P. G. Programme:

- M.Tech course in Mobile Communication & Computing
- M.Tech course in Appropriate Technology & Entrepreneurship Practices
- M.Tech course in Electronics Design & Manufacturing
- Online MBA Programme

#### Ph. D. Programme:

- Ph.D. Programme in Computer Science & Engineering
- Ph.D. Programme in Electronics & Communication Engineering
- Ph.D. Programme in Physics & Chemistry
- Ph.D. Programme in Mathematics
- Ph.D. Programme in Management & Humanities

The Institute also facilitated the faculty members to pursue their higher studies leading to Ph.D. on part-time basis without affecting the academic schedule of the Institute.

### 3.1. First Convocation Report

The first Annual Convocation of the National Institute of Technology-Arunachal Pradesh was held on 21<sup>st</sup> November, 2014, for its first batch of degree recipients. The Hon'ble President of India Dr. Pranab Mukherjee was the Chief Guest, and he delivered the convocation address. In his address, he stressed and advised the students to lend their hands for meeting out the challenges of growth and industrial development of the local region in particular and the country as a whole. During this Convocation, the Institute also conferred the Honourable Doctorate Degree of Education to Prof. Pema Thinley, former Vice-Chancellor, Royal University of Bhutan. The Institute also offered seven gold medals to the toppers in various categories among the degree recipients. The total 77 no. of B. Tech graduates received their graduate degree in the branch of Computer Science & Engineering, Electrical & Communication Engineering and Electrical & Electronics Engineering.



Memories of the First Convocation

### 3.2. Admission of students

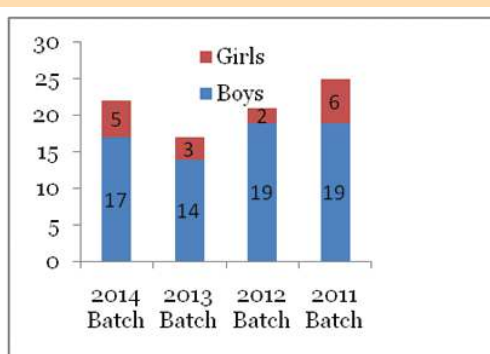
Students, after qualifying the Joint Entrance Engineering Examination (JEE) Main, report to the counselling centres and opt for the Institute and branch of study of their liking/choice and as per availability of the seats, admission is allowed to them. In case, there is no seat available in the Institute of their choice, they are allowed to opt other Institute or branch. Admissions to all NITs are conducted by the CSAB and MNIT-Jaipur was in-charge of this for the academic year 2014-15.

#### Students admitted during the academic year 2013-14— at a glance

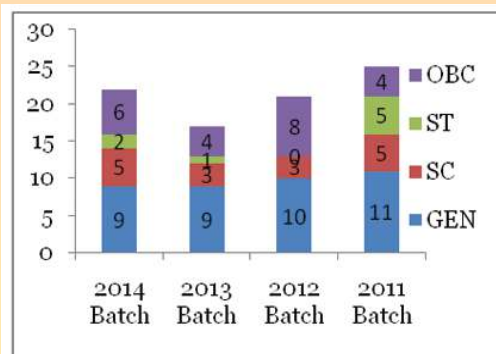
**Table 3.1  
(B.Tech. -Computer Science & Engineering)**

Year	Details of students enrolled													
	Total no. of students admitted		SC		ST		OBC		GEN		MINORITY		PH	
	Total	Girls	Total	Girls	Total	Girls	Total	Girls	Total	Girls	Total	Girls	Total	Girls
<b>1st year</b>	22	5	5	2	2	1	6	0	9	2	1	0	0	0
<b>2nd year</b>	17	3	3	0	1	0	4	1	9	2	0	0	0	0
<b>3rd year</b>	21	2	3	0	0	0	8	0	10	2	1	0	1	0
<b>4th year</b>	25	6	5	0	5	3	4	2	11	1	1	0	0	0
<b>Total</b>	85	16	16	2	8	4	22	3	39	7	3	0	1	0

(\* Minority & PH students are included in GEN/SC/ST/OBC category)



No. of Students registered (gender-wise) in Computer Science & Engineering



No. of Students registered (category-wise) in Computer Science & Engineering

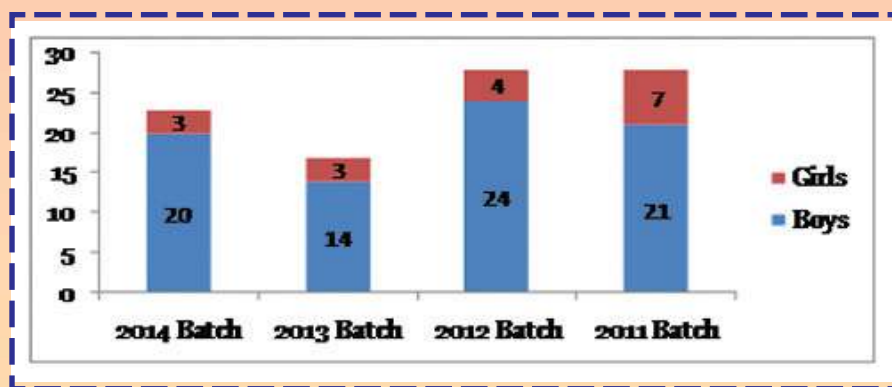
Table 3.2

**B.Tech. – Electronics & Communication Engineering**

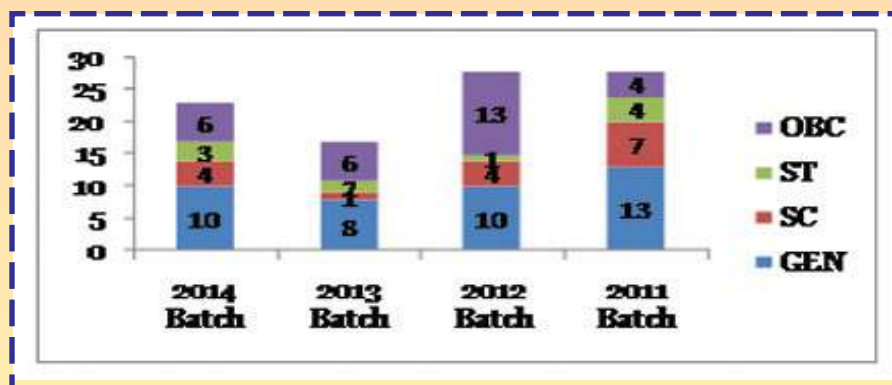
Year	Details of students enrolled													
	Total no. of students admitted		SC		ST		OBC		GEN		MINORITY		PH	
	Total	Girls	Total	Girls	Total	Girls	Total	Girls	Total	Girls	Total	Girls	Total	Girls
1 <sup>st</sup> year	23	3	4	1	3	0	6	1	10	1	0	0	1	0
2 <sup>nd</sup> year	17	3	1	1	2	0	6	0	8	2	0	0	0	0
3 <sup>rd</sup> year	28	4	4	1	1	0	13	2	10	1	0	0	0	0
4 <sup>th</sup> year	28	7	7	1	4	2	4	2	13	2	0	0	0	0
<b>Total</b>	<b>96</b>	<b>17</b>	<b>16</b>	<b>4</b>	<b>10</b>	<b>2</b>	<b>29</b>	<b>5</b>	<b>41</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>

(\* Minority & PH students are included in GEN/SC/ST/OBC category)

(B.Tech - Electronics & Communication Engineering)



[No. of students registered (gender-wise) in Electronics & Communication Engineering]



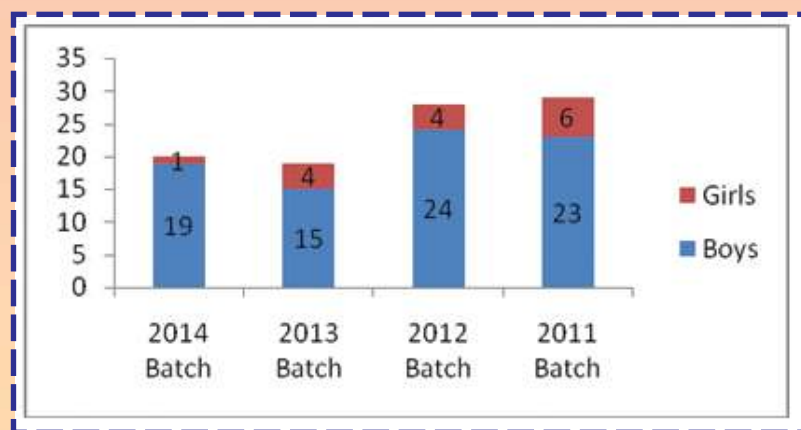
[No. of students registered (category-wise) in Electronics & Communication Engineering]

Table 3.3

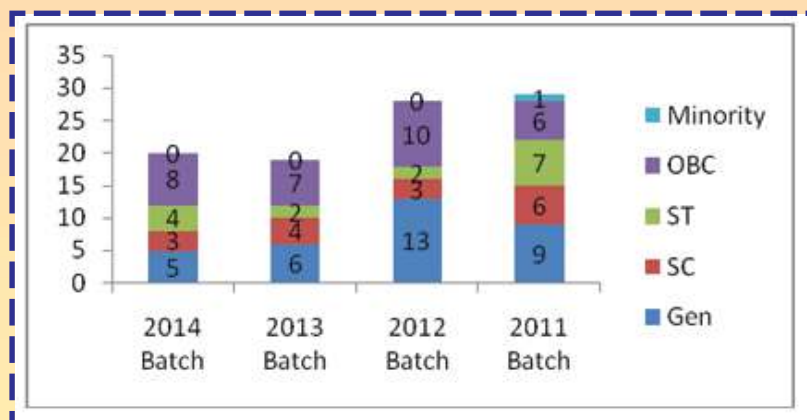
(B.Tech -Electrical & Electronics Engineering)

Year	Details of students enrolled													
	Total no. of students admitted		SC		ST		OBC		GEN		MINORITY		PH	
	Total	Girls	Total	Girls	Total	Girls	Total	Girls	Total	Girls	Total	Girls	Total	Girls
1 <sup>st</sup> year	20	1	3	0	4	1	8	0	5	0	0	0	1	0
2 <sup>nd</sup> year	19	4	4	1	2	1	7	1	6	1	0	0	0	0
3 <sup>rd</sup> year	28	4	3	0	2	0	10	3	13	1	0	0	0	0
4 <sup>th</sup> year	29	6	6	1	7	2	6	1	9	2	1	0	0	0
<b>Total</b>	<b>96</b>	<b>15</b>	<b>16</b>	<b>2</b>	<b>15</b>	<b>4</b>	<b>31</b>	<b>5</b>	<b>33</b>	<b>4</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>

(\* PH students are included in GEN/SC/ST/OBC category)



[No. of students registered (gender-wise) in Electrical & Electronics Eng.]



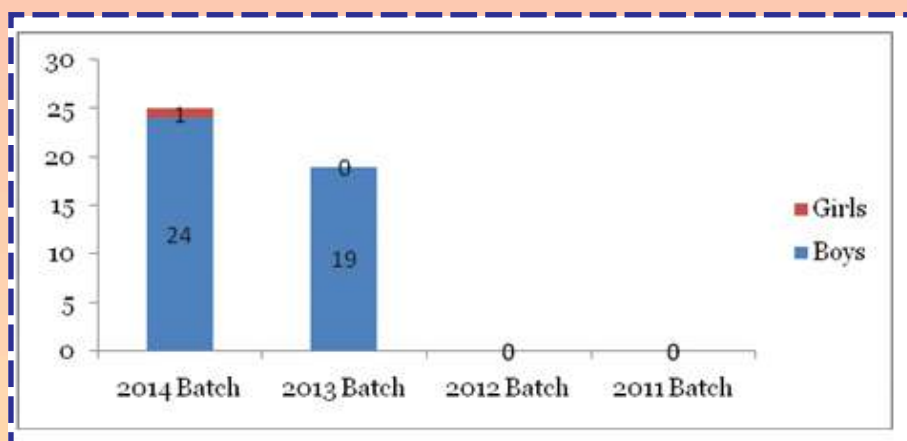
[No. of students registered (category-wise) in Electrical & Electronics Eng.]

Table 3.4

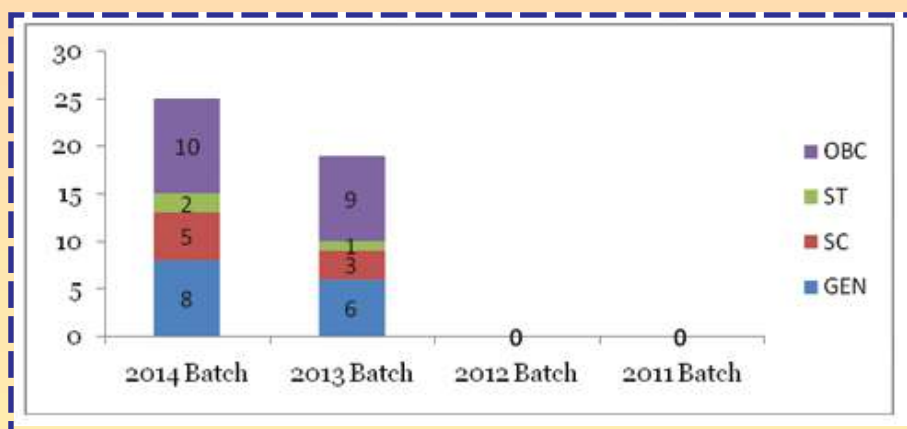
(B. Tech –Mechanical Engineering)

Year	Details of students enrolled													
	Total no. of students admitted		SC		ST		OBC		GEN		MINORITY		PH	
	Total	Girls	Total	Girls	Total	Girls	Total	Girls	Total	Girls	Total	Girls	Total	Girls
1 <sup>st</sup> year	25	1	5	0	2	0	10	1	8	0	0	0	0	0
2 <sup>nd</sup> year	19	0	3	0	1	0	9	0	6	0	0	0	0	0
<b>Total</b>	<b>44</b>	<b>1</b>	<b>8</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>19</b>	<b>1</b>	<b>14</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

(\* Minority & PH students are included in GEN/SC/ST/OBC category)



[No. of students registered (gender-wise) in Mechanical Engineering]



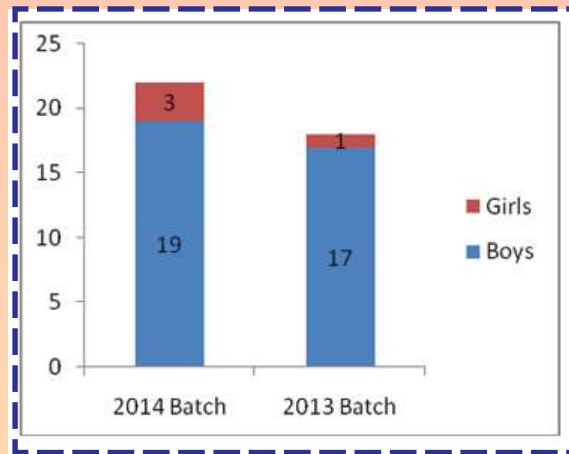
[No. of students registered (category-wise) in Mechanical Engineering]

Table 3.5

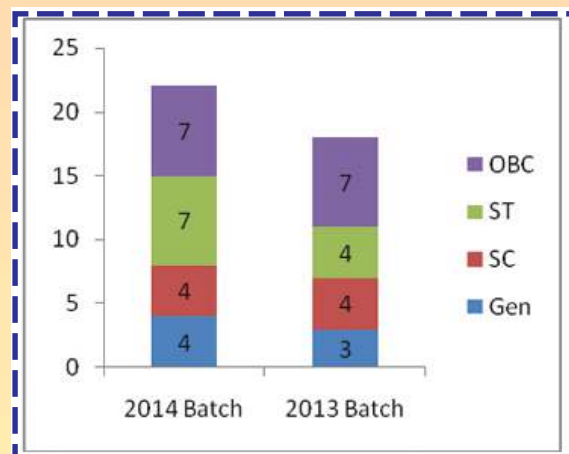
(B. Tech –Civil Engineering)

Year	Details of students enrolled													
	Total no. of students admitted		SC		ST		OBC		GEN		MINORITY		PH	
	Total	Girls	Total	Girls	Total	Girls	Total	Girls	Total	Girls	Total	Girls	Total	Girls
1 <sup>st</sup> year	22	3	4	0	7	2	7	0	4	1	0	0	1	0
2 <sup>nd</sup> year	18	1	4	0	4	1	7	0	3	0	0	0	0	0
<b>Total</b>	<b>40</b>	<b>4</b>	<b>8</b>	<b>0</b>	<b>11</b>	<b>3</b>	<b>14</b>	<b>0</b>	<b>7</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>

(\* Minority & PH students are included in GEN/SC/ST/OBC category)



[No. of students registered (gender-wise) in Civil Engineering]



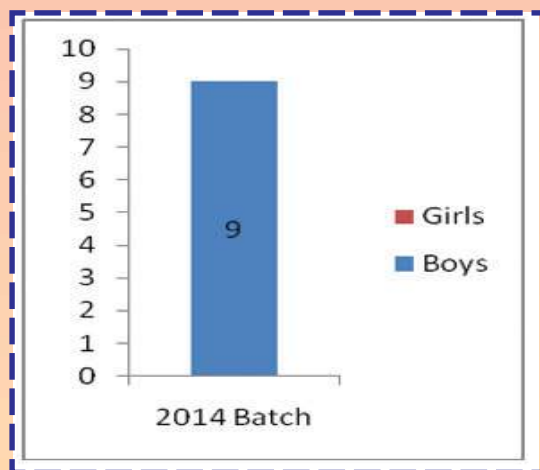
[No. of students registered (category-wise) in Civil Engineering]

Table 3.6

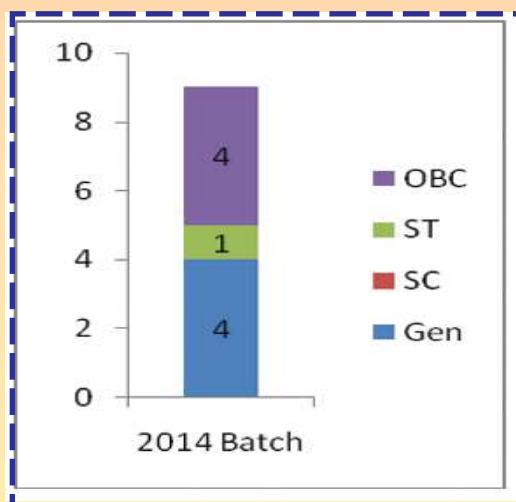
## (B. Tech –Bio-technology)

Year	Details of students enrolled													
	Total no. of students admitted		SC		ST		OBC		GEN		MINORITY		PH	
	Total	Girls	Total	Girls	Total	Girls	Total	Girls	Total	Girls	Total	Girls	Total	Girls
1 <sup>st</sup> year	9	0	0	0	1	0	4	0	4	0	2	0	0	0
2 <sup>nd</sup> year	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	9	0	0	0	1	0	4	0	4	0	2	0	0	0

(\* Minority & PH students are included in GEN/SC/ST/OBC category)



[No. of students registered (gender-wise) in Bio-technology]



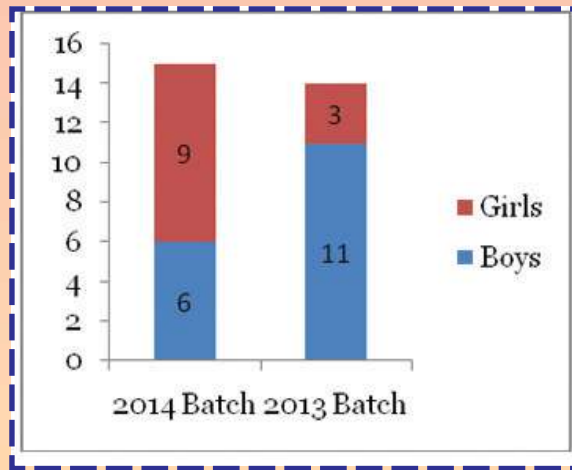
[No. of students registered (category-wise) in Bio-technology]

Table 3.7

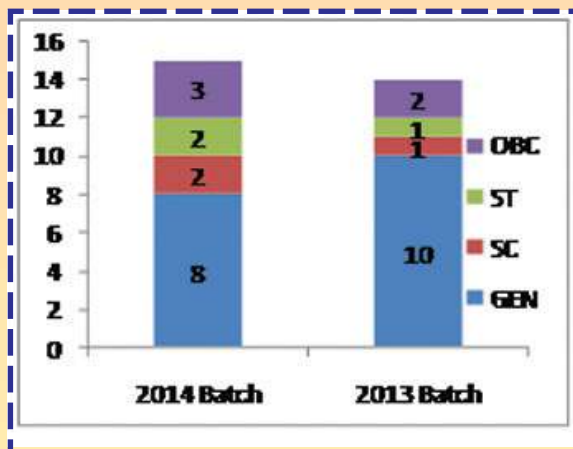
(M. Tech–Mobile Communication & Computing)

Year	Details of students enrolled													
	Total no. of students admitted		SC		ST		OBC		GEN		MINORITY		PH	
	Total	Girls	Total	Girls	Total	Girls	Total	Girls	Total	Girls	Total	Girls	Total	Girls
1 <sup>st</sup> year	15	9	2	1	2	2	3	1	8	5	1	0	1	0
2 <sup>nd</sup> year	14	3	1	0	1	0	2	1	10	2	1	0	0	0
<b>Total</b>	29	12	3	1	3	2	5	2	18	7	2	0	1	0

(\* Minority & PH students are included in GEN/SC/ST/OBC category)



[No. of students registered (gender-wise) in M. Tech-Mobile Communication & Computing]



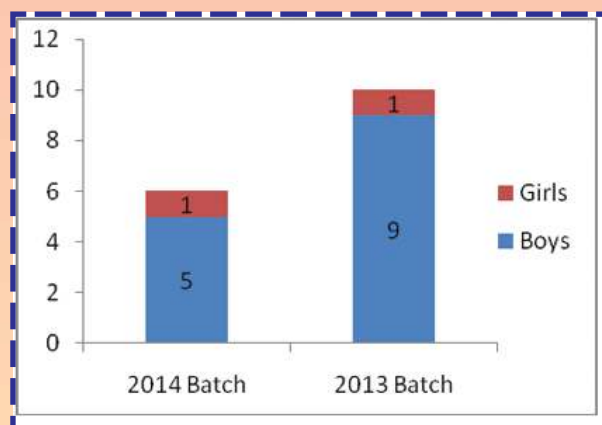
[No. of students registered (category-wise) in M. Tech-Mobile Communication & Computing]

Table 3.8

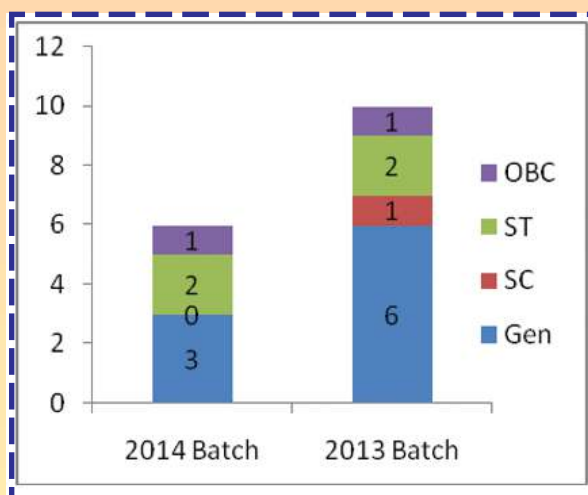
(M. Tech–Appropriate Technology & Entrepreneurship Practices)

Year	Details of students enrolled													
	Total no. of students admitted		SC		ST		OBC		GEN		MINORITY		PH	
	Total	Girls	Total	Girls	Total	Girls	Total	Girls	Total	Girls	Total	Girls	Total	Girls
1 <sup>st</sup> year	6	1	0	0	2	1	1	0	3	0	0	0	0	0
2 <sup>nd</sup> year	10	1	1	0	2	0	1	0	6	1	0	0	0	0
<b>Total</b>	16	2	1	0	4	1	2	0	9	1	0	0	0	0

(\* Minority & PH students are included in GEN/SC/ST/OBC category)



[No. of students registered (gender-wise) in M. Tech-Appropriate Technology & Entrepreneurship Practices]



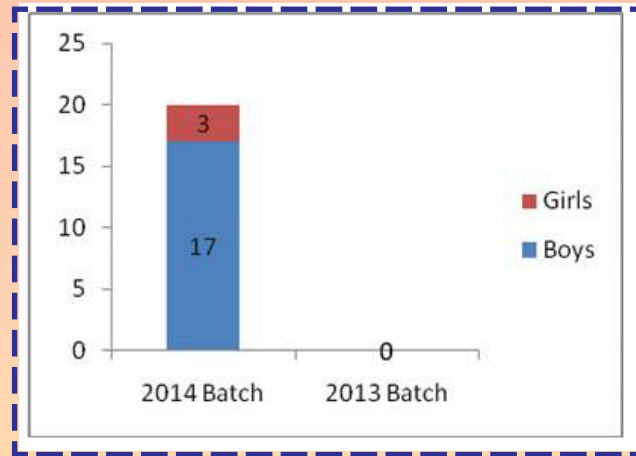
[No. of students registered (category-wise) in M. Tech-Appropriate Technology & Entrepreneurship Practices]

Table 3.9

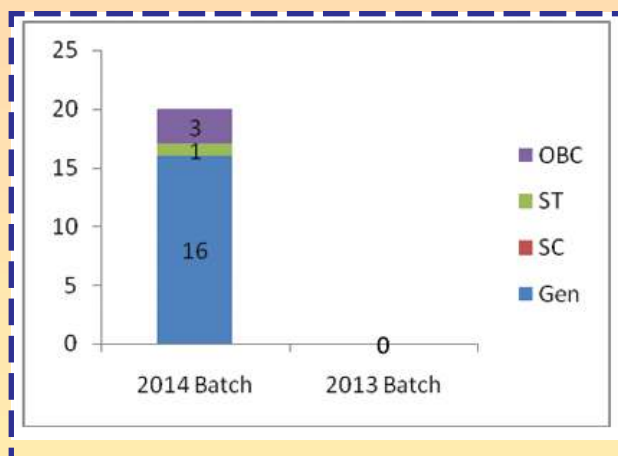
(M. Tech-Electronics Design & Manufacturing)

Year	Details of students enrolled													
	Total no. of students admitted		SC		ST		OBC		GEN		MINORITY		PH	
	Total	Girls	Total	Girls	Total	Girls	Total	Girls	Total	Girls	Total	Girls	Total	Girls
1 <sup>st</sup> year	20	3	0	0	1	0	3	0	16	3	0	0	0	0
2 <sup>nd</sup> year	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	20	3	0	0	1	0	3	0	16	3	0	0	0	0

(\* Minority & PH students are included in GEN/SC/ST/OBC category)



[No. of students registered (gender-wise) in M. Tech-Electronics Design & Manufacturing]

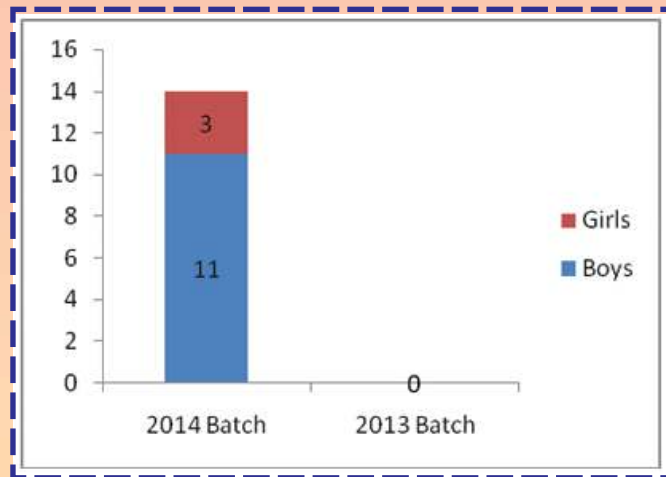


[No. of students registered (category-wise) in M. Tech-Electronics Device & Manufacturing]

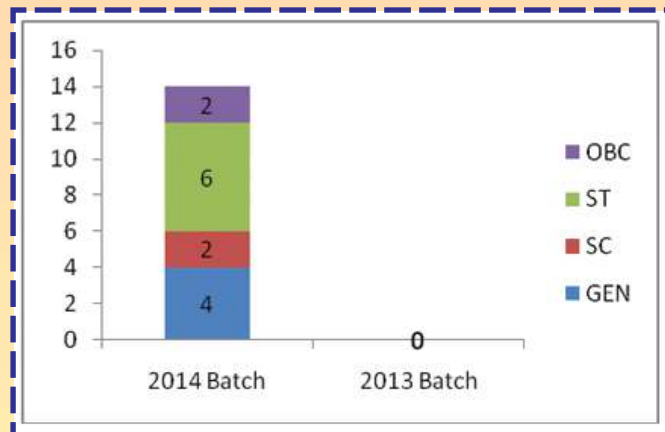
**Table 3.10**  
**[MBA (Online)]**

Year	No. of students enrolled													
	Total no. of students admitted		SC		ST		OBC		GEN		MINORITY		PH	
	Total	Girls	Total	Girls	Total	Girls	Total	Girls	Total	Girls	Total	Girls	Total	Girls
<b>1<sup>st</sup> year</b>	14	3	2	1	6	0	2	0	4	2	0	0	0	0
<b>2<sup>nd</sup> year</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	14	3	2	1	6	0	2	0	4	2	0	0	0	0

(\* Minority & PH students are included in GEN/SC/ST/OBC category)



[No. of students registered (gender-wise) in MBA (Online)]



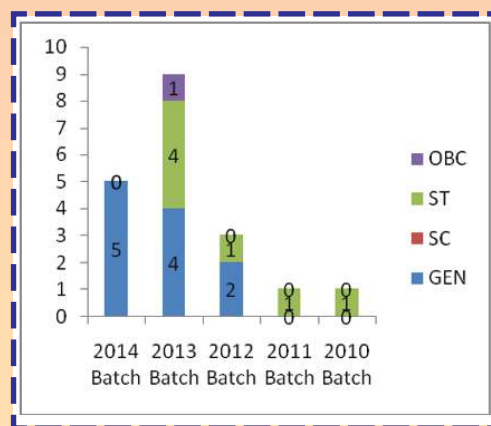
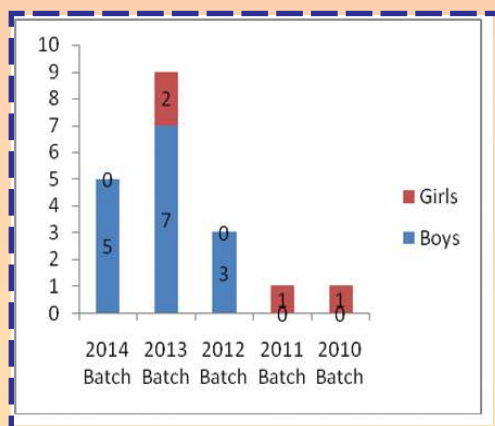
[No. of students registered (category-wise) in MBA (Online)]

Table 3.11

Faculty Members pursuing Higher Studies leading to Ph.D.

Year	Details of students enrolled											
	Total no. of students admitted		SC		ST		OBC		GEN		PH	
	Total	Girls	Total	Girls	Total	Girls	Total	Girls	Total	Girls	Total	Girls
2010-2011	1	1	0	0	1	1	0	0	0	0	0	0
2011-2012	1	1	0	0	1	1	0	0	0	0	0	0
2012-2013	3	0	0	0	1	0	0	0	2	0	0	0
2013-2014	9	2	0	0	4	2	1	0	4	0	0	0
2014-2015	5	0	0	0	0	0	0	0	5	0	0	0
<b>Total</b>	19	4	0	0	7	4	1	0	11	0	0	0

(\*PH students are included in GEN/SC/ST/OBC category)



[No. of faculty members registered (gender-wise) in Research Programme leading to Ph.D.]

[No. of faculty members registered (category-wise) in Research Programme leading to Ph.D.]

**List of Faculty Members pursuing Higher Studies leading to Ph. D.**

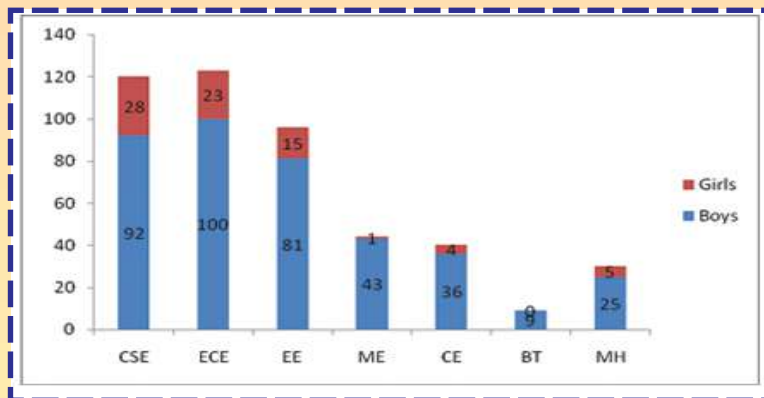
Sl No.	Name	Designation	Category	Dept.	Date of Joining the		Pursuing PhD at
					Institute	Ph.D.	
i	Mrs Nabam Rich	Asstt. Prof.	ST	CE	02/01/2015	July 2010	NERIST
ii	Ms. Jumrik Taipodia	Asst. Prof.	ST	CE	09/12/2013	July 2011	IIT, Guwahati
iii	Shri Swarnendu Kr. Chakraborty	Asst. Prof.	GEN	CSE	01/12/2011	July 2012	NIT-Arunachal Pradesh
iv	Shri Rajat Subhra Goswami	Asst. Prof.	GEN	CSE	01/12/2011	July 2012	-do-
v	Shri Rajen Pudur	Asst. Prof.	ST	EE	01/02/2012	July 2012	NERIST
vi	Shri Koj Sambyo	Asst. Prof.	ST	CSE	07/08/2012	July 2013	NIT-Arunachal Pradesh
vii	Miss Yaka Bulu	Asst. Prof.	ST	ECE	07/08/2012	July 2013	NIT-Arunachal Pradesh
viii	Shri Sahadev Roy	Asst. Prof.	GEN	ECE	13/08/2012	July 2013	NIT-Arunachal Pradesh
ix	Shri Anish Kumar Saha	Asst. Prof.	GEN	CSE	03/10/2012	July 2013	NIT-Arunachal Pradesh
x	Shri Subhasish Banerjee	Asst. Prof.	GEN	CSE	27/02/2013	Jan. 2014	NIT-Arunachal Pradesh
xi	Ms. Yang Saring	Asst. Prof.	ST	ECE	11/04/2013	Jan. 2014	NIT-Arunachal Pradesh
xii	Shri Ralli Sangno	Asst. Prof.	ST	EE	06/09/2013	Jan. 2014	NERIST
xiii	Shri Manash Pratim Dutta	Asst. Prof.	OBC	CSE	23/09/2013	Jan. 2014	NIT-Arunachal Pradesh
xiv	Shri Brajagopal Datta	Asst. Prof.	GEN	EE	10/12/2013	Jan. 2014	NERIST
xv	Shri Santanu Maity	Asst. Prof.	GEN	ECE	27/02/2013	July 2014	NIT-Arunachal Pradesh
xvi	Shri Alak Majumdar	Asst. Prof.	GEN	ECE	06/09/2013	July 2014	NIT-Arunachal Pradesh
xvii	Shri Abir Jyoti Mandal	Asst. Prof.	GEN	ECE	13/09/13	July 2014	NIT-Arunachal Pradesh
xviii	Shri Sandip Kumar Mandal	Asst. Prof.	GEN	ME	19/09/2013	July 2014	NERIST
xix	Shri Santanu Chatterjee	Asst. Prof.	GEN	EE	14/09/2013	July 2014	NERIST

Table 3.12

Total number of students on roll (gender-wise) from 2011 to 2014

Course		CSE		ECE		EE		ME		CE		BT		MH		Grand Total
		Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	B	G	
B.Tech	1st Year	17	5	20	3	19	1	24	1	19	3	9	0			121
	2nd year	14	3	14	3	15	4	19	0	17	1	0	0	0		90
	3rd year	19	2	24	4	24	4	0	0	0	0	0	0			77
	4th year	19	6	21	7	23	6	0	0	0	0	0	0			82
M.Tech In MCC	1st Year	6	9													15
	2nd year	11	3	0		0		0		0		0		0		14
M.Tech In ATEP	1st Year													5	1	6
	2nd Year	0		0		0		0		0		0		9	1	10
M.Tech In EDM	1st Year			17	3	0		0		0		0		0		20
	2nd Year	0		0	0	0		0		0		0		0		0
Online MBA	1st Year													11	3	14
	2nd Year	0		0		0		0		0		0		0	0	0
Ph.D.		6	0	4	3	0		0		0	0		0			13
Grand Total		92	28	100	23	81	15	43	1	36	4	9	0	25	5	462

[Total number of students (branch-wise) enrolled during the year under report]



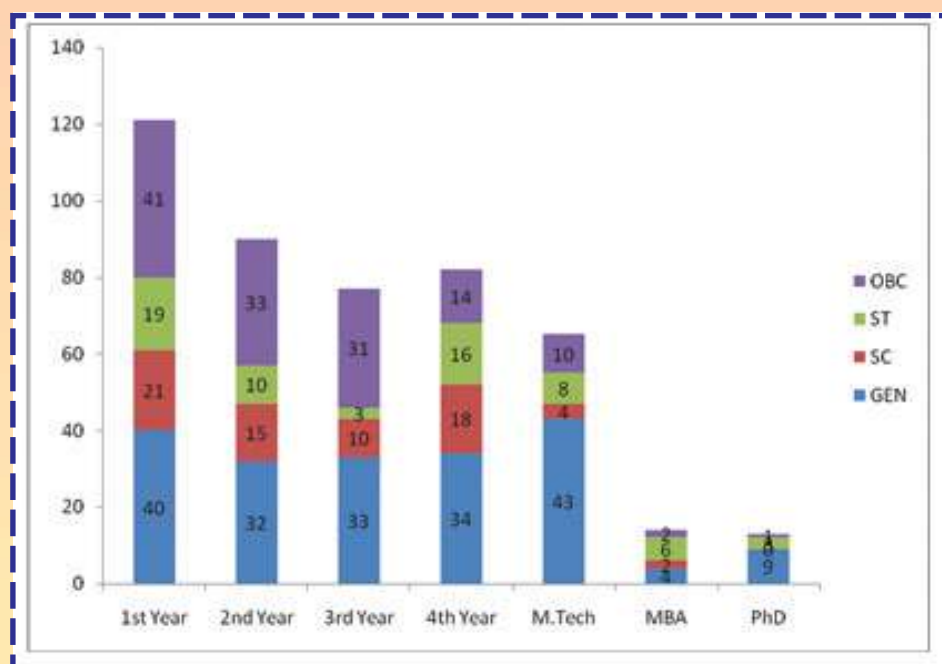
[Total No. of students registered (gender-wise) from 2011 to 2014]

Table 3.13

Total number of students on roll (category-wise) from 2011 to 2014

Year	Details of students enrolled													
	Total no. of students admitted		SC		ST		OBC		GEN		MINORITY		PH	
	Total	Girls	Total	Girls	Total	Girls	Total	Girls	Total	Girls	Total	Girls	Total	Girls
<b>1<sup>st</sup> year</b>	121	13	21	3	19	4	41	2	40	4	3	0	3	0
<b>2<sup>nd</sup> year</b>	90	11	15	2	10	2	33	2	32	5	0	0	0	0
<b>3<sup>rd</sup> year</b>	77	10	10	1	3	0	31	5	33	4	2	0	1	0
<b>4<sup>th</sup> year</b>	82	19	18	2	16	7	14	5	34	5	0	0	0	0
<b>M. Tech</b>	65	17	4	1	8	3	10	2	43	11	1	0	1	0
<b>MBA</b>	14	3	2	1	6	0	2	0	4	2	0	0	0	0
<b>Ph.D.</b>	13	3	0	0	3	2	1	0	9	1	0	0	0	0
<b>Total</b>	<b>462</b>	<b>76</b>	<b>70</b>	<b>10</b>	<b>65</b>	<b>18</b>	<b>132</b>	<b>16</b>	<b>195</b>	<b>32</b>	<b>6</b>	<b>0</b>	<b>5</b>	<b>0</b>

(\* Minority & PH students are included in GEN/SC/ST/OBC category)



[Total number of students on roll (category-wise) from 2011 to 2014]

\*\*\*\*

## 4. DEVELOPMENTAL ACTIVITIES

### 4.0. Introduction

The space available in the temporary campus of the Institute is quite limited and with the passage of time, more space is required to accommodate the students, faculty members and staff members as their number are increasing year by year. Need for more space has also arisen as the Institution started new UG and PG courses from 2014-15.

### 4.1. New construction

In order to meet, further requirements of space for laboratories, class rooms, library and offices, it became absolutely necessary to construct additional rooms in the temporary campus and, therefore, the construction works of new rooms were done during the last year i.e. 2013-14. During the period under report, the following construction works have been undertaken in the Yupia campus. At the same time, construction of RCC drain of wall at the guest house in boy's hostel at Nirjuli and construction of soak pit for Lekhi Boys Hostel have also been started.

- i) Construction of phase-II: (roofing, finishing & electrical works) of six class rooms on the first floor.
- ii) The partition of HoD chambers with Aluminium frame in the NIT Academic Blocks.
- iii) Completion of construction of Chemistry laboratory building (Block 1, 2, 3 and 4).
- iv) Completion of construction of Computer Science & Engineering laboratory building (Block 2 and 4).
- v) Construction of 10-seated Dining Hall.
- vi) Construction of separate tank & soak pit for administrative and academic block.
- vii) Jungle cutting and painting of the outside area of the Academic Block.
- viii) Construction of RCC stair-case for the 1st floor workshop and classroom building.
- ix) Additional construction work of modern class rooms, chain link fencing, steps, plastering etc..

#### 4.2. Laboratory development

The Institute has equipped the following Laboratories to conduct practice classes as per the academic schedule:

- Computer Centre or Computing Laboratory
- Electrical Machine Laboratory
- Control System Laboratory
- Electrical Measurement/Power System Laboratory
- Digital Electronics
- Organization and Architecture Laboratory
- Basic Electronics Laboratory
- Analog Communication Engineering Laboratory
- Basic Engineering Physics Laboratory
- English Communication Laboratory or Language Laboratory
- Software Engineering Laboratory
- Programming Laboratory
- Computer Networks Laboratory
- Simulation Laboratory
- Embedded System Laboratory
- Engineering Chemistry Laboratory
- Mechanical Workshop (Carpentry Shop, Fitting Shop, Machine Shop, Welding Shop)
- Strength of Material Laboratory.
- Fluid Mechanics Laboratory.
- Basic Mechanical Engineering Laboratory.
- Engineering Drawing Laboratory.
- Material testing Laboratory
- Surveying Laboratory

The following laboratories/ workshops have since been installed and those are functioning in a proper manner:



**Computer Network Centre and Computing Laboratory**



**Networking Laboratory**



**Basic Electronics Laboratory**



Software Engineering Laboratory



Programming Laboratory



Simulation Laboratory



Engineering Physics-I & II Laboratory





Engineering Chemistry Laboratory



Language Laboratory



Computer Laboratory for M. Tech and Ph.D. students



Electrical Machine Laboratory



**Mechanical Workshop**



**Drawing Laboratory**



**Fluid Mechanics Laboratory**



Strength Material Laboratory

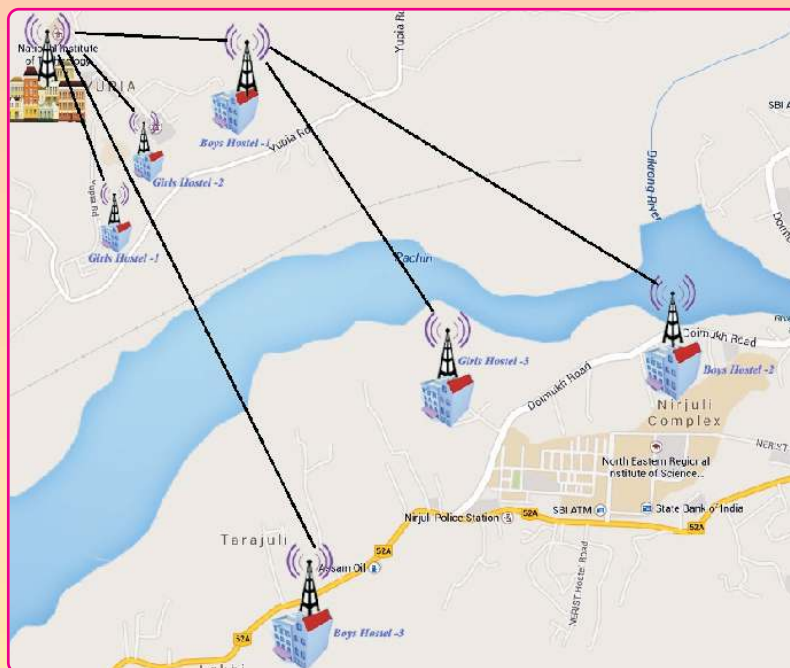


Electrical Measurement Laboratory

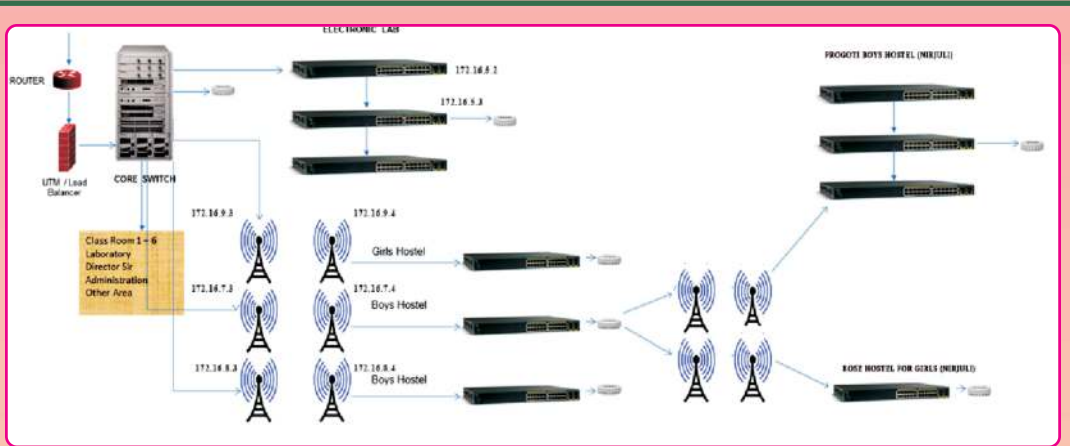
#### 4.2.1. Internet & Wi-Fi Infrastructure existing

The existing Network infrastructure of the Institute connects different hostels with main academic building via wireless radio link. All the boys' hostels and girls' hostels are connected with Radio link (Alvarion: capacity up to 70Mbps). Node to node connectivity done with Unshielded Twisted Pair Category 6 (UTP) cable through ISI mark casing capping. It Covers 200 points in four computer laboratories and few points in all other parts of the building. Active network devices installation and configuration using IBM Server - Type-3 Linux Server & 1 Windows Server, Operating System (3 Linux Enterprises -64 bit & 1 Windows 2003- 32 bit) with IBM storage, is operative. Wireless indoor & outdoor access points are installed in all floors of the academic building including two numbers of computer laboratories by Access Point D-link DWL-3200AP. At present the NKN connectivity is established by: BSNL 32Mbps through wireless mini link and PGCL 100Mbps through OFC.

NIT Arunachal Pradesh Campus wise Networking and Connectivity is as below:



Network Diagram of NIT, Arunachal Pradesh



Details of infrastructure are given below:

### Active Components

Firewall		
Sl. No.	Item Name	Quantity
1	UTM - Firewall with TPS - Cyberoam 1000ia	01

Server		
Sl. No.	Item Name	Quantity
1	IBM Server - Type-3 Linux Server & 1 Windows Server	01
2	Operating System (3 Linux Enterprises -64 bit & 1 Windows 2005- 32 bit)	01
3	IBM Storage	13 TB

Router & Switches		
Sl. No.	Item Name	Quantity
1	Core L3 Switch 3750G	01
2	L2 Switch - 2960G	13
3	Cisco Router 2911-K-9	01
4	L2 Managed Switch - 2960	03
5	IBM SAN SWITCH	02

Wireless		
Sl. No.	Item Name	Quantity
1	Point to Point Radio- Alvarion-B10	05
2	Access Point D-link DWL-3200AP	37

IBM Blade servers & IBM Storage



Firewall, Router Layered (L3&L2) Switches



### 4.3 Website of the Institute

The website of the Institute has been developed and is maintained by the Web Development Team as under:

	<p><b>Rajat Subhra Goswami</b>                      Assistant Prof. &amp; Web Master NITAP                      (M) : 09436271052                      Email: rajat.nitap@gmail.com</p>
	<p><b>Subhasish Banerjee</b>                      Assistant Prof. &amp; Web Master NITAP                      (M) : 09434985900                      Email: subhasish.cse@nitap.in</p>
	<p><b>Vishwajit Nandi</b>                      M.Tech(EDM) 1st Year , Batch 2014-2016                      (M): 9954745699                      Email: vishwajitnandi@live.in</p>
	<p><b>Ekansh Sharma</b>                      CSE 4th Year, Batch 2011-2015                      (M) : 0986306342                      Email: ekanshsharmacse11@gmail.com</p>

	<p><b>Sumit Kapoor</b> CSE 4th Year, Batch 2011-2015 (M) : 08415074638 Email: sumitkapoor11cse@gmail.com</p>
	<p><b>Piyush Pandey</b> ECE 4th Year, Batch 2011-2015 (M) : 09402273115 Email:piyushpandey2011ece@gmail.com</p>
	<p><b>Mohit Koushik</b> CSE 3rd Year , Batch 2012-2016 (M): 09868799857 Email: mohitcul95@gmail.com</p>
	<p><b>Ranjit Singh</b> CSE 3rd Year , Batch 2012-2016 (M): 9402190541 Email: ranjitsingh785@gmail.com</p>

#### 4.4. Various facilities

The facilities and services rendered by the Institute to the students, faculty and staff members make it stand among the top level institutes. The splendid amenities provided to the students make the stay in the Institute a wonderful experience. The presence of modern facilities furthers the overall development of all the aspects in the Institute and also assists students and faculty members to work in a co-operative way enhancing the overall academic growth.

The students are provided with a nice set of hostel room with all the basic facilities needed by them. A few of them constitute the 24x7 availability of water and electricity. The whole Institute and the hostels are supplied with a permanent Internet and LAN facility so as to increase the limits of every individual.

#### 4.5. Computer Course

The Computer Centre in the Institute provides the students a unique way to enhance themselves, be it on the Internet or different professional software. Computer Centre provides E-mail, Web, DNS, FTP, Internet access and other services to the



campus community round the clock. Computer Centre also provides various advanced and special purpose software for all the campus users against the background of the present tech-savvy global scenario. Following are the features of the Computer Centre present in the Institute:

- i. Total no. of Computers: 151
- ii. Printing facilities are provided for the students.
- iii. High Speed Internet connectivity.
- iv. Technical software available in the computer lab:
  - MATLAB 7.0
  - DEV C++
  - 8085 SIMULATOR
  - Antivirus Quick heal 2014

#### **4.6. Development of the permanent site of the Institute at Jote, Dist-Papum Pare**

##### **Work in Progress**

The necessary work of site development at the permanent campus of the Institute (at Jote, District: Papumpare, Arunachal Pradesh) is almost complete. The boundary pillars are constructed and the contracts for construction works have been awarded. The construction has started in a full-fledged manner and the progress of the same is satisfactory.



Initial stage at the time of Jungle Clearance

### Land Development

Since, the permanent site of the Institute is located in the heart of a mountainous hilly terrain of Arunachal Pradesh, there was a need of developing the land before taking up construction works and creation/erecting of any type of structures. Thus, the portion of land has since been developed for construction of Hostel buildings, Academic buildings, Administrative buildings and Director's Bungalow. Apart from the land development, the work relating to road-connectivity within the campus has also been undertaken.



Site after levelling of land

### Helipad

A temporary helipad has been constructed for emergency purposes, visits of Central & State VIPs and any other exigency works. The landing ground was prepared prior to the 'Foundation Stone' laying ceremony of the Institute at its permanent site at Jote.



Temporary helipad at Jote, District: Papumpare

### Temporary Office shed

A temporary Office shed has been constructed on the permanent site at Jote for supervising and monitoring of construction works being undertaken therein. It is very much needed as the scale of the on-going construction works has since become manifold.



Temporary Office shed for supervising construction works at Jote



Steel Bridge at the entry of the permanent campus



Shopping Complex



Retaining Wall-1



Retaining Wall-2



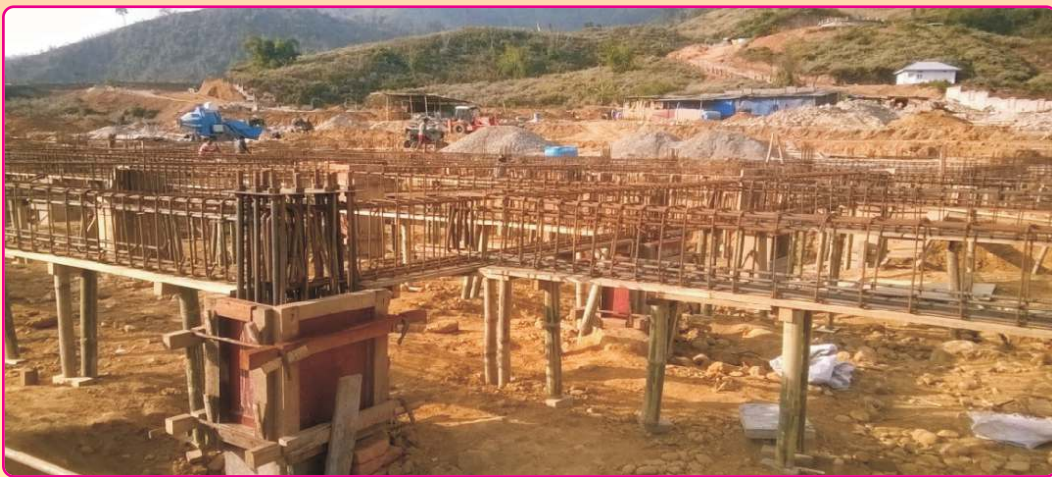
Campus Road and Drain



Campus Road



Director's Bungalow



Type-IV Quarters



Hostel Building-1



Hostel Building-2



Girls' Hostel



**Boundary Wall-1**



**Boundary Wall-2**



**Administrative Block**



**Academic Block: Mechanical Engineering Department.**



**Academic Block: Civil Engineering Department.**



**Academic Block**

### Drinking Water Supply

The survey of drinking water was done in conjunction with the PHE & WS Department, Government of Arunachal Pradesh. The level of head for pipe-line connection meets the requirements and the water available/found in the source is fresh and clean in nature. The surrounding area of the water source is free from pollution and it lies on the virgin lap of the 'Mother Nature.' The construction of WTP and work for connectivity of water supply being carried out by the PHE & WS Department, Government of Arunachal Pradesh are about to be completed.



Water Supply System

### Power Supply System

Arrangement for required power supply to the Institute is being carried out by the Power Department of the State Government and the outdoor sub-station has since been installed.



Power Supply System

## 5. ACADEMIC DEPARTMENTS

### 5.0 Introduction

National Institute of Technology-Arunachal Pradesh started with 4-years B. Tech degree programmes in Computer Science & Engineering, Electronics & Communication Engineering and Electrical & Electronics Engineering. The Institute added two more 4-years B. Tech degree programmes in 'Civil Engineering' and 'Mechanical Engineering' and two M. Tech Programmes in 'Mobile Communication & Computing' and 'Appropriate Technology & Entrepreneurship Practices' from the year 2013-14. Another B. Tech programme in Bio-Technology and M. Tech programme in Electronics Design & Manufacturing has been added in the academic session 2014-15. Two more programmes [Online MBA and MS Programme in Mathematics and Computing (Holiday Course)] have started from July 2014. Besides B. Tech and M. Tech Programmes, the institute has also started Research programme leading to Ph.D. in Computer Science & Engineering, Electronics & Communication Engineering, Physics, Chemistry, Mathematics and Management & Humanities. Three more MS programmes in: Mathematical Physics; Mathematics & Computing; Mathematical Research in Engineering & Technology; one M. Tech in Computer Science & Engineering along with one B. Tech programme in Chemical Engineering have been approved and are scheduled to start from July 2015.

### 5.1. Faculty Positions as on 31.03.2014

Professor		Associate Professor		Assistant Professor		Total		Grand Total
Male	Female	Male	Female	Male	Female	Male	Female	
0	0	3	0	24	4	27	4	31

### 5.2. Number of Faculty positions filled up in 2014-15

Professor		Associate Professor		Assistant Professor		Total		Grand Total
Male	Female	Male	Female	Male	Female	Male	Female	
0	0	0	0	7	3	7	3	10

### 5.3. Faculty status on 31.03.2015

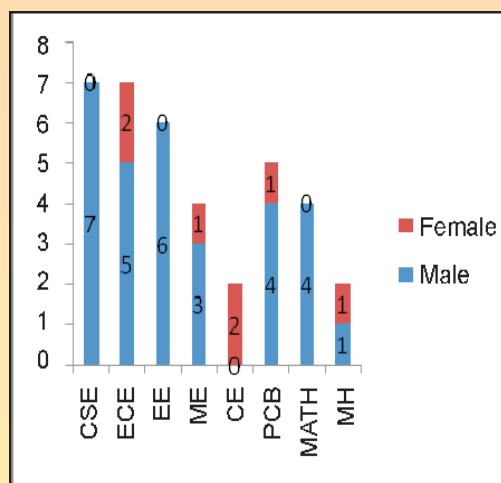
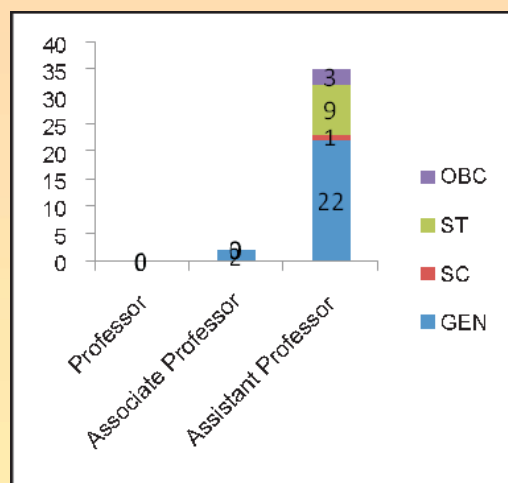
Sl. No.	No. of faculty as on 31.3.2014	No. of faculty recruited during 2014-15	No. of faculty resigned during 2014-15	No. of faculty as on 31.3.2015
(a)	(b)	(c)	(d)	(e)
	31	10	4	37
	Assoc. Prof (3)+ Asst. Prof (28)	Assoc. Prof (0)+ Asst. Prof (10)	Assoc. Prof (1)+ Asst. Prof (3)	Assoc. Prof (2)+ Asst. Prof (35)

### 5.4. Strength of the Faculty as on 31.03.2015 (category-wise)

Professor		Associate Professor		Assistant Professor		Total		Grand Total
Male	Female	Male	Female	Male	Female	Male	Female	
0	0	2	0	28	7	30	7	37

### Category-wise faculty position

	SC		ST		OBC		GEN		Minority		PH		Total
	M	F	M	F	M	F	M	F	M	F	M	F	
Professor	0	0	0	0		0	0	0	0	0	0	0	0
Associate Professor	0	0	0	0	0	0	2	0	0	0	0	0	3
Assistant Professor	1	0	3	6	3	0	21	0	0	0	0	0	35
<b>Total</b>	<b>1</b>	<b>0</b>	<b>3</b>	<b>6</b>	<b>3</b>	<b>0</b>	<b>23</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>37</b>



**5.5. Appointment of Faculty members during the year 2014-15**

Sl. No.	Name	Designation	Department	Date of Joining	Category
i	Dr. A. Vanav Kumar	Asst. Prof.	Mathematics	15.07.2014	OBC
ii	Mr. Subhajit Das	Asst. Prof.	ME	28.08.2014	SC
iii	Lt. Achyuth Sarkar	Asst. Prof.	CSE	02.09.2014	GEN
iv	Dr. Deepak Swami	Asst. Prof.	CE	03.09.2014	GEN
v	Mrs. Nabam Rich	Asst. Prof.	CE	02.01.2015	ST
vi	Dr. Sanjeev Ku. Metya	Asst. Prof.	ECE	05.01.2015	GEN
vii	Dr. Dipak Sen	Asst. Prof.	ME	31.01.2015	GEN
viii	Dr. Siba Prasad Panigrahi	Asst. Prof.	EE	23.02.2015	GEN
ix	Dr. Kimjolly Lhouvum	Asst. Prof.	PCB	09.03.2015	ST
x	Mrs. Manjula Das Ghatak	Asst. Prof.	ME	09.03.2015	GEN

**5.6. Faculty retirement and resignation during the year 2014-15**

Sl. No.	Name and Department	Department	Date	Event
i	Dr. Sujit Kumar Dutta	Associate Professor	30/09/2014	Resigned
ii	Dr. Deepak Swami	Assistant Professor	11/11/2014	Resigned
iii	Mr. Bapi Sarkar	Assistant Professor	under process	Resigned
iv	Mr. Abhishek Kumar	Assistant Professor	under process	Resigned

**5.7. Visits of Faculty members during the year 2014-15 abroad**

Sl. No.	Name	Designation	Department	Place and purpose of visit
i	Mr. Koj Sambyo	Assistant Professor	CSE	ITNG 2014 International Conference, Las Vegas, USA
ii	Dr. Karam Ratan Singh	Assistant Professor	Mathematics	ICM 2014, Seoul, South Korea.
iii	Mr. Abir Joyti Mandal	Assistant Professor	ECE	LATS-2015, Sheraton Baganvilias, Puerto Vallarta, Mexico.

**5.8. Foreign visit (Year-wise and Department-wise)****Year-wise Details**

Academic Session	No. of faculty members	Other reason	Total
2014	03	Academic Purpose	03
2013	05	Academic purpose	05
2012	02	Acedemic purpose	02
Total	10		10

**Department-wise Details**

Department	2012	2013	2014	Total
Computer Science & Engineering	01	03	01	05
Electrical & Electronics Engineering	01	02	00	03
Mathematics	00	00	01	01
Electronics & Communication Engineering	00	00	01	01
<b>Total</b>	<b>02</b>	<b>05</b>	<b>03</b>	<b>10</b>

**5.9. Percentage of time-sharing by the faculty in the Institute**

Average Percentage		
Teaching	Research and consultancy	Administrative assignment
50%	35%	15%

**5.10. Department of Computer Science & Engineering**

Computer Science & Engineering is a multi-disciplinary branch of engineering which integrates several fields. The Department of Computer Science & Engineering was established right from the inception of the Institute in 2010. The Department offers a four-year degree programme in Computer Science & Engineering with an annual intake of 30 students. The Department has also started Ph. D. programme from July- December, 2013 session. The Department of Computer Science & Engineering (CSE) embodies the Institute's tradition of excellence in engineering and technical education

**Faculty Members**

Sl. No.	Name of the faculty	Date of joining	Designation	Area of Specialization
i	Swarnendu Kumar Chakraborty	01.11.2011	Assistant Professor	Error Control & Network Security
ii	Rajat S. Goswami	01.11.2011	Assistant Professor	Multimedia & Network Security
iii	Koj Sambyo	07.08.2012	Assistant Professor	Cloud Computing

Sl. No.	Name of the faculty	Date of joining	Designation	Area of Specialization
iv	Anish Kumar Saha	03.10.2012	Assistant Professor	Computer Networking
v	Subhasish Banerjee	27.02.2013	Assistant Professor	Network Security
vi	Manash Pratim Dutta	23.09.2013	Assistant Professor	Computer Networking
vii	Lt. Achyuth Sarkar	02.09.2014	Assistant Professor	E-Governance and Cyber Security

### Students' strength

	Boys	Girls	Total
B. Tech 1st year	17	5	22
B. Tech 2nd year	14	3	17
B. Tech 3rd year	19	2	21
B. Tech 4th year	19	6	25
M. Tech in MCC (1st& 2nd year)	17	12	29
Ph. D.	6	0	6
<b>Total</b>	<b>92</b>	<b>28</b>	<b>120</b>

### Expert Faculty from reputed Institutions

Sl. No.	Name of the Experts
i	Prof. B P Sinha, Dept. of Computer Science & Engg., ISI - Kolkata.
ii	Mr. Saikat Ghosh, Project Manager, Capgemini, Pune.
iii	Prof. Ajit Pal, Dept. of Computer Science & Engg., IIT- Kharagpur.
iv	Prof. M S Gaur, Dept. of Computer Science & Engg., MNIT-Jaipur.
v	Prof. Ashok Nath, Dept. of Computer Science & Engg., St. Xaviers College, Kolkata.
vi	Prof. Paramartha Dutta, Department of Computer & System Sciences, Visva Bharati University, Santiniketan.
vii	Prof. Atal Chowdhury, Department of Computer Science & Engg., Jadavpur University, Kolkata.
viii	Sh. Sufal Das, Department of Information Technology, North Eastern Hill University, Shillong.

### Workshop/Seminars organized by Computer Science & Engineering Department in 2014-15 session

- Industrial Courses for the department of Computer Science & Engineering, 7 days, Sept 2014

### Seminars, Symposia and Workshops participated by the faculty members

- Anish Kumar Saha: "Integration of DVFS and Multi CPUs scaling in a multi processor," International IEEE conference on Electronic Design, Computer Networks and Automated Verification, NIT Meghalaya, Shillong, 29-30th January 2015.
- Anish Kumar Saha: 5 days workshop on "Advances in Semiconductors, Communication, Electronics and Nano Technology (ASCENT 2014)," NIT Arunachal Pradesh, Yupia, 26th May 2014 - 30th May 2014.
- Manash Pratim Dutta: 5 days workshop on "Advances in Semiconductors, Communication, Electronics and Nano Technology (ASCENT 2014)," NIT Arunachal Pradesh, Yupia, 26th May 2014 - 30th May 2014.
- Subhasish Banerjee: 5 days workshop on "Advances in Semiconductors, Communication, Electronics and Nano Technology (ASCENT 2014)," NIT Arunachal Pradesh, Yupia, 26th May 2014 - 30th May 2014.
- Subhasish Banerjee: "ASP.net, C#", NIIT, Dhanbad, June-July 2014.
- Koj Sambyo: "Application of Multi Level ATM in Reducing Latency in Clouds for Performance Improvement of Integrated Voice, Video and Data Services", 2014- 11th International Conference on Information Technology: New Generations, ITNG 2014, Las Vegas, Nevada, USA.

### Laboratory Development

The Department has equipped the following Laboratories to conduct practice classes as per academic schedule:

- Computer Centre or Computing Laboratory
- Software Engineering Laboratory
- Programming Laboratory
- Computer Networks Laboratory
- M. Tech Model Class Room

### List of Publications by Faculty Members in the last few years

- i. Y. Bulu, **S. K. Chakraborty**, and **C. T. Bhunia**: "New Protocol of Aggressive Packet Combining Scheme," International Journal of Computer Applications, USA, (0975-8887), Vol. **85**, No. 6, pp-17-20, January 2014.

- ii. S. Ningthoujam, **S. K Chakraborty**, and **C. T. Bhunia**: "New Techniques of Aggressive Packet Combining with multiple routes selection," International Journal of Advanced Electronics & Communication Systems, ISSUE 5 Vol. 3, PAPER ID 181-429-1-RV, Oct-Nov., 2014.
- iii. **R. S Goswami**, **S. K Chakraborty**, A. Bhunia, and **C. T. Bhunia**: "An Effective Code Breaking Scheme," Published to International Journal on Current Science & Technology, Vol. 2, No-1, Jan-Jun' 2014.
- iv. **S. K Chakraborty**, **R. S. Goswami**, A. Bhunia, and **C. T. Bhunia**: "Two New Schemes of Aggressive Packet Combining," Published to International Journal on Current Science & Technology, Vol. 2, No-1, Jan-Jun' 2014.
- v. **A. K. Saha**, H. Paul, and P. P. Deb: "Integration of Caching and Prefetching in Proxy Server," on International Journal of Engineering (IJERT), Vol. 3 - Issue 3 , 2014.
- vi. **A. K. Saha**, **K. Sambyo**, and **C. T. Bhunia**: "A Survey on Green Computing: Need for Future Generation of Energy Savings," International Journal on Current Science & Technology, Vol. 2, No.1 Jan-June-2014, Page no: 267, ISSN: 2320 5636.
- vii. K. C. Baruah, **S. Banerjee**, **M. P. Dutta**, and **C. T. Bhunia**: "An improved Biometric based Multi Server Authentication Scheme Using Smart Card," International Journal of Security and Its Applications, Vol. 09, No:01, 2015, PP:397-408.
- viii. **S. K. Chakraborty**, **R. S. Goswami**, A. Bhunia, and **C. T. Bhunia**: "Method of Non Majority Decision Making In Aggressive Packet Combining Scheme," IEEE, ITNG, IEEE Computer Society, CPS, Las Vegas, 2014.
- ix. **S. K. Chakraborty**, **R. S. Goswami**, A. Bhunia, and **C. T. Bhunia**: "New Protocol of Aggressive Packet Combining in Gilbert Two State Model," IEEE, CIEC, University of Calcutta, 2014.
- x. **A. K. Saha**, **K. Sambyo**, and **C. T. Bhunia**: "Integration of DVFS and Multi CPUs scaling in a multi processor," International IEEE conference on Electronic Design, Computer Networks and Automated Verification, 29-30th January 2015, NIT Meghalaya, Shillong.
- xi. V. K. Singh, **S. Banerjee**, **M. P. Dutta**, and **C. T. Bhunia**: "Generation of Automatic Variable Key to Make Secure Communication," International Conference on Recent cognizance in wireless communication & image processing-ICRCWIP-2014 (ICRCWIP2014), Springer.

- xii. **K. Sambyo** and **C. T. Bhunia**: "Application of Multi Level ATM in Reducing Latency in Clouds for Performance Improvement of Integrated Voice, Video and Data Services," 2014 11<sup>th</sup> International Conference on Information Technology: New Generations, ITNG 2014, Las Vegas, Nevada, USA.
- xiii. **S. K. Chakraborty**, **R. S. Goswami**, A. Bhunia, **C. T. Bhunia**: "Investigation of Two New Protocols of Aggressive Packet combining scheme in achieving better throughput," Published to Journal of the Institute of Engineers (India) B.
- xiv. **R. S. Goswami**, **S. K. Chakraborty**, A. Bhunia, and **C. T. Bhunia**: "Generation of Automatic Variable Key under Various Approaches in Cryptography System," Published to Journal of the Institute of Engineers (India) B, Springer, DOI: 10.1007/ s40031 -013-0066-8.

(\* ) Name of the Authors mentioned in **BOLD** are the faculty members of **CSE** department, NIT-Arunachal Pradesh.

### 5.11. Department of Electronics & Communication Engineering

The Department of Electronics & Communication Engineering was established right from the inception of the Institute in 2010. The Department offers a four year degree programme in Electronics & Communication Engineering with an annual intake capacity of 30 students. The mission of the Department of Electronics & Communication Engineering is to produce and disseminate theory, principles, practice and know-how of computing in the information age, for the critical analysis, design, evaluation, and improvement of computing systems in tune with the needs and demands of the changing times. The curriculum strives to keep the students posted at par with the latest trends of the world.

#### Faculty Members

Sl. No.	Name of the faculty	Date of joining	Designation	Area of Specialization
i	Sh. Sahadev Roy	13.08.2012	Assistant Professor	Mechatronics & Robotics
ii	Ms. Yaka Bulu	07.08.2013	Assistant Professor	VLSI
iii	Sh. Santanu Maity	27.02.2013	Assistant Professor	RF & Microwave
iv	Ms. Yang Saring	11.04.2013	Assistant Professor	Mobile Computing
v	Sh. Alak Majumder	06.09.2013	Assistant Professor	VLSI
vi	Sh. Abir Jyoti Mondal	10.09.2013	Assistant Professor	VLSI
vii	Dr. Sanjeev Kr. Metya	05.01.2015	Assistant Professor	Optical Com. System

**Students' strength**

	Boys	Girls	Total
B. Tech 1st year	20	3	23
B. Tech 2nd year	14	3	17
B. Tech 3rd year	24	4	28
B. Tech 4th year	21	7	28
M. Tech in EDM (1st year only)	17	3	20
Ph.D.	4	3	7
<b>Total</b>	<b>100</b>	<b>23</b>	<b>123</b>

**Expert Faculty from reputed Institutions**

Sl. No.	Name of the Experts
i	Former Prof. S. C. Dutta Roy, Department of Electrical Engineering, IIT-Delhi.
ii	Prof. P. K. Basu, Department of Radiophysics & Electronics, Calcutta University, Kolkata.
iii	Prof. S. L. Maskara, Department of Electronics & Communication Engg., IIT-Kharagpur.
iv	Prof. S. Subedar, Department of Electronics & Communication Engineering, North Eastern Regional Institute of Science and Technology, Nirjuli, Arunachal Pradesh.
v	Prof. Dr. Jagadesh Kumar, Department of Electrical Engineering, IIT-Delhi.
vi	Prof. Dr. Susanta Sen, Institute of Radio Physics & Electronics, University of Kolkata.
vii	Prof. Dr. Siddhartha Sen, HoD, Department of Electrical Engineering, IIT-Kharagpur.
viii	Prof. Dr. Anirban Bhattacharya, Institute of Radio Physics & Electronics, University of Kolkata.
ix	Prof. Dr. Bidyut Bhattacharyya, Department of Electrical Engineering, NIT - Agartala.
x	Prof. Dr. Sambhu Nath Pradhan, Department of Electrical Engineering, NIT - Agartala.
xi	Prof. Dr. Sanatan Chattopadhyay, Institute of Radio Physics & Electronics, University of Kolkata.
xii	Prof. Dr. P. P. Goswami, Institute of Radio Physics & Electronics, University of Kolkata.

**Laboratory Development:**

The Department has equipped the following Laboratories to conduct practice classes as per academic schedule:

1. Digital Electronics Laboratory
2. Basic Electronics Laboratory
3. Analog Communication Engineering Laboratory
4. Simulation Laboratory
5. Embedded Laboratory

**List of Publications by Faculty Members in the last few years**

- i. V. Hanumante, P. Bhattacharjee, S. Roy, P. Chakraborty and **S. Maity**: "Performance Analysis of Rectangular Patch Antenna for Different Substrate Heights," International Journal of Innovative Research in Electrical, Electronics, Instrumentation and Control Engineering pp 515-518, January 2014.
- ii. V. Hanumante, R. Debnath, D. Bhattacharjee, D. Tripathi and **S. Roy**: "English Text to Multilingual Speech Translator Using Android," International Journal of Inventive Engineering and Sciences. Vol. **2**, Issue-5, pp 4-9, April 2014.
- iii. D. Bhattacharjee, D. Tripathi, R. Debnath, V. Hanumante and **S. Roy**: "A Novel Approach for Character Recognition," in International Journal of Engineering Trends and Technology, Vol. **10**, Number 6, pp 271-275, April 2014.
- iv. V. Hanumante, P. Bhattacharjee, K. Mukherjee, and **S. Roy**: "Bandwidth Optimization of Rectangular Patch Antenna for Wireless LAN," in International Journal on Current Science & Technology, Vol. **2**, No.1, pp 251-252, Jan-June 2014.
- v. **S. Roy** and **C. T. Bhunia**: "Minimization Algorithm for Multiple Input to Two Input Variables," 2014 International Conference on Control, Instrumentation, Energy and Communication (CIEC), IEEE Conference, Kolkata pp 622-624, Jan 2014.
- vi. **S. Roy** and **C. T. Bhunia**: "Constraints Analysis for Minimization of Multiple Inputs Logic Programming," in International Conference on Signal and Speech Processing (ICSSP-14), pp. 61-64, Kollam, Aug 2014.

- vii. T. A. Sheikh, J. Borah and **S. Roy**: "Bandwidth Improvement in BPF using Microstrip Couple lines," in International Conference on Signal and Speech Processing (ICSSP-14), pp. 105-109, Kollam, August 2014.
- viii. **S. Maity** and **C. T. Bhunia**: "Experimental study of some effective surface parameters of crystalline silicon solar cell for getting better performance," Communicated 25/03/2014, Accepted 14th August 2014, International Journal Of Engineers(IJE) Vol. **28**, No. 1.
- ix. **S. Maity** and **C. T. Bhunia**: "Improvement of Some Effective Parameters of C-Si Solar Cell for Better Efficiency," ACTA TECHNICA NAPOCENSIS, Vol. **55**, Number 3, pp.4-9, 2014.
- x. **S. Maity**, S. Dey, **C. T. Bhunia** and H. Saha: "Improvement of front side Contact by Light Induced Plating of c-Si Solar Cell," JOURNAL OF NANO-AND ELECTRONIC PHYSICS, **6**(4), pp. 04005-1-7, 2014.
- xi. **S. K. Metya** and V. Janyani: "Improved Dispersion Tolerance of Miller Coding by Integrating Duobinary Coding", Optical and Quantum Electronics, Springer, US, Vol. **47**, no. 2, pp 125-130, Feb. 2015.

(\*) Name of the Authors mentioned in **BOLD** are the faculty members of **ECE** department, NIT-Arunachal Pradesh.

### 5.12. Department of Electrical & Electronics Engineering

Electrical & Electronics Engineering is a field of engineering that generally deals with the study and application of electricity, electronics and electromagnetism. The field first became an identifiable occupation in the late nineteenth century after commercialization of the electric telegraph and electrical power supply. It now covers a range of sub-topics including power, electronics, control systems, signal processing and telecommunications. The department of Electrical & Electronics Engineering was established right from the inception of the Institute in 2010. The department offers a four year degree program in Electrical & Electronics Engineering with an annual intake capacity of 30 students.

The course objective is to prepare the students to be successful in integrating all the fields of engineering and science, and to be able to pursue advanced studies in Electrical & Electronics Engineering on a competitive global basis. The mission is a culmination of the efforts of the department to meet the mission of NIT-Arunachal Pradesh, North-Eastern region and the nation at large.

**Faculty Members**

Sl. No.	Name of the faculty	Date of joining	Designation	Area of Specialization
i	Prof. P. D. Kashyap	01.11.2011	Associate Prof.	Measurement and Instrumentation
ii	Rajen Pudur	01.02.2012	Assistant Prof.	Power Systems, Renewable Source of Energy, Distributed Generation (DG)
iii	Ralli Sangno	06.09.2013	Assistant Prof.	Power System Engineering and Power System Control
iv	Shantanu Chatterjee	14.09.2013	Assistant Prof.	Applied Electronics & Instrumentation and Power Electronics
v	Brajagopal Datta	10.12.2013	Assistant Prof.	High Voltage Engineering, HUDC System
vi	Dr. Siba Prasad Panigrahi	23.02.2015	Assistant Prof.	Signal Processing and Energy Management

**Students' strength**

	Boys	Girls	Total
B. Tech 1st year	19	1	20
B. Tech 2nd year	15	4	19
B. Tech 3rd year	24	4	28
B. Tech 4th year	23	6	29
<b>Total</b>	<b>81</b>	<b>15</b>	<b>96</b>

**Expert Faculty from reputed Institutions**

Sl. No.	Name of the Experts
i	Prof. P. Sarkar, Department of Electrical Engineering, NITTR-Kolkata
ii	Prof. S.C. Dutta Roy, Former Professor, IIT Delhi
iii	Prof. D.P Kothari, Former Professor, IIT Delhi

**Workshop/Seminars organized by Computer Science & Engineering Department in 2014-15 session**

- One day workshop on " Hydro Power Clean Power" (HPCP) 17th, Sept 2014

### Seminars, Symposia and Workshops participated by the faculty members

- **R. Pudur:** "Grid Integration of Renewable Energy Sources (GIREs)" at IIT Delhi, on 18th to 19th April 2015.
- **R. Pudur:** One week course in "Industrial and Commercial Power System Analysis (ICPSA)" Recommended Practices. On 1st July 2013 to 5th July 2013, at MNNIT Allahabad.
- **B. Datta and S. Chatterjee:** "Industry Academia Workshop on Process Control and Instrumentation, IOCL Digboi, Refinery, organized by Petrofed India Ltd. 19th and 20th Feb'2015.

### Laboratory Development

The Department has equipped the following Laboratories to conduct practice classes as per academic schedule:

1. Electrical Machine Laboratory
2. Electrical Measurement/Power System Laboratory
3. Control System Laboratory
4. Simulation Laboratory
5. Power System Laboratory

### List of Publications by Faculty Members in the last few Years

- i. **R. Pudur** and S. Gao: "Performance analysis of Savonius rotor on different aspect ratio for hydropower generation," ICPDEN 10<sup>th</sup> – 11<sup>th</sup> Jan-2015, IEEE, NERIST
- ii. **R. Pudur** and S. Gao "Savonius rotor based hydropower generation," International Symposium on AMETI 2014 (p 104 – 111), 6<sup>th</sup> -8<sup>th</sup> Dec-2014, ISBN 978-93-83842-96-4, NERIST.
- iii. **R. Puduret. Al:** "Wireless Power Transmission: A Survey," IEEE ICRAIE-2014, Jaipur.
- iv. B. Sah and **R. Pudur:** "Study of Unsymmetrical Faults in Power System Using Morlet Wavelet Technique," IEEE SCC-2014, Bhopal.
- v. S. Gao and **R. Pudur:** "Harnessing hydroelectric power using savonius rotor coupled with asynchronous generator connected to grid," IEEE APPEEC-2013, Hong Kong.

- vi. Dr. A.K Singh and **R. Pudur**: “Modelling of single phase UPFC without DC capacitor,” IJEST, vol-3. No. 5 May 2011, ISSN: 0975-5462, (P-3732-3738).
- vii. **B. Datta**, and S. Chattarjee: “Simulation of Bewley’s Lattice Diagram using MATLAB”, IEEE CATCON-2013, Jadavpur University.
- viii. K. Gogoi, N. Debnath, D. Mishra, **B. Datta** and S. Chattarjee: “Load flow studies on transmission line of 220 kv and 400 kv of NER Grid India using PSSE,” NPSC-2014, IIT, Guwahati. (Communicated).
- ix. **S. Chatterjee**: “A Novel Hybrid Multilevel Inverter for Photovoltaic Application Using Dual Reference Modulation Scheme,” NPEC-2013, IIT-Kanpur.
- x. **S. Chatterjee**: “Modelling & Simulation of VSC base SSSC,” NPSC-2014, IIT Guwahati. (Communicated).
- xi. **S. Chattarjee** and Ankit Garg: “Chaotic PWM Spread Spectrum Scheme for Conducted Noise Mitigation in DC-Dc Convertors,” NPSC-2014, IIT Guwahati
- xii. S. Panda, P. K Mahapatra and **S. P. Panigrahi**: “A New Training Scheme for Neural Networks and application in Non-linear Channel Equalization,” Elsevier Applied Soft Computing, Vol. 27, pp. 47-52, 2015.

(\*) Name of the Authors mentioned in **BOLD** are the faculty members of **EE** department, NIT-Arunachal Pradesh

### 5.13. Department of Civil Engineering

Civil engineering is a professional engineering discipline that deals with the design, construction, and maintenance of the physical and naturally built environment, including works like roads, bridges, canals, dams, and buildings. Civil engineering is one of the oldest engineering disciplines. It is traditionally broken into several sub-disciplines including environmental engineering, geo-technical engineering, geo-physics, structural engineering, transportation engineering, earth science, municipal or urban engineering, water resources engineering, materials engineering, offshore engineering, quantity surveying, coastal engineering, surveying and construction engineering. Civil Engineering pervades through all the levels in the public sector— from municipal administration through to

national government, and in the private sector from individual homeowners through to international companies. The department of Civil Engineering at the National Institute of Technology-Arunachal Pradesh, was started in 2013 with an annual intake capacity of 30 students.

The objective is to prepare the students to be capable of taking up any Civil Engineering challenges and to be able to pursue advanced studies and research in Civil Engineering on a competitive global basis. The mission of the department is culmination of its efforts to meet the efforts of NIT-Arunachal Pradesh, North Eastern region and the nation at large.

### Faculty Members

Sl. No.	Name of the faculty	Date of joining	Designation	Area of Specialization
i	Ms. Jumrik Taipodia	09.12.2013	Assistant Professor	Geo-technical Engineering
ii	Mrs. Nabam Rich	02.01.2015	Assistant Professor	Environmental Engineering

### Students' strength

	Boys	Girls	Total
B. Tech 1st year	19	3	22
B. Tech 2nd year	17	1	18
<b>Total</b>	<b>36</b>	<b>4</b>	<b>40</b>

### I-COURSE

- i. Water supply and Sanitation Engineering
- ii. Structural Analysis-I

### Expert Faculty from reputed Institutions

Sl. No.	Name of the Experts
i	Mr. P. Valmiki, Department of Civil Engineering, NERIST
ii	Mr. Tomi Ete, Former Chief Engineer, PHED, Arunachal Pradesh
iii	Dr. S. Mishra, Dept. of Civil Engineering, NERIST
iv	Mr. S. K. Sahoo, Dept. of Civil Engineering, NERIST
v	Prof S. N. Ghosh, Dept. of Civil Engineering, JU (Kolkata)

### Laboratory Development

The Department has equipped the following Laboratories to conduct practice classes as per academic schedule:

1. Material Testing Laboratory
2. Surveying Laboratory
3. Geo-technical Laboratory
4. Structure Laboratory
5. Geology Laboratory
6. Fluid Mechanics Laboratory
7. Strength of Materials Laboratory

### List of Publications by Faculty Members in the last few Years

1. **Taipodia et al:** "Subsurface characterization using MASW' Preliminary Experimentation and analysis," by International Journal of Innovative research in science, Engineering and technology, Vol. 3, special issue 4, pp.129-138.
2. **Taipodia et al:** "Geophysical Investigations for identifications of subsurface Stratigraphy," Proceedings of Indian Geo-technical Conference IGC-2014, Dec 18-20, Kakinada, India.

(\* Name of the Authors mentioned in **BOLD** are the faculty members of **CE** department of NIT-Arunachal Pradesh

### 5.14. Department of Mechanical Engineering

Mechanical Engineering is one of the major divisions within the profession and its principles are involved in the design, development and construction of nearly all of the physical devices and systems which technology has produced. Mechanical engineers are also concerned with the operations of all kinds of machinery and the production of power. They must conceive research, design, develop, test, manufacture and sell-equipment for these purposes. It is one of the oldest and broadest engineering disciplines.

The department of Mechanical Engineering at National Institute of Technology-Arunachal Pradesh was established in August, 2013. The department offers a four year degree programme in Mechanical Engineering with an annual intake capacity of thirty (30) students. Within a very short period, this department has already developed some new

laboratories with modern facilities; however some are under the process of development. A continuous effort has been put in place towards setting up of new laboratories and improvement of facilities in the existing ones.

The objective is to provide students with a sound knowledge of mechanical engineering education, while enhancing their understanding and skill of application of principles of mechanical engineering for techno-economical development of the country, and improving the quality of life of our citizens through teaching, research, and outreach programmes. The mission is further to provide an environment where students have extensive avenues to excel, improve technical exposure and develop personality and then get placed in reputed organizations with good future so as to ensure their global presence, in various roles and responsibilities, and also to meet the mission of NIT-Arunachal Pradesh, North-Eastern region and the nation at large.

### Faculty Members

Sl. No.	Name of the faculty	Date of joining	Designation	Area of Specialization
i	Sri Sandip Kumar Mandal	19.09.2013	Assistant Professor	Manufacturing
ii	Sri Shubhajit Das	28-08-2014	Assistant Professor	Design & Manufacturing
iii	Dr. Deepak Sen	31-01-2015	Assistant Professor	Thermal Engineering
iv	Mrs.Manjula Das Ghatak	09-03-2015	Assistant Professor	Thermo-fluid

### Students' strength

	Boys	Girls	Total
B. Tech 1st year	24	1	25
B. Tech 2nd year	19	0	19
<b>Total</b>	<b>43</b>	<b>1</b>	<b>44</b>

### Expert Faculty from reputed Institutions

Sl. No.	Name of the Experts
i	Dr. S. Samanta, Associate Professor, Dept. of Mechanical Engineering, NERIST.
ii	Dr. Biplab Das, Assistant Professor, Dept. of Mechanical Engineering, NERIST.
iii	Dr. U. K. Saha, Professor, Department of Mechanical Engineering, IIT Guwahati.

### Laboratory Development

The Department has equipped the following Laboratories to conduct practice classes as per academic schedule:

1. Mechanical Workshop (Carpentry Shop, Fitting Shop, Machine Shop, Welding Shop)
2. Strength of Material Laboratory.
3. Fluid Mechanics Laboratory.
4. Engineering Drawing Laboratory.
5. Basic Mechanical Engineering Laboratory

**List of Publication by Faculty Members in the last year:** Nil

### 5.15. Department of Physics, Chemistry and Bio-technology

The department of Physics, Chemistry and Bio-technology has been established right at the inception of the Institute in 2010. At present, the department comprises of Physics, Chemistry and Bio-technology. Under this department, the Institute would introduce a four year B. Tech. Programme in Chemical Engineering. The Department has a rich heritage of qualified teaching and research works in the field of aforesaid subjects. Faculty members of this department have submitted different projects in DST, ICMR etc. and out of them, one DST and two Institute's projects have been sanctioned. The faculty members of the department have been actively involved in departmental activities and participating in administrative works as well including developmental activities of the Institute for its future growth; with the objectives of imparting theoretical and practical knowledge to the students in the area of Physics, Chemistry and Bio-technology and providing teaching and learning to make the students acquainted with advanced science and technology. Bio-technology is an emerging technology with various potential scopes particularly in the field of medicine, food technology and agriculture. For a region, rich in biological resources, courses in Bio-technology is a mandate and would provide advantage particularly in research activities.

The objective is to inject the future scope and the research direction encompassing all the disciplines while making students competent towards research and development in advanced science and technology. Upon completion of the subjects, the learning outcomes will train the students who will become Physicists, Chemists, Scientists and Engineers.

Students will be skilled both theoretically and practically to do operation, control and maintenance of works in all the disciplines. Students will also be substantially prepared to take up prospective research assignments.

### Laboratories

#### (i) Chemistry Laboratory



#### (ii) Engineering Physics Laboratory



Three different laboratories for Bio-technology have been proposed:

- (i) Bio-chemistry-1 Laboratory
- (ii) Microbiology-1 Laboratory
- (iii) Genetics Laboratory

### Curriculum

Apart from carrying out rigorous research the department aids the technical and management sciences by teaching, carrying out collaborative research and conducting various conferences.

Besides Departmental subjects of Biotechnology, the other subjects handled by PCB department are:

- (a) \*Engineering Physics I & II
- (b) \*Engineering Chemistry
- (c) \*Environmental Science
- (d) \*Biochemistry I & II
- (e) Nano-Technology (only for 7th semester ECE branch students)

The subjects with star (\*) marked are common for all branches of B. Tech first year students.

I-Course

Unit Operations of Chemical Engineering

Bio-process Engineering

Process Instrumentation and Control

Food Processing Technology

### Faculty Members

Sl. No.	Name of the faculty	Date of joining	Designation	Area of Specialization
i	Dr. Pinaki Chakraborty	01.12.2011	Asst. Professor	Microelectronics
ii	Dr. Naba Kumar Pramanik	29.12.2011	Asst. Professor	Inorganic Chemistry
iii	Dr. Ananta Kumar Atta	03.09.2013	Asst. Professor	Organic Chemistry (Carbohydrates)
iv	Dr. Pratap Kumar Swain	18.10.2013	Asst. Professor	Theoretical Particle Physics (String Theory)
v	Dr. Kim jolly Lhouvum	09.03.2015	Asst. Professor	Molecular Biology

**Students' strength**

	Boys	Girls	Total
B. Tech 1st year	9	0	9
B. Tech 2nd year	0	0	0
<b>Total</b>	<b>9</b>	<b>0</b>	<b>0</b>

**List of Publications by Faculty Members in the last few years**

- i. **N. Pramanik** and S. Chakraborty: "A facile route for the preparation of phosphonic acid grafted nanosized hydroxyapatite biomaterial", *Research Journal of Chemical Science*, Vol. 3 (2013) pp.1-4.
- ii. A. Bhunia, A. Bhunia, S. K. Chakraborty, P. Chakraborty, R. S. Goswami, **N. Pramanik**, M. K. De, P. K. Samanta and C. T. Bhunia: "Review and suggestions for revamping technical higher education in India to meet the challenges of future", *International Journal on Current Science and Technology*, Vol. 1 (2013) pp.21-29.
- iii. S. Chakraborty and **N. Pramanik**: "Characterization of ruthenium based metal complex nanoparticles decorated on carbon supported surface", *Research Journal of Chemical Science*, vol. 3, (2013) pp.31-34.
- iv. **N. Pramanik** and **A. K. Atta**: "Phosphonic acid based hydroxyapatite and its biocompatibility", *International Journal on Current Science & Technology*, vol.2, (2014) pp.273-276.
- v. **A. K. Atta**, Seul-bee Kim, J. Heo, Cho, D. G.: "Hg(II)-Mediated Intramolecular Cyclization Reaction in Aqueous Media and Its Application as Hg(II) Selective Indicator," *Org. Lett.*, Vol. 15, (2013) pp.1072-1075.
- vi. **P. K. Swain**, K. L. Panigrahi and S. Maity: "Supersymmetric D-brane solution in Godel Universe," Feb, 2015, submitted to *International Journal on Current Science & Technology*.
- vii. K. L. Panigrahi, P. M. Pradhan and **P. K. Swain**: "Three Spin Spiky Strings in  $\beta$ -deformed Background," *JHEP* **1206**, 057 (2012).
- viii. K. L. Panigrahi, P. M. Pradhan and **P. K. Swain**: "Rotating Strings in  $AdS_4 \times CP^3$  with  $B_{NS}$  Holonomy," *JHEP* **1201**, 113 (2012).

- ix. **N. Pramanik** and A. Mahapatra: "Intellectual properties rights in Chemistry and Chemical Engineering," 66<sup>th</sup> Annual Session of Indian Institute of Chemical Engineers, Hosted at Institute of Chemical Technology, Mumbai, (Chemcon 2013), Joint Indo-North American Symposium, 27-30 December 2013.
- x. **N. Pramanik, A. K. Atta** and A. Mahapatra: "Synthesis of poly vinyl alcohol modified nanosized calcium-hydroxyapatite," 67<sup>th</sup> Annual Session of Indian Institute of Chemical Engineers, Chemcon 2014, Punjab University, Chandigarh, Joint Indo-Japanese Symposium, 27-30 December 2014.

(\* Name of the Authors mentioned in **BOLD** are the faculty members of **PCB** department of NIT-Arunachal Pradesh.

### Projects

#### (A) Sanctioned Projects

1. Start-Up Research Grant (Young Scientist, DST), on the topic "*Design and Synthesis of Carbohydrate Based Sensors for Efficient Determination of Heavy Metal Ions*" [Reg. No. CS-295/2014]; **P.I.:** Dr. A. K. Atta
2. Start-Up Research Grant from NIT-Arunachal Pradesh, on the topic: *Inorganic-Organic Hybrid Composite Materials: Synthesis, Surface Modification, Characterization and Biomedical Studies*. **P.I.:** Dr. Nabakumar Pramanik; **Co-PI:** Dr. A. K. Atta
3. Start-Up Research grant from NIT, Arunachal Pradesh, on the topic, "CNT to enhance the performance of gas sensor. **P.I.:** Dr. Pinaki Chakraborty; **Co-PI:** Dr. Santanu Maity.

#### (B) Submitted Projects

- (i) Submitted one MNRE (Ministry of New and Renewable Energy) project proposal on the topic "*A Comparative Study of a few Non Edible Oil Plants in Arunachal Pradesh for Potential Source of Biofuels*" on 23<sup>rd</sup> Sep. 2014.

**P.I.:** Dr. Nabakumar Pramanik; **Co-PI:** Dr. A. K. Atta

- (ii) Submitted one an ICMR (Indian Council of Medical Research) project proposal on the topic "*Doxorubicin loaded hydroxyapatite nanoparticles: A new strategy for osteosarcoma*" on 11<sup>th</sup> Nov. 2014.

**P.I.:** Dr. Nabakumar Pramanik; **Co-PI:** Dr. A. K. Atta

(iii) Submitted one project proposal to DST on the topic, "Development of thin nano liquid film over the surface of a rotating disk."

(iv) **P. I.:** Dr. Susanta Maity; **Co- P.I.:** Dr. Pratap Kumar Swain

### 5.16. Department of Mathematics

The department of Mathematics was established first as the department of Basic Science and Humanities in the year 2010. The department of Mathematics of this Institute has come into existence from summer of 2014 and aims at being a centre of excellence in Mathematics and Computing and is been vigorously engaged in both research and teaching. The vision of the department is not only to transform young people to competent and motivated professionals but also to contribute to the development of the nation, through research, consultancy and training activities. The department has at present four energetic and dedicated faculty members.

Having started the Ph.D. programme in 2013, the department has proposed to commence 2-year M. S. programme in Mathematics and Computing; M. S. programme in Engineering Mathematics Research and M. S. programme in Mathematical Physics from 2015. The department also supports the engineering departments by offering core and advance courses in mathematics at the undergraduate B. Tech. level in various semesters.

#### Curriculum

Apart from carrying out rigorous research, the department aids the technical and management sciences by teaching, carrying out collaborative research and conducting various conferences.

The subjects handled by the department of Mathematics are

- i. Engineering Mathematics – I, II & III
- ii. Stochastic Processes
- iii. Probability and Statistics
- iv. Numerical Methods
- v. Operations Research
- vi. Advanced Engineering Mathematics
- vii. Discrete Mathematics

### Innovative Practices

- i. Practical Hands on lab
- ii. Seminars
- iii. Industrial oriented courses
- iv. Real time problem solving training

### Research Assistants/Summer Internships and Student Projects

- i. Students are encouraged to take up industrial problems and solutions are attempted through Mathematics they study in the course.
- ii. Bright aspiring students are recommended to undergo internship in renowned institutes in India and Abroad.

### Faculty Members

The department has well-versed faculties in all the fields of Mathematics. The department has the distinction of having hundred percent doctorates. The faculties keep with changing pace of the application and industrial world and accordingly impart knowledge to the students.

Sl. No.	Name of the faculty	Date of joining	Designation	Area of Specialization
i	Dr. A. Vanav Kumar	15.07.2014	Assistant Prof.	Computational Fluid Dynamics
ii	Dr. Utpal Kumar Saha	27.01.2012	Assistant Prof.	Special Function
iii	Dr. K. Ratan Singh	31.01.2012	Assistant Prof.	Graph Theory
iv	Dr. Susanta Maity	16.09.2013	Assistant Prof.	Fluid Mechanics

### List of Publications by Faculty Members in the last few years

- i. **S. Maity**: "Thermocapillary flow of thin liquid film over a porous stretching sheet in presence of suction/injection," *Int. J. of Heat and Mass Transfer*, 2014, **70**, 819-826.
- ii. D. S. Sankar, A. K. Nagar and **A. V. Kumar**: "Mathematical Analysis of Single and Two Phase Flow of Blood in Narrow Arteries with Multiple Constrictions," *J. App. Fluid Mech.*, **9**(1), January 2016 (Available Online).

(\*Name of the Authors mentioned in **BOLD** are the faculty members of **Mathematics** department, NIT-Arunachal Pradesh

### 5.17. Department of Management and Humanities

The department of Management and Humanities was established first as the department of Basic Science and Humanities in the year 2010. The department was reorganized with the introduction of new courses, and separating basic sciences such as Mathematics and Life Sciences from Humanities. The department was renamed as Management and Humanities thereafter. There are a total of two faculty members serving in the department.

The department provides courses that are aimed at producing students who are competent not only in the field of science, technology and engineering; but also possessing good communication skills, strong leadership qualities, analytical thinking ability, managerial skills and most importantly, are value laden. It provides a sociological, humanistic and an ethical dimension to education at the Institution.

The Humanities wing provides interdisciplinary courses such as Communications Skills, Historiography of Science and Technology, Engineering Ethics and IPR, Behavioural Science, Development Communication etc. at undergraduate and postgraduate level. Besides these, the wing also offers Foreign Language courses such as French, German and Chinese at foundation level. The Management wing offers various courses to develop managerial skills in the students, such as Industrial Management, Disaster Management, Sustainable Development, Entrepreneurship etc.

It has also started the Online MBA programme providing an opportunity for students and working professionals to pursue their degree in Management. The online MBA program is a two year (Four semesters) programme with industry-internship resulting in a structured project at the end of each year. Students are required to complete few core subjects, inclusive of elective subjects.

The department of Management and Humanities has in its possession a state of art Language Laboratory set up to provide a scientific way of learning spoken English, foreign languages and communication skills. Also, the laboratory is well equipped to cater to the needs of the students to develop and improve their soft skills.

### Faculty Members

Sl. No.	Name of the faculty	Date of joining	Designation	Area of Specialization
i	Dr.Mihir Kumar Shome	27.12.2013	Associate Prof.	Human Resource Management
ii	Ms.NarangRija	28.03.2012	Assistant Prof.	Folk lore

### Students' strength

	Boys	Girls	Total
M.Tech in ATEP(1st year & 2nd year)	16	2	18
Online MBA	11	3	14
<b>Total</b>	<b>27</b>	<b>5</b>	<b>32</b>

### Expert Faculty from reputed Institutions

Sl. No.	Name of the Experts
i	Prof. Jibon Chakraborty, Adjunct Professor, Department of Basic sciences & Humanities, Kolkata
ii	Prof. Gulab Jha, Department of Foreign Languages, Guwahati University
iii	Dr. S. K. Dutta, Professor, National Institute of Rural Development, Guwahati
iv	Pranab Sharma, EDP , IIE, Guwahati
v	Subhabrata Barman, HIT, West Bengal
vi	Sonjib Mitra, AOT, West Bengal University, Kolkata
vii	Udahab Bharali, Entrepreneur, North Lakhimpur, Assam

### Laboratory Development

The Department is equipped with the following Laboratories to conduct practice classes as per academic schedule:

1. Language Laboratory
2. Computer Laboratory for M. Tech students (ATEP)





### List of Publications by Faculty Members in the last few years

- i. Mukherjee, D and **Shome, M. K.**: "A Study on Feasibility of Potential E-Learning initiatives in Secondary and Higher Secondary Schools in Greater Noida" by Excel publication, 2013.

- ii. **Shome, M. K.** and Luthra, R.: "A study of current Research Status in Indian Universities," In Rajive Kumar and Narendra Kumar (Eds.) Higher Education in India, Atlantic Publisher, New Delhi, 2013.
- iii. **Shome, M. K.** and Luthra, R.: "Status of women empowerment in India," In Jayanta Mete and Ajit Mondal (Eds.), Emerging issues on Women Empowerment. Kunal Publisher, New Delhi, 2013.
- iv. **Shome, M. K.** and Mukherjee, D. (Accepted 2014): A study of present scenario in Indian universities, Fall 2014 issue of AUJMR.
- v. **Shome, M. K.** and Luthra, D.: "Perception of Work Environment in a Private Engineering College," A Study of Gender Differences, Race, Gender & Class journal, Volume 21, issues 1-2, 2014.
- vi. **Shome, M. K.** (Accepted) "Corporate Social Responsibility in India- Issues and challenges" to be published by Cambridge University Press.

(\* )Name of the Authors mentioned in **BOLD** are the faculty members of **Management and Humanities** department of NIT-Arunachal Pradesh.

The Institute is honoured to have Distinguished Professors (Visiting) and their details are as under:

	<p><b>Prof. B. P. Sinha</b> Professor Advanced Computing and Microelectronics Unit, Indian Statistical Institute, Kolkata, India</p>
	<p><b>Prof. S. L. Maskara</b> Former Professor Electronics and Electrical Communication Engineering, Indian Institute of Technology-Kharagpur, India</p>
	<p><b>Prof. S. C. Dutta Roy</b> Former Professor Department of Electrical Engineering, Indian Institute of Technology-Delhi, India</p>
	<p><b>Prof. D. P. Kothari</b> Former Dy Director Indian Institute of Technology-Delhi, India</p>



### Prof. Bibek Bandyopadhyay

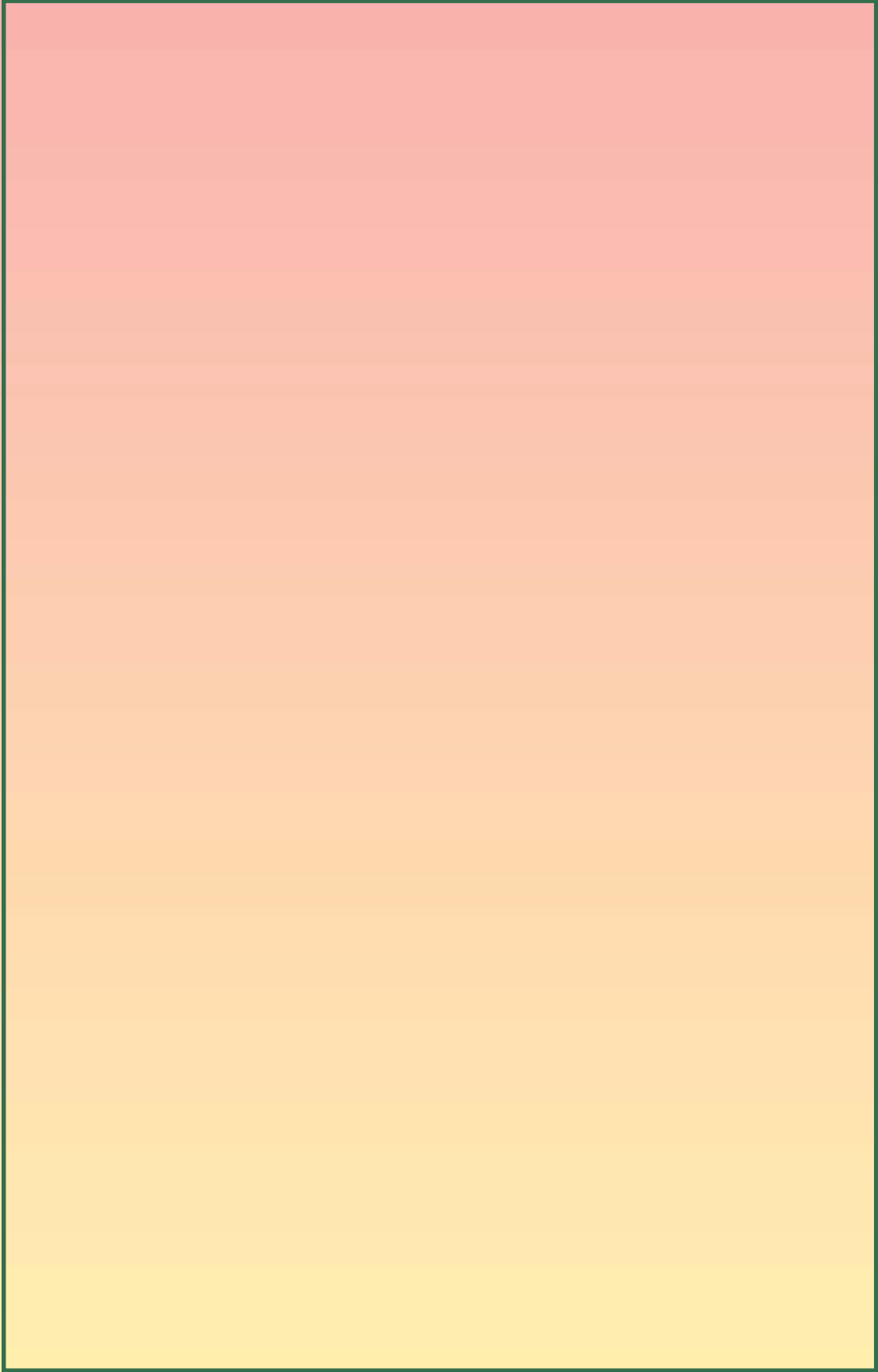
Former Director, Solar Energy Centre  
Ministry of New and Renewable Energy, Government of India  
Electronics and Electrical Communication Engineering  
Indian Institute of Technology - Kharagpur, India

#### 5.18. Academic growth plan of the Institute is as follows:

Level	Department	Specialization	Expected Year of Starting	Expected Intake
B.Tech	Chemical Engineering	Chemical Engineering	2015-16	30
	Food Technology	Food Technology	2016-17	30
	Spacecraft Engineering	Spacecraft Engineering	2016-17	30
M.Tech &M.Arch	Mechanical Engineering	Mechanical Engineering	2016-17	20
	Electrical Engineering	Electrical Engineering	2016-17	20
	Bio-technology	Bio-Technology	2016-17	20
	Civil Engineering	Civil Engineering	2016-17	20
	Computer Science & Engineering	Information Security	2015-16	20
M.S	Mathematics & Physics	Mathematical Physics	2015-16	20
	Mathematics and Computer Science & Engineering	Mathematics & Computing	2015-16	20
	Mathematics	Mathematical Research in Engineering & Technology	2015-16	20
M.B.A.	Mathematics, Management and Humanities	HR, Finance, IT (System)	2017-18	30

**5.19 Present Faculty Position (Department-wise)—as on 31.03.2014**

Department	No. of Faculty			Faculty with Ph.D degree		
	No. of Male Faculty	No. of Female Faculty	Total	No. of Faculty with Ph.D	No. of Faculty received Ph.D from abroad	No. of faculty currently pursuing Ph.D
Computer Science & Engineering	07	00	07	00	00	06
Electronics & Communication Engineering	05	02	07	01	00	06
Electrical & Electronics Engineering	06	00	06	01	00	04
Civil Engineering	00	02	02	00	00	02
Mechanical Engineering	03	01	04	01	00	02
Chemistry	02	00	02	02	00	00
Physics	02	00	02	02	00	00
Mathematics	04	00	04	04	00	00
Bio-technology	00	01	01	01	00	00
Management and Humanities	01	01	02	01	00	00



## 6. RESEARCH ACTIVITIES

### 6.0. Introduction

National Institute of Technology-Arunachal Pradesh was inaugurated on 18th August 2010 as a member of a group of ten new NITs. These new NITs were established as centres of excellence in technical education to combat the growing needs of technological professionals at the National and International level as well. The Institute has been through many trials since its establishment in 2010; but ultimately it has triumphed over all the challenges and is thriving today with more than 450 students on roll and many distinguished members of faculty as well as a good many numbers of competent administrative personnel.

### 6.1. Research Programmes

#### Doctoral Programme

During the academic year 2014-15, five faculty members and one JRF have registered for the Ph.D. programme in NIT Arunachal Pradesh (and in other nearby Institutes). The complete list of such faculty members is given here under:

Sl. No.	Name	Designation	Category	Dept.	Date of Joining the Institute		Pursuing Ph.D. at
i	Mr. Santanu Chatterjee	Asst. Prof.	GEN	EE	14.09.2013	July. 2014	NERIST
ii	Mr. Santanu Maity	Asst. Prof.	GEN	ECE	27.02.2013	July. 2014	NIT-Arunachal Pradesh
iii	Mr. Sandip Kumar Mandal	Asst. Prof.	GEN	ME	19.09.2013	July. 2014	NERIST
iv	Mrs. Moumita Das	JRF	GEN	ECE	01.01.2014	July. 2014	NIT-Arunachal Pradesh
v	Mr. Abir Jyoti Mondal	Asstt. Prof.	GEN	ECE	10.09.2013	July. 2014	NIT-Arunachal Pradesh
vi	Mr. Alak Majumdar	Asst. Prof.	GEN	ECE	06.09.2013	July. 2014	NIT-Arunachal Pradesh

### Research Projects

A. The projects sanctioned/ongoing during the year under report are as follows:

Title of the Project	Name of the Principal Investigator	Name of the Co-Principal Investigator	Submitted to
Design and synthesis of Carbohydrate-based Sensors for Efficient Determination of Heavy Metal Ions	Dr. A. K. Atta	-	Science and Engineering Research Board (Sanctioned)
Composite Materials: synthesis, Surface Modification, Characterization and Biomedical Studies.	Dr. N. K. Pramanik	Dr. A. K. Atta	NIT-Arunachal Pradesh (Sanctioned)
CNT to enhance the performance of gas sensor	Dr. P. Chakraborty	S. Maity	NIT-Arunachal Pradesh (Sanctioned)
Studies of unsteady thin nano liquid film development on a stretching surface	Dr. S. Maity	-	NIT-Arunachal Pradesh (Sanctioned)
Intelligent voice stick for blind and partially sighted people	Prof. (Dr.) C. T. Bhunia	Dr. P. Chakraborty	NIT-Arunachal Pradesh (ongoing)
Design and implication of electrical motor cycles, using BLDC motor	R. Pudur	S. Chatterjee (NERIST)	NIT-Arunachal Pradesh (Sanctioned)
Inorganic-Organic Hybrid Characterisation and Bio-Medical Studies	Dr. N. K. Pramanik	Dr. A. K. Atta	NIT-Arunachal Pradesh

B. The projects Submitted during the year under report are as follows:

Amino sugars, amino acids, heavy metal sensors and other valuable compounds from highly reactive sugar derived unsaturated lactones	Dr. A. K. Atta	Dr. N. K. Pramanik	Department of Science and Technology, Govt. of India.
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Title of the Project	Name of the Principal Investigator	Name fo the Co-Principal Investigator	Submitted to
Development of thin nano liquid film over the surface of a rotating disk	Dr. S. Maity	Dr. P. K. Swain	Department of Science and Technolgy, Govt. of India.
A Comparative Study of a few Non Edible Oil Plants in Arunachal Pradesh for Potential Source of Biofuels	Dr. N. K. Pramanik	Dr. A. K. Atta	MNRE (Ministry of New and Renewable Energy), Gov. of India.
Doxorubicin loaded hydroxyapatite nanoparticles: A new strategy for osteosarcoma	Dr. N. K. Pramanik	Dr. A. K. Atta	ICMR (Indian Council of Medical Research), Gov. of India.

## 6.2 List of Publications by our faculty members during 2014-15:

### 6.2.1: International Journals

- i. Y. Bulo, S. K. Chakraborty and C. T. Bhunia: "New Protocol of Aggressive Packet Combining Scheme," International Journal of Computer Applications, USA, (0975-8887), Volume 85-No. 6, pp. 17-20, January 2014.
- ii. S. Ningthoujam, S. K. Chakraborty and C. T. Bhunia: "New Techniques of Aggressive Packet Combining with multiple routes selection," International Journal of Advanced Electronics & Communication Systems, ISSN NO: 2277-7318, Approved by CSIR-NISCAIR, ISSUE 5 VOL 3, Oct-Nov 2014.
- iii. R. S. Goswami, S. K. Chakraborty, A. Bhunia and C. T. Bhunia: "An Effective Code Breaking Scheme," International Journal on Current Science & Technology, Vol. 2, No-1, 2014.
- iv. S. K. Chakraborty, R. S. Goswami, A. Bhunia and C. T. Bhunia: "Two New Schemes of Aggressive Packet Combining," International Journal on Current Science & Technology, Vol-2, No-1, Jan-June, 2014.
- v. A. K. Saha, H. Paul, and P. P. Deb: "Integration of Caching and Prefetching in Proxy Server," International Journal of Engineering (IJERT), Vol. 3 - Issue 3 (March - 2014).

- vi. K. Saha, K. Sambyo and C. T. Bhunia: "A Survey on Green Computing: Need for Future Generation of Energy Savings," International Journal on Current Science & Technology, Vol-2, No.1, pp. 267, Jan-June-2014.
- vii. K. C. Baruah, S. Banerjee, M. P. Dutta, and C. T. Bhunia: "An improved Biometric based Multi Server Authentication Scheme Using Smart Card," International Journal of Security and Its Applications, Vol. 09, No.01, pp.397-408, 2015.
- viii. A. Mondal, S. Maity, et al.: "Fabrication and packaging of MEMS based platform for hydrogen sensor using ZnO-SnO<sub>2</sub> composites," MicrosystTechnol, Vol. 21, Issue No.146 (2015).
- ix. S. Maity and C. T. Bhunia: "Experimental study of some effective surface parameters of crystalline silicon solar cell for getting better performance," International Journal Of Engineers (IJE) Vol. 28, No. 1, (2015).
- x. S. Maity and C. T. Bhunia: "Improvement of Some Effective Parameters of C-Si Solar Cell for Better Efficiency," ACTA TECHNICA NAPOCENSIS, Vol. 55, Number 3, pp.4, 2014.
- xi. S. Maity, S. Dey, C. T. Bhunia and H. Saha: "Improvement of front side Contact by Light Induced Plating of c-Si Solar Cell," JOURNAL OF NANO- AND ELECTRONIC PHYSICS, 2014, 6(4), pp. 04005-1-7.
- xii. V. Hanumante, P. Bhattacharjee, S. Roy, P. Chakraborty and S. Maity: "Performance Analysis of Rectangular Patch Antenna for Different Substrate Heights," International Journal of Innovative Research in Electrical, Electronics, Instrumentation and Control Engineering pp 515-518, January 2014.
- xiii. V. Hanumante, R. Debnath, D. Bhattacharjee, D. Tripathi and S. Roy: "English Text to Multilingual Speech Translator Using Android," International Journal of Inventive Engineering and Sciences. Vol. 2, Issue-5, pp 4-9, April 2014.
- xiv. Bhattacharjee, D. Tripathi, R. Debnath, V. Hanumante and S. Roy: "A Novel Approach for Character Recognition," in International Journal of Engineering Trends and Technology, Vol. 10, Number 6, pp 271-275, April, 2014.
- xv. V. Hanumante, P. Bhattacharjee, K. Mukherjee and S. Roy: "Bandwidth Optimization of Rectangular Patch Antenna for Wireless LAN," in International Journal on Current Science & Technology, Vol.2, No.1, pp 251-252 , Jan-June 2014.

- xvi. S. K. Metya and V. Janyani: "Improved Dispersion Tolerance of Miller Coding by Integrating Duobinary Coding", *Optical and Quantum Electronics*, Springer, US, Vol. 47, no. 2, pp 125-130, Feb. 2015.
- xvii. N. Pramanik and A. K. Atta: "Phosphonic acid based hydroxyapatite and its biocompatibility", *International Journal on Current Science & Technology*, Vol. 2, (2014) pp.273-276.
- xviii. S Maity: "Thermocapillary flow of thin liquid film over a porous stretching sheet in presence of suction/injection," *Int. J. of Heat and Mass Transfer*, 70, 819-826, 2014.
- xix. S. Sankar, A. K. Nagar and A. V. Kumar: "Mathematical Analysis of Single and Two Phase Flow of Blood in Narrow Arteries with Multiple Constrictions," *J. App. Fluid Mech.*,9(1), January 2016 (Available Online).
- xx. M. K. Shome, K. Murthy, and Luthra. "Perception of Work Environment in a Private Engineering College: A Study of Gender Differences, Race, Gender & Class," *journal*, Volume 21, issues 1-2, 2014.
- xxi. M. K. Shome, (in press, 2014) "Corporate Social Responsibility in India- Issues and challenges" to be published by Cambridge University Press.
- xxii. J. Borah, S. K. Singh and A. D. Borah: "Cellular Base Station and its Greening Issues," *IJAECs*, Vol. 3, No.2, pp.1-4, April-May 2014.
- xxiii. J. Borah, S. K. Singh and A. D. Borah: "A Comparative study on scaling of Nano and Pico-scale MOSFET," *IJCA*, Vol. 99, No.2, pp.15-18, August 2014.
- xxiv. S. K. Singh, A. D. Borah and J. Borah: "TiO<sub>2</sub> thin film coated with Silver (Ag) nano-particles for Solar cell application," *IJAECs*, Vol. 3, No.5, pp., Oct-Nov 2014.
- xxv. R. Saha and S. Maity: "Design of Mu-Negative Metamaterial Structures on Rectangular Patch Antenna for RFID Application," *IJAECs*, ISSUE 5 VOL 3, Oct-Nov, 2014.
- xxvi. R. Saha, C. T. Bhunia and S. Maity: "Design of Micromachining Based Patch Antenna to Enhance Performances for RFID Tag Application," *IJFGCN*, Vol. 8, No. 1 (2015), pp. 261-268.
- xxvii. S. Ningthoujam, S. K. Chakraborty and C. T. Bhunia: "New Modified Technique of Aggressive Packet Combining scheme To Achieve Higher Throughput with Multiple Routes," *IJAECs*, Vol.3, Issue 5.
- xxviii. T. A. Sheikh, D. Muchahary and K. C. Baruah: "A Survey of Reduction the Interference on Cellular Communication System," *IJCA*, vol. 95, no.10, June.2014.

- xxix. T. A. Sheikh, D. Muchahary and K. C. Baruah: "Some Power Management Technology and Algorithm in Mobile Ad Hoc Network," IJAECs.
- xxx. T. A. Sheikh, J. Borah and S. Roy: "Miniaturized Tri-Band BPF using Asymmetric SIRs and DGS," IJSIP, pp.337-346, Jan.2015.
- xxxi. D. Borah, D. Muchahary, S. K. Singh, and J. Borah: "Power Saving Strategies in Green Cloud Computing Systems," IJGDC, Vol. 8, no. 1, pp. 299-306, 2015.
- xxxii. K. C. Baruah, S. Banerjee, M. P. Dutta and C. T. Bhunia: "An Improved Biometric-based Multi-server Authentication Scheme Using Smart Card," IJSIA, Vol.9, No.1, pp.397-408, 2015.
- xxxiii. S. Bhattacharjee: "Design of meta-materials based smart patch antennas for green cellular networks," IJAECs, Vol.3, No.5, 2014.

### 6.2.2: National Journals

- i. S. K. Chakraborty, R. S. Goswami, A. Bhunia and C. T. Bhunia: "Investigation of Two New Protocols of Aggressive Packet combining scheme in achieving better throughput," Published to Journal of the Institute of Engineers (India) B, Springer, DOI: 10.1007/s40031-014-0135-7.
- ii. R. S. Goswami, S. K. Chakraborty, A. Bhunia, and C. T. Bhunia: "Generation of Automatic Variable Key under Various Approaches in Cryptography System," Published to Journal of the Institute of Engineers (India) B, Springer, DOI: 10.1007/s40031-013-0066-8.
- iii. R. S. Goswami, S. K. Chakraborty, A. Bhunia, and C. T. Bhunia: "New Techniques for Generating of Automatic Variable Key in Achieving Perfect Security," Published to Journal of the Institute of Engineers (India) B, Springer, DOI: 10.1007/s40031-014-0103-2.
- iv. Shome, M. K. and Luthra, D.: "Perception of Work Environment in a Private Engineering College: A Study of Gender Differences, Race, Gender & Class," journal, Volume 21, issues 1-2, 2014.

### 6.2.3: Conferences

- i. S. K. Chakraborty, R. S. Goswami, A. Bhunia, and C. T. Bhunia: "Method of Non Majority Decision Making In Aggressive Packet Combining Scheme," IEEE, ITNG, IEEE Computer Society, CPS, Las Vegas, 2014.
- ii. S. K. Chakraborty, R. S. Goswami, A. Bhunia, and C. T. Bhunia: "New Protocol of Aggressive Packet Combining in Gilbert Two State Model," IEEE, CIEC, University of Calcutta, 2014.

- iii. A. K. Saha, K. Sambyo, and C. T. Bhunia: "Integration of DVFS and Multi CPUs scaling in a multi processor," International IEEE conference on Electronic Design, Computer Networks and Automated Verification, 29-30th January 2015, NIT Meghalaya, Shillong.
- iv. V. K. Singh, S. Banerjee, M. P. Dutta, and C. T. Bhunia: "Generation of Automatic Variable Key to Make Secure Communication," International Conference on Recent cognizance in wireless communication & image processing-ICRCWIP-2014 (ICRCWIP2014), Springer.
- v. K. Sambyo, and C. T. Bhunia: "Application of Multi Level ATM in Reducing Latency in Clouds for Performance Improvement of Integrated Voice, Video and Data Services," 2014 11th International Conference on Information Technology: New Generations, ITNG 2014, Las Vegas, Nevada, USA.
- vi. S. Maity, P. Chakraborty and S. Maji: "Improvement of solar cell efficiency and better contacts through singular texturization approach,"(P-434-439, CIEC14-CFP, IEEE, 2014).
- vii. S. Maity, S. Sahoo, V. Tiwari, C. P. Yadav and P. Chakraborty: "Improvement of front side contact of solar cell through Light Induced Plating without any external bias at different conditions,"IEEE-Kolkata, MICRO-2014
- viii. S. Maity, A. Kundu, S. Das and P. Chakraborty: "Reduction of reflectance at c-silicon solar cell using nanotexturization,"P-349-351, ICDCS-2014, IEEE.
- ix. S. Maity, R. Sangno, V. Kartik, P. P. Sahu and C. T. Bhunia: "Silicon Nitride dielectric optimization and characterization for solar cell application," ICPDEN 2015, IEEE Kolkata.
- x. S. Maity, P. Chakraborty, R. Raushan, C. T. Bhunia and P. P. Sahu: "A compact series resistance model of solar cell for parametric study," SICRCWIP2015, Springer.
- xi. S. Roy and C. T. Bhunia: "Minimization Algorithm for Multiple Input to Two Input Variables," 2014 International Conference on Control, Instrumentation, Energy and Communication (CIEC), IEEE Conference, Kolkata pp 622-624, Jan 2014.
- xii. S. Roy and C. T. Bhunia: "Constraints Analysis for Minimization of Multiple Inputs Logic Programming," in International Conference on Signal and Speech Processing (ICSSP-14), pp. 61-64, Kollam, Aug 2014.

- xiii. T. A. Sheikh, J. Borah and S. Roy: "Bandwidth Improvement in BPF using Microstrip Couple lines," in International Conference on Signal and Speech Processing (ICSSP-14), pp. 105-109, Kollam, Aug2014.
- xiv. Taipodia et al: "Geophysical Investigations for identifications of subsurface Stratigraphy," at IITG, Proceedings of Indian Geo-technical Conference IGC-2014,dec 18-20, Kakinada,India.
- xv. Shome, M.K. and Mukherjee, D.: (Accepted 2014) A study of present scenario in Indian universities, Fall 2014 issue of AUJMR.
- xvi. R. Pudur, et.al "Wireless Power Transmission:A Survey", IEEE, Internatinal Conference on Recent Advances and Innovations in Engineering (ICRAIE-2014) May-09-11, 2014, Jaipur India.
- xvii. R. Pudur, et.al: 'Study of unsymmetrical faults in power system using Morlet wavelet technique" IEEE, SCEECS-2014, March 1-4, Bhopal, India
- xviii. R. Pudur, S. Gao: "Savonius rotor based hydropower generation" International Symposium on AMETI 2014 (p 104 - 111), 6th -8th Dec 2014, ISBN 978-93-83842-96-4, NERIST.
- xix. R. Pudur, S. Gao "Performance analysis of Savonius rotor on different aspect ratio for hydropower generation"ICPDEN, 10th - 11th Jan 2015 IEEE, NERIST
- xx. R. Pudur, S. Gao "Single phase power for remote area using Savonius rotor based hydropower generation" IEEE, International Conference on Energy, Power and Environment (ICEPE) 12-13, June 2015 NIT Meghalaya.
- xxi. M.K. Shome, and S. Jana, (2014).Talent Management: Role of HR in creating organizational excellence. In A.K.Mukhopadhyay and S.Dasgupta ( Eds.) 1st International conference on Challenges in Management and Information Technology, organized by Bengal College of Engineering and Technology in Association with NIT, Durgapur. Conference proceedings.
- xxii. R. Saha, S. Bhattacharjee, C. T. Bhunia and S. Maity: "Dual band operation Using Met material Structure for Radio Frequency Identification (RFID) system," ICSPCT, 978-1-4799-3140-8/14/\$31.00 ©2014 IEEE, pp.: 16-19.
- xxiii. R. Saha and S. Maity: "Design of O-shape Metamaterial Structure on Rectangular Patch Antenna for RFID Application," IEEE EESCO - 2015.
- xxiv. S. Bhattacharjee, R. Saha and S. Maity: "Metamaterial based patch antenna with omega shaped slot for RFID system," ICAETR - 2014.

- xxv. S. Bhattacharjee, R. Saha and S. Maity: "Antenna design and optimization for RFID tag using Negative  $\mu$  and  $\epsilon$  material," APCMET-2014, at JNU.
- xxvi. R. Saha, S. Maity and L. Sarkar: "A novel MEMS based frequency tunable rectangular patch antenna," ICRCWIP-2014, PIET, Jaipur.
- xxvii. S. Bhattacharjee and S. Maity: "Miniaturization of MEMS based smart patch antennas for bio- medical applications," ICRCWIP-2014.
- xxviii. T. A. Sheikh, J. Borah, S. Roy and A. K. Pandey: "A New Compact Dual Band Microstrip BPF for GSM-1800 and WiMAX Using Asymmetric Stepped Impedance Resonators," ICRCWIP, Jan.2015.
- xxix. N. M. Devi and S. Maity: "Metamaterial-based miniaturized CPW band stop filter design on silicon substrate for microwave application," ICCICCT-2014.
- xxx. N. M. Devi and S. Maity: "Design and Optimization of Band stop filter using metamaterial structures for K-band applications," ICRCWIP-2014.
- xxxi. Muchahary, A. J. Mondal and A. Majumder: "A CORDIC based Design Technique for Efficient Computation of DCT," IEEE ICCSP (2015).
- xxxii. Muchahary, A. J. Mondal, R. S. Parmar, A. D. Borah and A. Majumder: "A Simplified Design Approach for Efficient Computation of DCT," IEEE CSNT (2015).
- xxxiii. A. D. Borah, A. J. Mondal, D. Muchahary and A. Majumder: "FIR Low Pass filter design using Crazyness Base Particle Swarm Optimization Technique," IEEE ICCSP (2015).
- xxxiv. Sarkar, S. K. Dubey, B. Madhury and S. Maity: "CNT based biomedical sensor for cancer detection," ICRCWIP-2014.
- xxxv. Sarkar, S. K. Dubey, B. Madhury, P. C. Chakraborty, C. T. Bhunia and S. Maity: " A simple MEMS structure as effective methane gas sensing application," ICMCS - 2014, IEEE.
- xxxvi. Sarkar, S. K. Dubey, B. Madhury and S. Maity: "Gas sensing array design through ANN & implementation through MEMS," APCMET-2014.
- xxxvii. R. Khumukcham, Y. Saring and C. T. Bhunia: "Performance Analysis of PC and APC for Wireless Network," ICRCWIP-2014.
- xxxviii. Majumder, B. Chowdhury and P. L. Singh: "Synthesis and Realization of N-bit Reversible Register File Used in Bus Organization of Processor Architecture," ICRTC 2015, Elsevier.

- xxxix. Majumder, P. L. Singh, B. Chowdhury and A. J. Mondal: "Efficient design and analysis of N-bit reversible shift registers," ICRTC 2015, Elsevier.
- xl. P. L. Singh, A. Majumder, B. Chowdhury and A. J. Mondal: "Reducing delay and quantum cost in the novel design of reversible memory elements," ICRTC 2015, Elsevier.
- xli. P. L. Singh, A. Majumder, B. Chowdhury, R. Singh and N. Mishra: "A Novel Realization of Reversible LFSR for its Application in Cryptography," IEEE, SPIN-2015.
- xlii. Sarkar, S. K. Dubey, B. Madhury, P. C. Chakraborty, C. T. Bhunia and S. Maity: "A Simple MEMS Structure as Effective Methane Gas Sensing Application Digital Library," ISBN : 973-93-80883-43-4.
- xliii. S. Bhattacharjee: "Design of meta-materials based smart patch antennas for green cellular networks," IJAECS, Vol.3, No.5, 2014.
- xliv. S. Dubey, L. Sarkar, R. Roushan and Santanu Maity: "Modeling and Simulation of Solar cell Depending on temperature and light intensity," ISBN: 978-93-83083-73-2, P-265-272, APCMET-2014.

### 6.3. List of Publications by the Students of the Institute (Journals & Conferences)

- i. A. Majumder, P. L. Singh, N. Mishra, A. J. Mondal and B. Chowdhury: "A Novel Delay and Quantum Cost Efficient Reversible Realization of  $2^N$  RAM," IEEE-VLSI SATA-2015.
- ii. J. Borah, S. K. Singh and A. D. Borah: "Cellular Base Station and its Greening Issues," IJAECS, Vol. 3, No.2, pp.1-4, April-May 2014.
- iii. J. Borah, S. K. Singh and A. D. Borah: "A Comparative study on scaling of Nano and Pico-scale MOSFET," IJCA, Vol. 99, No.2, pp.15-18, August 2014.
- iv. S. K. Singh, A. D. Borah and J. Borah: "TiO<sub>2</sub> thin film coated with Silver (Ag) nano-particles for Solar cell application," IJAECS, Vol. 3, No.5, pp., Oct-Nov 2014.
- v. R. Saha, S. Bhattacharjee, C. T. Bhunia and S. Maity: "Dual band operation Using Met material Structure for Radio Frequency Identification (RFID) system," ICSPCT, 978-1-4799-3140-8/14/\$31.00 ©2014 IEEE, pp.: 16-19.
- vi. R. Saha and S. Maity: "Design of O-shape Metamaterial Structure on Rectangular Patch Antenna for RFID Application," IEEE EESCO - 2015.
- vii. S. Bhattacharjee, R. Saha and S. Maity: "Metamaterial based patch antenna with omega shaped slot for RFID system," ICAETR - 2014.

- viii. S. Bhattacharjee, R. Saha and S. Maity: "Antenna design and optimization for RFID tag using Negative  $\mu$  and  $\epsilon$  material," APCMET-2014, at JNU.
- ix. R. Saha, S. Maity and L. Sarkar: "A novel MEMS based frequency tunable rectangular patch antenna," ICRCWIP-2014, PIET, Jaipur.
- x. R. Saha and S. Maity: "Design of Mu-Negative Metamaterial Structures on Rectangular Patch Antenna for RFID Application," IJAECs, ISSUE 5 VOL 3, Oct-Nov, 2014.
- xi. R. Saha, C. T. Bhunia and S. Maity: "Design of Micromachining Based Patch Antenna to Enhance Performances for RFID Tag Application," IJFGCN, Vol. 8, No. 1 (2015), pp. 261-268.
- xii. K. Singh, S. Banerjee, M. P. Dutta and C. T. Bhunia: "Generation of Automatic Variable key to make secure communication," ICRCWIP-2014.
- xiii. S. Bhattacharjee and S. Maity: "Miniaturization of MEMS based smart patch antennas for bio- medical applications," ICRCWIP-2014.
- xiv. S. Ningthoujam, S. K. Chakraborty and C. T. Bhunia: "New Modified Technique of Aggressive Packet Combining scheme To Achieve Higher Throughput with Multiple Routes," IJAECs, Vol.3, Issue 5.
- xv. T. A. Sheikh, J. Borah and S. Roy: "Bandwidth Improvement in BPF using Microstrip Couple lines," ICSSP'14, pp.105-109 Aug.2014.
- xvi. T. A. Sheikh, D. Muchahary and K. C. Baruah: "A Survey of Reduction the Interference on Cellular Communication System," IJCA, vol. 95, no.10, June.2014.
- xvii. T. A. Sheikh, D. Muchahary and K. C. Baruah: "Some Power Management Technology and Algorithm in Mobile Ad Hoc Network," IJAECs.
- xviii. T. A. Sheikh, J. Borah, S. Roy and A. K. Pandey: "A New Compact Dual Band Microstrip BPF for GSM-1800 and WiMAX Using Asymmetric Stepped Impedance Resonators," ICRCWIP, Jan.2015.
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- xx. N. M. Devi and S. Maity: "Metamaterial-based miniaturized CPW band stop filter design on silicon substrate for microwave application," ICCICCT-2014.
- xxi. N. M. Devi and S. Maity: "Design and Optimization of Band stop filter using metamaterial structures for K-band applications," ICRCWIP-2014.

- xxii. D. Borah, D. Muchahary, S. K. Singh, and J. Borah: "Power Saving Strategies in Green Cloud Computing Systems," IJGDC, Vol. 8, no. 1, pp. 299-306, 2015.
- xxiii. Muchahary, A. J. Mondal and A. Majumder: "A CORDIC based Design Technique for Efficient Computation of DCT," IEEE ICCSP (2015).
- xxiv. Muchahary, A. J. Mondal, R. S. Parmar, A. D. Borah and A. Majumder: "A Simplified Design Approach for Efficient Computation of DCT," IEEE CSNT (2015).
- xxv. A. D. Borah, A. J. Mondal, D. Muchahary and A. Majumder: "FIR Low Pass filter design using Crazy Base Particle Swarm Optimization Technique," IEEE ICCSP (2015).
- xxvi. Sarkar, S. K. Dubey, B. Madhury and S. Maity: "CNT based biomedical sensor for cancer detection," ICRCWIP-2014.
- xxvii. Sarkar, S. K. Dubey, B. Madhury, P. C. Chakraborty, C. T. Bhunia and S. Maity: "A simple MEMS structure as effective methane gas sensing application," ICMCS - 2014, IEEE.
- xxviii. Sarkar, S. K. Dubey, B. Madhury and S. Maity: "Gas sensing array design through ANN & implementation through MEMS," APCMET-2014.
- xxix. R. Khumukcham, Y. Saring and C. T. Bhunia: "Performance Analysis of PC and APC for Wireless Network," ICRCWIP-2014.
- xxx. K. C. Baruah, S. Banerjee, M. P. Dutta and C. T. Bhunia: "An Improved Biometric-based Multi-server Authentication Scheme Using Smart Card," IJSIA, Vol.9, No.1, pp.397-408, 2015.
- xxxi. Majumder, B. Chowdhury and P. L. Singh: "Synthesis and Realization of N-bit Reversible Register File Used in Bus Organization of Processor Architecture," ICRTC 2015, Elsevier.
- xxxii. Majumder, P. L. Singh, B. Chowdhury and A. J. Mondal: "Efficient design and analysis of N-bit reversible shift registers," ICRTC 2015, Elsevier.
- xxxiii. P. L. Singh, A. Majumder, B. Chowdhury and A. J. Mondal: "Reducing delay and quantum cost in the novel design of reversible memory elements," ICRTC 2015, Elsevier.
- xxxiv. P.L. Singh, A. Majumder, B. Chowdhury, R. Singh and N. Mishra: "A Novel Realization of Reversible LFSR for its Application in Cryptography," IEEE, SPIN-2015.

- xxxv. Sarkar, S. K. Dubey, B. Madhury, P. C. Chakraborty, C. T. Bhunia and S. Maity: "A Simple MEMS Structure as Effective Methane Gas Sensing Application Digital Library," ISBN : 973-93-80883-43-4.
- xxxvi. S.Bhattacharjee: "Design of meta-materials based smart patch antennas for green cellular networks," IJAECs, Vol.3, No.5, 2014.
- xxxvii. S. Dubey, L. Sarkar, R. Roushan and Santanu Maity: "Modeling and Simulation of Solar cell Depending on temperature and light intensity," ISBN: 978-93-83083-73-2, P-265-272, APCMET-2014.

#### 6.4. The Institute's Journals (International Journal on Current Science & Technology)



NIT Arunachal Pradesh encouraged young researchers to submit their original research articles in the Institute-funded 'International Journal on Current Science & Technology.' The Institute's journals are issued twice in a year. The articles published in the Institute's journals were original and they are cited by other articles which were published in other reputed international journals.

**Research articles published in the Institute's Journals (International Journal on Current Science & Technology)****A. List of papers for publication of International Journal on current Science & Technology Vol. 1, No. 2, July - December 2013:**

- i. S. Maity, V. Hanumante and R. K. Singh: "A review on fractal geometry for multiband antenna application," International Journal on current Science & Technology Vol. 1, No. 2, July - December 2013, PP. 219 - 222.
- ii. U. K. Saha, B. K. Dutta and L. K. Arora: "Approximate Analytical Solutions to Fractional Integro-Differential Equations," International Journal on current Science & Technology Vol. 1, No. 2, July - December 2013, PP 227-234.
- iii. U. K. Saha, B. K. Dutta and L. K. Arora: "On Some Unified Integrals," International Journal on current Science & Technology Vol. 1, No. 2, July - December 2013, PP 241-250.
- iv. S. K. Chakraborty, R. S. Goswami, A. Bhunia and C. T. Bhunia: "Investigation of new Scheme of Aggressive Packet Combining," International Journal on current Science & Technology Vol. 1, No. 2, July - December 2013, PP 223-226.
- v. S. Roy and C. T. Bhunia: "Minterms Generations Algorithm Using Weighted Sum Method," International Journal on current Science & Technology Vol. 1, No. 2, July - December 2013, PP 251-255.
- vi. R. H. Vanlalchaka and S. Roy: "4-Bit Ripple Carry Adder Using Proposed Energy Efficient Single Phase Adiabatic Logic Technique," International Journal on current Science & Technology Vol. 1, No. 2, July - December 2013, PP 213-218.
- vii. N. S. Singh and S. Roy: "Correlation Analysis Between Drowsiness & HRV Parameters," International Journal on current Science & Technology Vol. 1, No. 2, July - December 2013, PP 235-240.

**B. List of papers for publication of International Journal on current Science & Technology Vol. 2, No. 1, January - June 2014:**

- i. R. S. Goswami, S. K. Chakraborty, A. Bhunia and C. T. Bhunia: "An effective Code Breaking Scheme," International Journal on current Science & Technology Vol. 2, No. 1, January - June 2014, PP. 257-260.
- ii. V. Hanumante, P. Bhattacharjee, K. Mukherjee and S. Roy: "Bandwidth Optimization of Rectangular Patch Antenna for Wireless

- LAN," International Journal on current Science & Technology Vol. 2, No. 1, January - June 2014, PP. 261-266.
- iii. A. K. Saha, K. Sambyo and C T Bhunia: "A Survey on Green Computing: Need for Future Generation of Energy Saving," International Journal on current Science & Technology Vol. 2, No. 1, January - June 2014, PP. 267-272.
  - iv. N. Pramanik and A. K. Atta: "Phosphonic acid based Hydroxyapatite and its biocompatibility," International Journal on current Science & Technology Vol. 2, No. 1, January - June 2014, PP. 273-276.
  - v. C. T. Bhunia: "Review and Thoughts on ranking of Universities," International Journal on current Science & Technology Vol. 2, No. 1, January - June 2014, PP. 277-280.
  - vi. S. Chatterjee: "Modeling and simulation of voltage source converter based static synchronous series compensator," International Journal on current Science & Technology Vol. 2, No. 1, January - June 2014, PP. 281-286.
  - vii. S. K. Chakraborty, R. S. Goswami, A. Bhunia and C. T Bhunia: "Two new Schemes of Aggressive Packet Combining," International Journal on current Science & Technology Vol. 2, No. 1, January - June 2014, PP. 287-290.
  - viii. S. K. Mondal and H. Tahbaldar: "Regression Test Cases Minimization for Object Oriented Programming using New Optimal Page Replacement Algorithm," International Journal on current Science & Technology Vol. 2, No. 1, January - June 2014, PP. 291-295.

**C. List of papers accepted for publication of International Journal on current Science & Technology Vol. 2, No. 2, July - December 2014:**

- i. Bhuyan, C. T. Bhunia, P. Chakrabarti and A. Chowdhuri: "Experimental Studies on Selective Encryption of Text using both Fixed and Variable Key and Results Thereof," accepted for publication in International Journal on current Science & Technology Vol. 2, No. 2, July - December 2014.
- ii. T. Bhunia, B. Bhunia and P. Chakrabarti: "A Scheme of Time Variant Key Towards Achieving Perfect Security," accepted for publication in International Journal on current Science & Technology Vol. 2, No. 2, July - December 2014.
- iii. J. Borah, T. A. Sheikh and S. Roy: "Design and Development of a Patch Antenna for Dual Band Applications," accepted for publication in International Journal on current Science & Technology Vol. 2, No. 2, July - December 2014.

- iv. A. Chakraborty and S. K. Sarkar: "Papaya Genotype Tolerant to Papaya Ring Spot Virus (PRSV) under Field Condition In Gangetic Plains Of West Bengal," accepted for publication in International Journal on current Science & Technology Vol. 2, No. 2, July - December 2014.
- v. S. Banerjee, M. P. Dutta and C. T. Bhunia: "Weaknesses of a More Efficient and Secure Dynamic ID-Based Remote User Authentication Scheme," accepted for publication in International Journal on current Science & Technology Vol. 2, No. 2, July - December 2014.
- vi. P. K. Swain, K. L. Panigrahi and S. Maity: "Supersymmetric D-brane solutions in Godel Universe," accepted for publication in International Journal on current Science & Technology Vol. 2, No. 2, July - December 2014.
- vii. A. K. Atta and N. Pramanik: "Carbohydrate Based Chemosensor for Selective Detection of Hg<sup>2+</sup> Ion," accepted for publication in International Journal on current Science & Technology Vol. 2, No. 2, July - December 2014 .
- viii. S. Maity and P. K. Swain: "Unsteady flow of thin liquid film over a porous stretching sheet in presence transverse magnetic field," accepted for publication in International Journal on current Science & Technology Vol. 2, No. 2, July - December 2014.
- ix. M. P. Dutta, S. Banerjee and C. T. Bhunia: "A new technique for generation of Automatic variable key - Up Down Automatic Variable Key (UDAVK)," accepted for publication in International Journal on current Science & Technology Vol. 2, No. 2, July - December 2014.

### 6.5. Research Projects (during the last five years):

#### Year-wise details

Sl. No.	Academic year	No. of ongoing projects	No. of ongoing projects	Year wise total fund received under project head (Rs.)
i	2014	04	04	2000000.00
ii	2013	Nil	01	5,00,000.00
iii	2012	Nil	Nil	-
<b>TOTAL</b>		<b>04</b>	<b>05</b>	<b>25,00,000.00</b>

## Year-wise sources of major funding agencies

Sl. No.	Academic year	Name of the major funding agencies	Funds received (Rs.)
i	2014	NIT, Arunachal Pradesh	2000000.00
ii	2013	NIT, Arunachal Pradesh	5,00,000.00
iii	2012	-	-
<b>TOTAL</b>			<b>25,00,000.00</b>

## Department / Centre-wise Project fund received on R&amp;D head

Sl. No.	Academic year	Name of the major funding agencies	Funds received (Rs.)
i	2014	NIT, Arunachal Pradesh	2000000.00
ii	2013	NIT, Arunachal Pradesh	5,00,000.00
iii	2012	-	-
<b>TOTAL</b>			<b>25,00,000.00</b>

## 6.6. List major academic initiatives for achieving R&amp;D excellence

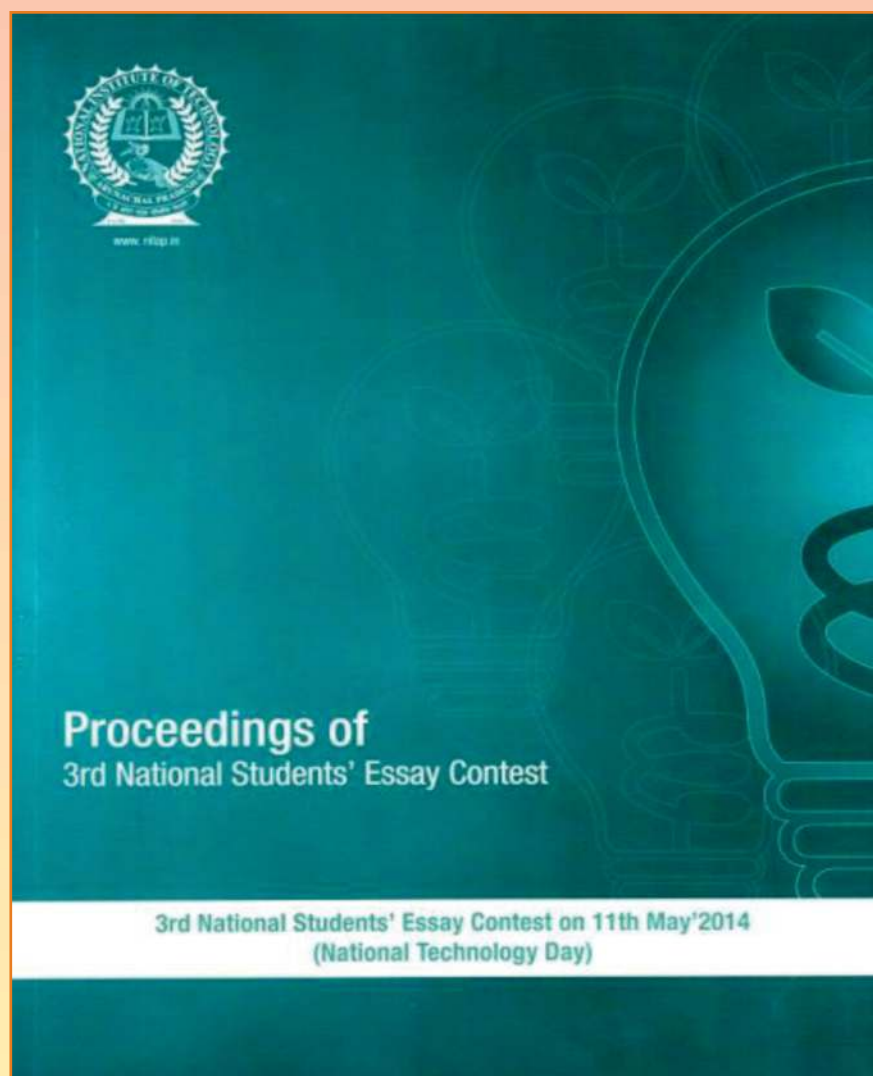
## A. Already taken:

- a. 2nd National Conference on "Futuristic Technical Education" (FTE-2014)" was held on November 22-23, 2014 at NIT-Arunachal Pradesh.
- b. Celebration of National Technology Day on 11th May 2014.

The Institute celebrate 'National Technology Day' with most meticulously & sincerely by organizing national level students' essay competition every year since 2012. The summary of the students' competition of 2014 is given below:

Date of Celebration	Topic of Essay Competition	Winners
11th May, 2014	For UG Students : "India: as you Like to see in next decade"	1st: Disha Bhattacharjee, Electronics & Communication Engineering, National Institute of Technology, Arunachal Pradesh
		2nd: Bhupesh Kumar Yadav, Mechanical Engineering; Malaviya National Institute of Technology (NIT Jaipur) Jaipur, Rajasthan.
		3rd: Ashish Kumar, Civil Engineering, National Institute of Technology, Arunachal Pradesh

Date of Celebration	Topic of Essay Competition	Winners
	For PG Students & Research Scholar :	1st: Ngasepam Monica Devi, Computer Science & Engineering, National Institute of Technology, Arunachal Pradesh
	"Entrepreneurships and Innovations are the need of the hour in India".	2nd: Avinash Kumar, Appropriate Technology & Entrepreneurship Practices; National Institute of Technology, Arunachal Pradesh
		3rd: Abhijit BujarBaruah, Appropriate Technology & Entrepreneurship Practices; National Institute of Technology, Arunachal Pradesh



- c. Bi-Annual Journal Publication namely "International Journal on Current Science and Technology (ISSN 23203656) were published (3rd and 4th issue)"
- d. 5 days workshop on "Advances in Semiconductors, Communication, Electronics and Nanotechnology (ASCENT - 2014)" by A UGC Networking Resource Centre in Physical Sciences (UGC-NRCPS) at NIT-Arunachal from May 26-30, 2014.
- e. One day Workshop was held on "Identification of Challenges, need-based problems/issues concerning Rural economy" on 27th August 2014 by RuTAG-NE, IIT-Guwahati and NIT-Arunachal Pradesh.

#### **B. To be undertaken in near future:**

- a. Celebration of National Technology Day on 11th May every year (2015, 4th issue).
- b. Bi-Annual Journal Publication namely "International Journal on Current Science and Technology (ISSN 23203656) will be published (5th and 6th issue)."
- c. 1st Research Summit will be held on April 10- 11, 2015.

#### **6.7. Research facilities**

Free analytical and Inter-NET research facility to the research scholars has been developed and provided during the year under report.

#### **Research and Development Cell**

Research is an integral component of any educational programme. In order to do research in a meaningful manner, it is imperative to review the recent advances in the concerned subjects from time to time. The sole purpose of holding conferences is to have interaction between the scientists, mathematicians, engineers and management experts, and thus come to know about the advances made in the recent past in the broad areas of Chemical Sciences, Earth System Sciences, Engineering Sciences, Environmental Sciences and Sustainable Development, Material Sciences, Mathematical Sciences and Physical Sciences. This is expected to provide a boost to the R & D programmes.

### Research and Development Programmes

- Ph. D. Programme.
- Junior Research Fellowship Programme (JRF)[HYPERLINK "http://www.nitap.in/Menu/RnD/docs/ADVT%20JRF.pdf"](http://www.nitap.in/Menu/RnD/docs/ADVT%20JRF.pdf)

### 6.8. Patents (during the last five years)

#### Year-wise details

Sl. No.	Academic year	No. of Indian patents granted	No. of Indian patents filed	No. of Foreign patents granted	No. of Foreign patents filed
i	2014	Nil	Nil	Nil	Nil
ii	2013	Nil	03	Nil	Nil
iii	2012	Nil	Nil	Nil	Nil
	<b>TOTAL</b>	<b>Nil</b>	<b>03</b>	<b>Nil</b>	<b>Nil</b>

#### Year-wise details

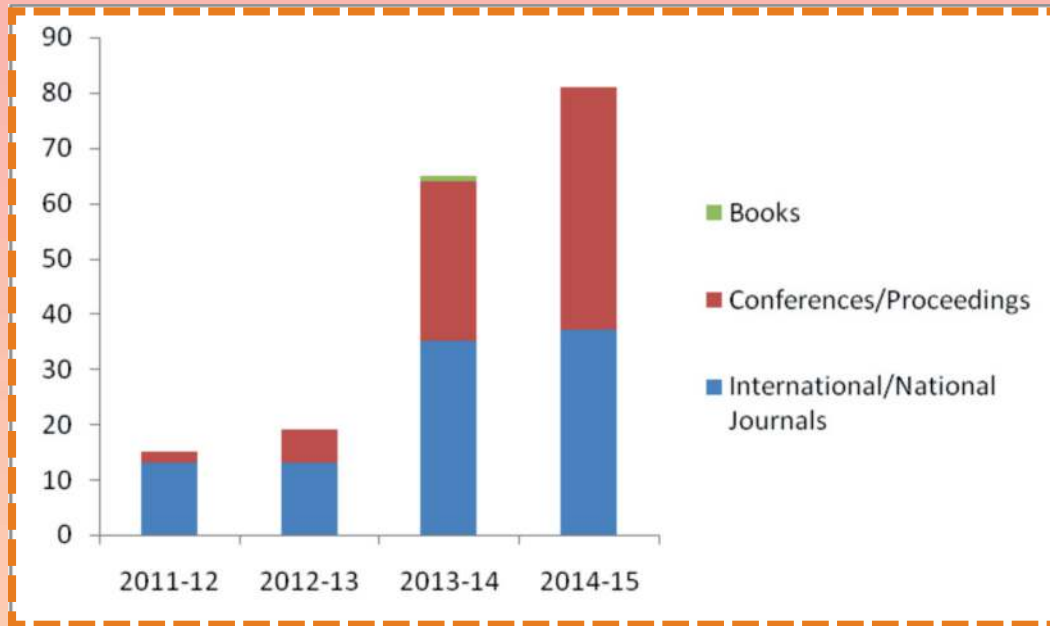
Sl. No.	Academic year	No. of Indian patents granted	No. of Indian patents filed	No. of Foreign patents granted	No. of Foreign patents filed
i	Computer Science & Engineering	Nil	03	Nil	Nil
ii	Other Departments	Nil	Nil	Nil	Nil
	<b>TOTAL</b>	<b>Nil</b>	<b>03</b>	<b>Nil</b>	<b>Nil</b>

### 6.9. Publications by faculty members (during last five years):

#### Year-wise number of publications in peer reviewed journals and conferences

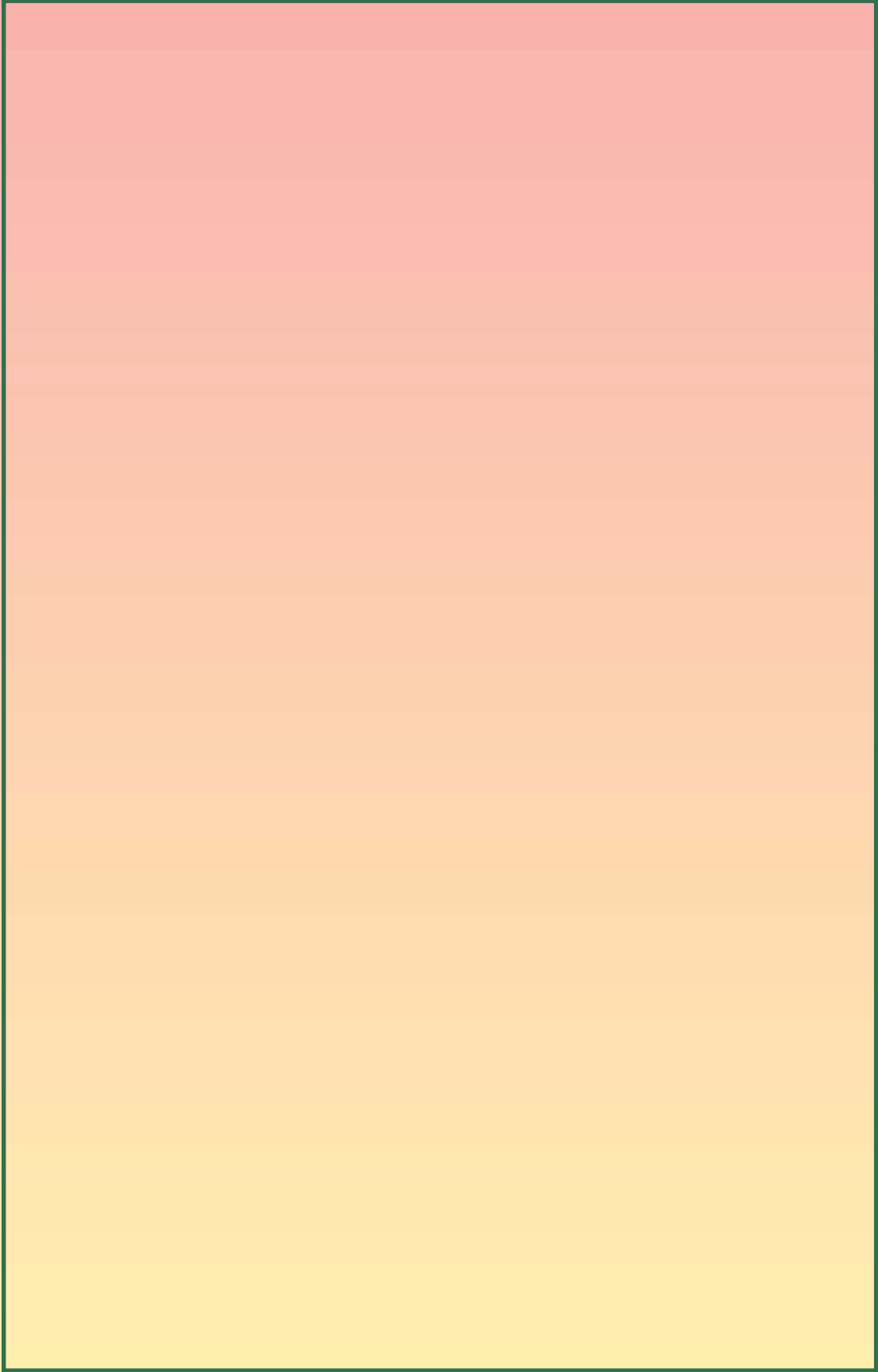
Sl. No.	Year	National Journals	International Journals	International conferences	National conferences	Books	Book chapters, Monographs Published
i.	2014-15	04	33	36	8	00	00
ii.	2013-14	05	30	18	11	01	01
iii.	2012-13	01	12	03	03	00	01
iv.	2011-12	04	09	01	01	00	00
	<b>Total</b>	<b>14</b>	<b>84</b>	<b>58</b>	<b>23</b>	<b>01</b>	<b>02</b>

Growth Chart of Research Publications:



Department-wise total publications

Sl. No.	Name of the Department	2014		2013		2012		2011	
		Journals and Books (J&B)	Conference and Book chapters (C&B)	(J&B)	(C&B)	(J&B)	(C&B)	(J&B)	(C&B)
i.	ECE	15	29	10	06	02	02	02	00
ii.	CSE	16	07	12	16	00	00	00	00
iii.	EEE	01	05	06	03	03	02	02	01
iv.	ME	00	00	00	01	00	00	00	00
v.	CE	00	01	00	00	00	00	00	00
vi.	PCB	01	00	05	02	07	00	02	00
vii.	MMH	04	02	02	01	00	02	08	02
<b>Total</b>		<b>37</b>	<b>44</b>	<b>35</b>	<b>29</b>	<b>12</b>	<b>06</b>	<b>14</b>	<b>03</b>



## 7. STUDENTS' AMENITIES AND ACTIVITIES

### 7.1 Hostels

The hostels of the Institute are the units of dwelling place i.e., a home away from the home cared by the Hostel Provost, Wardens and Hostel Staff. The rooms are well-spaced for all the students to live in and to study, and are provided with individual cots. Landscape in and around the hostels makes the environment healthier and beautiful. The hostels are supported with playground for the students. Well-equipped common rooms exist in each boys' and girls' hostel separately.

Medical facility is available to the students and members of faculty and staff to tackle the health hazards and to ensure physical well-beings. Details of the Medical Officer are as under:

**Dr. P.K. Deb**

**Designation:** Medical Officer (Part-time)

**Email:** mo@nipap.in

**Contact:** 0360-2284801 (O), 09862850343 (M)

### 7.2 Hostel Accommodation

At present, the Institute has six (6) hostels, of which three hostels are for boys and three hostels are for girls. The total capacity of these hostels is about 450. The Institute is fully residential and all the students (i.e. boys and girls) are accommodated in their respective hostels.

**Table 7.1**  
**Details of Accommodation in the Students' hostels**

Sl. No.	Name of hostel	Year of establishment	Type of accommodation	No. of rooms	Total no. of inmates
i	Tiger Hall	2010	Triple bedded Room	25	64
ii	Peacock Hall	2011	Doublebedded Room	12	24
iii	Pragati Hall	2012	Triple bedded Room	41	94
iv	Rose Hall	2012	Triple bedded Room	18	54
v	M.Tech G.H. Type-IV	2013	Multi-bedded Room	3	07
vi	Deer Hall	2014	Multi-bedded Room	80	200

### 7.3 Hostel Administration

The Institute has provided supporting staff to maintain the hostels. The duties of the hostel administration are being carried out under the direction of the Hostel Provost who heads the management of boys' and girls' hostels. He is supported by wardens and office staff. The details of the Wardens of the hostels are as under:

#### Boys' Hostels:

- i. Shri Sandip Kumar Mandal, Warden, Tiger Hall of Residences, Yupia, Arunachal Pradesh
- ii. Shri Gomar Bam, Warden, Deer Hall of Residence, Lekhi Village, Naharlagun Arunachal Pradesh
- iii. Dr. A. Vanav Kumar, Warden, Pragati Hall of Residence, Nirjuli, Arunachal Pradesh

#### Girls' Hostels:

- i. Ms Abi Tayeng, Warden, Peacock Hall of Residences and M. Tech GH (Type-IV), Yupia, Arunachal Pradesh
- ii. Ms Teli Yani, Warden, Rose Hall of Residence, Nirjuli, Arunachal Pradesh

### 7.4 Hostel Mess

Students who are admitted to the hostels are provided with food in the mess. Hostel mess is compulsory for all the hostellers. No permission is granted for dining outside the respective hostel mess under any circumstances. All the messes have been outsourced. The hostel messes are run by experienced and qualified caterers. The messes offer healthy meals at moderate rates.

### 7.5 General Facilities

- The Institute's Health Centre offers medical facilities.
- Proper lighting arrangement has been made inside and outside the hostels.
- Each hostel has a separate common/recreation hall
- Wi-Fi connection is also provided in all the hostels (Except Deer Hall).
- All the hostels are connected to the roads by well-built pathways.

## 7.6 Subsidy

The Institute is also planning to provide mess subsidy to the inmates of the hostels based on the income of the parents. The amount should not exceed certain minimum level subject to the approval of the Director of the Institute.

## 7.7 Scholarship

- I. In order to encourage the students to excel in their academic pursuits, the Institute provides merit-cum-means scholarship to its 10% students, subject to the conditions that the concerned students are not availing any other scholarship from any other sources. The Table below contains the lists of students enjoying scholarships

Sl. No.	Name of Students	Value of the scholarship
i	Kapil Dev	Full Tuition Free
ii	Sushil Kumar Pal	Full Tuition Free
iii	Sahid Hussain	Full Tuition Free
iv	Kishan Agarwal	Full Tuition Free
v	Om Kesharwani	Full Tuition Free
vi	S. Prashanth Reddy	Full Tuition Free
vii	Praveen Kumar Kumbhankonam	Full Tuition Free
viii	Akunuri Krishna Kishore	Full Tuition Free
ix	Sandeep Singh	Full Tuition Free
x	Ashish Pal	Half Tuition Free
xi	Argha Sarkar	Half Tuition Free
xii	Deboraj Muchahary	Full Tuition Free

- II. The Institute has provided GATE scholarship for M. Tech students who have possess valid GATE score. The following are the lists of students:

Sl. No.	Name of the students	Amount per Month (Rs)	Sl. No.	Name of the students	Amount per Month (Rs)
i	Prasoon Lata Singh	8000	xviii	Ripu Daman Singh	8000
ii	Sandeep Kr. Singh	8000	xix	Ram Prasad Acharya	8000
iii	Rajesh Saha	8000	xx	Raushan Kumar	8000
iv	Bishal Kr. Singh	8000	xxi	Rajesh Saha	8000

Sl. No.	Name of the students	Amount per Month (Rs)	Sl. No.	Name of the students	Amount per Month (Rs)
v	Khanjan Chanmai Baruah	8000	xxii	Bikramjit Basumatary	8000
vi	Shankar Bhattacharjee	8000	xxiii	Aditya Sharma	8000
vii	Sanjit Ningthoujam	8000	xxiv	Vishwajit Nandi	8000
viii	Prasanta Kr. Adhikary	8000	xxv	Srikanta Dash	8000
ix	Moloy Borah	8000	xxvi	Niraj Kr. Singh	8000
x	Paromita Bhattacharjee	8000	xxvii	Prasenjit Deb	8000
xi	Jyoti Sharma	8000	xxviii	Pritam Dey	8000
xii	Anwesa Choudhury	8000	xxix	Debabrata Acharjee	8000
xiii	Ashis Prajapati	8000	xxx	Md. Nazibul Hasan	8000
xiv	Prasant Kumar	8000	xxxii	Arjun Sah	8000
xv	Rahul Kaushik	8000	xxxiii	Preety Sharma	8000
xvi	Abhinandan Goswami	8000		Rohit Kumar	8000
xvii	Jivesh Verma	8000			

III. Ministry of Social Justice and Empowerment, Gol, New Delhi has sanctioned grant-in-aid under Central Sector Scheme of Top Class Education for SC students. The following are the lists of 2nd and 3rd year students:

Sl. No.	Name of the students	Amount (Rs)	Sl. No.	Name of the students	Amount (Rs)
i	Pintu Das	1,25,820.00	xi	Akash Kumar Chandel	1,25,820.00
ii	Vijay Prajapati	1,25,820.00	xii	Pancham Lal	1,25,820.00
iii	Naresh Chouhan	1,25,820.00	xiii	Vinay Kumar	80,820.00
iv	Aditya Mandal	1,25,820.00	xiv	Mamta Kumari	80,820.00
v	Akash Kr. Rajak	1,25,820.00	xv	Subham Roy	80,820.00
vi	Parmanand Kr. Rajak	1,25,820.00	xvi	Salam Michael Singh	80,820.00
vii	Bharat Kr. Chaudhary	1,25,820.00	xvii	Arvind Kumar	80,820.00
viii	Manish Kr. Ram	1,25,820.00	xviii	Ujjal Das	80,820.00
ix	Deepak Kr. Gond	1,25,820.00	xix	Rahul Kumar	80,820.00
x	Aditya Kr. Anshu	1,25,820.00	xx	Jitender Baitha	80,820.00

IV. District Welfare, Govt. of Bihar, Patna has sanctioned scholarship for the following students:

Sl. No.	Name of the students	Amount (Rs)
i	Priyanshu	119,700.00
ii	Nitesh Kumar	37,280.00

V. Indian Oil Corporation has sanction scholarship and the beneficiary is

Sl. No.	Name of the students	Amount (Rs)
i	Md. Arif	36,000.00

VI. Aadivasi Nivas, Shivni has sanctioned scholarship for

Sl. No.	Name of the students	Amount (Rs)
i	Vivek Hanumante	70,000.00

VII. Directorate of Higher and Technical Education, Government of Arunachal Pradesh, Itanagar has sanctioned book grants to Arunachal Pradesh Schedule Tribal students. The following are the lists of students who got the grants:

Sl. No.	Name of the students	Amount (Rs)	Sl. No.	Name of the students	Amount (Rs)
i	Bullo Hassang	9,600.00	xiii	Nganga G. Sorum	10,800.00
ii	Darbom Modi	10,800.00	xiv	Ongfa Wakhet	10,800.00
iii	Hage Manju	10,800.00	xv	Peter Nabam	10,800.00
iv	Hunpu Tangha	10,800.00	xvi	Sengong Maio	10,800.00
v	Jumdo Gamlin	9,600.00	xvii	Senong Namchoom	10,800.00
vi	Karbi Loyi	10,800.00	xviii	Tarak Takang	10,800.00
vii	Kime Opo	9,600.00	xix	Taru Tasso	10,800.00
viii	Lindum Tassar	10,800.00	xx	Tayor Tabing	9,600.00
ix	Nabam Bida	10,800.00	xxi	Tenzin Choney	10,800.00
x	Nada Tade	9,600.00	xxii	Tenzing Lhadon	10,800.00
xi	Nanu Gumsar Sorum	9,600.00	xxiii	Tenzing T. Totpa	10,800.00
xii	Narika Namchoom	10,800.00	xxiv	Timothy Nima	10,800.00

VIII. Ministry of Social Justice and Empowerment, Govt. of India, New Delhi has sanctioned grants-in-aid under Central Sector Scheme of Top Class Education for SC students. The following are the lists of 4th year students:

Sl. No.	Name of the students	Amount (Rs)	Sl. No.	Name of the students	Amount (Rs)
i	Manish Kumar	1,29,215.00	viii	Rajesh Kumar	1,29,215.00
ii	Ajit Singh	1,29,215.00	ix	Pranab Roy	1,29,215.00
iii	Pankaj Kumar	1,29,215.00	x	Aman Das	1,29,215.00
iv	Mrinal Kanti Rajak	1,29,215.00	xi	Shweta Rani	1,29,215.00
v	Noben Kumar Roy	1,29,215.00	xii	Anil Ram	93,395.00
vi	Vikash Anand	1,29,215.00	xiii	Sandeep Bairwa	93,395.00
vii	Rohan Rai	1,29,215.00			

IX. Samaharanalay Samajitpur, Bihar has sanctioned scholarship for

Sl. No.	Name of the students	Amount (Rs)
i	Ajay Kr. Ram	54,200.00

X. SJVN Ltd., a Mini Ratna and Schedule 'A' Central Public Sector Undertaking under the Ministry of Power, Govt. of India, is a joint venture of Government of India and Government of Himachal Pradesh has sanctioned Silver Jubilee Merit Scholarship Scheme. The following are the lists of students:

Sl. No.	Name of the students	Amount (Rs)
i	Rishav Das	2000.00 pm
ii	Jubair Ahmed	2000.00 pm
iii	Roshan Thomas	2000.00 pm
iv	Vedprakesh Chauhan	2000.00 pm
v	Shyam Kumar Dorjee	2000.00 pm
vi	Sajin P. Koshy	2000.00 pm
vii	Avinash Nair	2000.00 pm
viii	Nganga Gumsar Sorum	2000.00 pm

### 7.8. Training and Placement Cell

The Cell of the Institute plays a very important role in counselling and guiding the students of the Institute for their professional growth and successful career placement. The placement stage is a crucial interface between the stage of completion of academic programme of studies and that of entry into suitable employment.

Besides, in order to provide ample opportunities to the students to get proper placement in industries and companies, the Cell conducts workshops and mock interviews. It has prepared a draft Placement Brochure and the same has been released in the year under report i.e, 2014-15 to invite the industries/organizations for campus interviews and placements. Video-conferencing facility has already been established in 2012-13 for conducting one-to-one interview.

The Training and Placement Cell of the Institute centrally handles all aspects of campus placements for the graduating students of all the departments. The Cell is well-equipped with excellent infrastructure to support each and every stage of the placement processes. The T & P staff members also assist in arranging Pre-Placement Talks, Written Tests, Group Discussions and Interviews etc. as per the requirements of the Organizations.

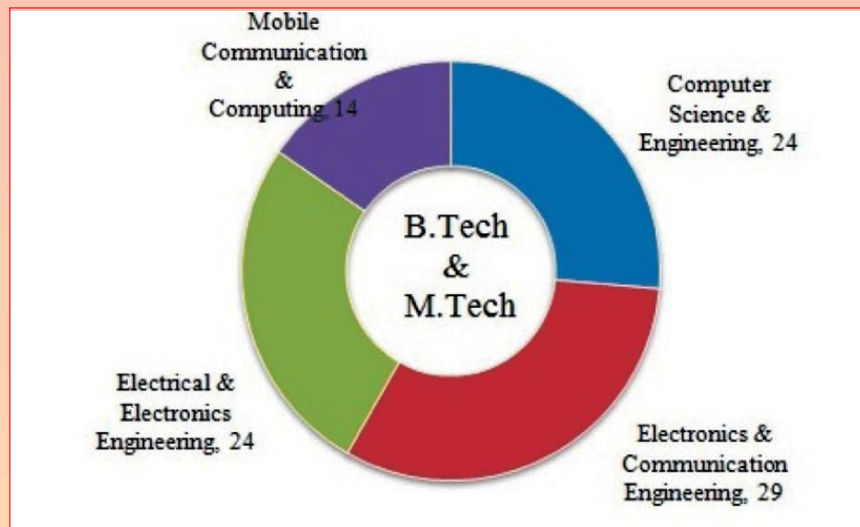
The details of students (batch 2011-15) who are already placed are as under:

Sl. No.	Corporate/PSU	No. of Students	Package offered (in Rs.)	Remarks
i.	Nokia	01	6.5 Lakh/annum	6 shortlisted
ii.	Tech. Mahindra	08	3.07 Lakh/annum	35 shortlisted
iii.	Polaris	01	4.5 Lakh/annum	15 shortlisted
iv.	L&T	03	5.2 Lakh/annum	One get rejected (medically unfit)
v.	IBM	08	3.5 Lakh/annum	6 shortlisted
vi.	Wipro	08	3.0Lakh/annum	13 shortlisted
vii.	Nucleus Software	02	4.5 Lakh/annum	6 shortlisted
viii.	L&T infotech	01	3.0 Lakh/annum	6 shortlisted. This was only for OBC students.
ix.	Face	01	3.0 Lakh/annum	-
x.	Zaloni	01	3.25 Lakh/annum	-

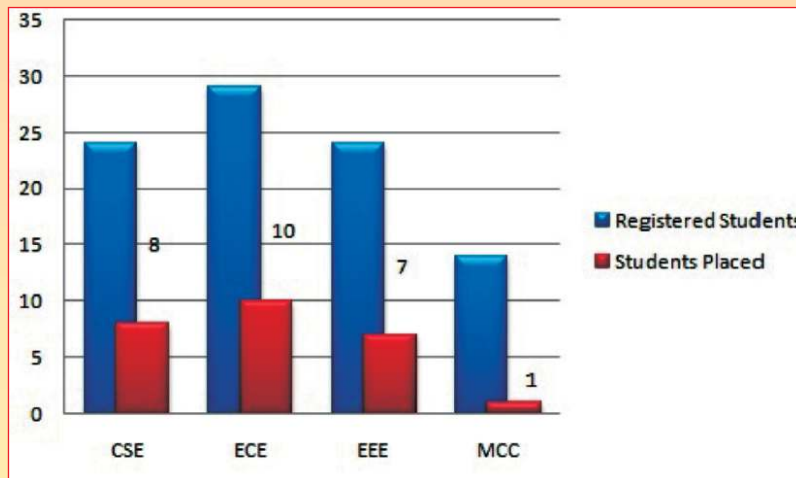
**Placement of Second Batch (2011-15) of Students (Department-wise)**

No. of DEPTT.	MULTIPLE STUDENTS	TOTAL OFFERED	PLACED
ECE	29	05	10
CSE	24	03	08
EEE	24	00	07
MCC	14	00	01

**Number of students registered for recruitment (2014-2015)**



**Placement Status of 2015 Batch**



**Company-wise placed & packages**

Companies	CSE	ECE	EEE	MCC	Package Offered
Tech Mahindra	1	6	1	-	3.07 lakh/annum
Polaris	1	0	-	-	4.5 lakh/annum
L&T	-	-	3	-	5.2 lakh/annum
IBM	1	4	2	1	3.5 lakh/annum and 4.5 lakh/annum
Wipro	4	3	1	-	3.0 lakh/annum
Nucleus Software	2	0	0	-	4.5 lakh/annum
Nokia	0	1	-	-	6.5 lakh/annum
Face	1	0	0	-	3.0 lakh/annum
Zaloni Technologies	0	1	0	-	3.25 lakh/annum
L & T Infotech.	1	0	0	-	3.0 lakh/annum
<b>Total</b>	<b>11</b>	<b>15</b>	<b>7</b>	<b>1</b>	

**7.9. Research related information pertaining to students****I. Department-wise students' publications (during the last five years)**

Sl. No.	Department	2014		2013		2012	
		(C + B)	(J)	(C + B)	(J)	(C + B)	(J)
1	ECE	05	7	02		08	
2	CSE	23	13				
<b>Total</b>		<b>28</b>	<b>20</b>	<b>02</b>		<b>08</b>	

Hint: Conference (C), Journals (J), Book Chapters (BC).

**II. Participation of students in Conferences**

Programme	Departments	No. of students attended										Total	
		National/International Conferences in India					International Conferences abroad						
		2014	2013	2012	2011	2010	2014	2013	2012	2011	2010		
B. Tech	ECE	12	32	-	-	-	-	-	-	-	-	-	44
M.Tech	CSE	18	34	-	-	-	-	-	-	-	-	-	52
Ph.D	EEE	-	31	-	-	-	-	-	-	-	-	-	31
<b>Total</b>		<b>30</b>	<b>97</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>04</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>127</b>

### III. Inter-disciplinary nature of Projects/Thesis works of students (in last 5 years)

#### Discipline-wise details of projects (number only)

Branch	B.Tech			M.Tech			Ph.D		
	2014	2013	2012	2014	2013	2012	2014	2013	2012
ECE	-	02	-	-	-	-	-	02	-
CSE	-	-	-	11	-	-	-	-	-
EEE	-	-	-	-	-	-	-	-	-
<b>Total</b>	-	<b>02</b>	-	<b>11</b>	-	-	-	-	-

#### [Year-wise projects]

Academic Session	B.Tech	M.Tech/M.Sc/MBA/MCA	Ph.D
2013	02	-	-
2014	-	-	04
<b>Total</b>	<b>02</b>	-	<b>04</b>

#### 7.10. Best Achievement by the Students:

The two students of our Institute (Argha Sarkar and Shankar Bhattacharjee) got the best paper presentation awards in an International Conference held in Jaipur. The details are given below:

- Best Paper Awards: **Argha Sarkar** et al. has been Awarded by **Best Paper** in ICRCWIP-2014, PIET Jaipur India, January 16-17, 2015.

**Paper Title:** *CNT Based Biomedical Sensor for Cancer Detection*

- **Shankar Bhattacharjee** et al. has been Awarded by **Best Paper** in ICRCWIP-2014, PIET Jaipur India, January 16-17, 2015.

**Paper Title:** *Miniaturization on MEMS Based Smart Patch Antenna Design for Biomedical Application*

#### 7.11. Celebrations in the Institution

##### A: Women's Day Celebration at NIT AP

International Women's Day was celebrated on 9th March, 2015 at the NIT campus. The programme was conducted by the Working Women Committee of NIT-Arunachal Pradesh. Advocates Ms. Kipa Rimi and Ms. Raknu Konya from Itanagar Bench of the Hon'ble Guwahati High Court were invited to deliver talks on 'Legal Awareness Programmes for Women.' Ms. Kipa Rimi

delivered a power point presentation on sexual harassment at workplace and the laws of women's rights. She also provided information on the legal procedures for filing complaints. Ms. Raknu Konya highlighted on domestic violence and the laws to curb the problems. The talks were followed by a Question & Answer session where students, staff and faculty members were encouraged to put forth their queries regarding sexual harassment and domestic violence. The programme was aimed at spreading awareness among the female students, staff and faculties about the various degrees of harassment at work place, family and other environment. It was a successful effort in making most of the women in the NIT campus aware of the legal actions that can be imposed on the offenders.



Women's Day Programme



### **B: ATULYAM 2015**

"Our Endeavour is to start an odyssey which will inculcate in us the zeal and spirit to embrace the galaxy of brilliance in our midst and will lead us all to laurels of fame and glory".

Atulyam is the inter-College Annual Cultural Festival of NIT-Arunachal Pradesh. It is one of the important cultural fest in North East as well as in the Country. It has entertainment and fun integrated with awareness and responsibility while creating a holistic and magical environment making this festival grand, extravagant and worthwhile.

Atulyam is the time when students and teachers take a break from the classroom atmosphere and bask in the glory of both Indian and western culture. There are songs, dance, plays and much more. It is the time, when young, old and carefree spirits come together for moments to remember for the whole lifetime. It invites students from all around the country to put their ingenuity and aptitude to test at an unparalleled level of competition. This 2nd edition of Atulyam is epitomized itself as the ultimate platform of participants. Embodying the undying spirit of a student, this festival makes you challenge and ravish the artist in him/her.

Atulyam, the annual cultural festival of NIT-Arunachal Pradesh was held during 23th to 26th January, 2015 with the slogan prakriti, sanskriti, prodhyogiki. This was the first time when the Institute celebrated the annual cultural festival unlocking the potential of the NITians. Students from various institutes participated in the events. Altogether 38 events were there in nine categories including theatrics, creat-ev-villaz, Viking Zone, Rhythm on The Floor, Literature, Sports and Mr. and Miss Atulyam.

The festival was inaugurated on 24th January, 2015 by Prof (Dr) C. T. Bhunia, Director of the Institute in the presence of Sri Rajen Pudur, Chairman Atulyam and Sri S. P. Kar, OSD (In-charge). The inauguration part included a welcome address by Our Director. The local dance and classical dance were performed by our students.







**Atulyam-2015**

**C: Fresher's Welcome-2015**



Director's Addressed on Fresher's Welcome



Mr. Fresher and Mrs. Fresher

### **D: Popularization of Thirukkural's Message**

For popularization of Thirukkural's Message, an essay Competition and social service programme was organized in the NIT Campus on 10th January, 2015. The summary report along with some photographs was forwarded to the Technical Section in the MHRD, Govt. of India.



### **E: Saraswati Puja Celebrations**

The students celebrated Shri Saraswati Puja on 24th January, 2015 in the Institute's Campus.



## **7.12. Programme organized by the Institute**

### **I. Mass Social Service**

Mass Social Service was organized by the NCC unit to mark the Teacher's Day with Tree plantation by the Director, Dean (Acad.), Officer on Special Duty in the presence of the members of staff and students



## II. National Education Day

The Institute celebrated the 11th November, 2014 as the 127th Birth Anniversary of Dr. Abul Kalam Azad, the first Union Education Minister of the Independent India. On this auspicious occasion, the Institute organized a seminar on the topic: 'Importance of Technical Education in the development of North East Region.' The tree plantation drives were also taken up by the NCC Cadets and students. All the students participated in the seminar and tree plantation activity with a high degree of enthusiasm.



### III. National Unity Day

The Institute celebrated National Unity Day on the occasion of 139th birth anniversary of Lt. Sardar Vallabhai Patel (Freedom Fighter and first Union Home minister as well as the deputy Prime Minister of the Independent India) on 31st October, 2014. The students, faculty and staff members participated in the 'Run for Unity' race. A debate competition was organized on the topic 'Is it justifiable to volatile civil liberties if it is mandatory for National security?'



#### IV. The Blood Donation Camp

The Blood Donation camp was organized at NIT-Arunachal Pradesh Campus in collaboration with the Arunachal State Hospital, Naharlahgun on 25th October, 2014. The faculty members, members of staff, students and Army Staffs donated their blood voluntarily for the noble cause. The medical officers emphasized and encouraged while explaining to the students as to why one should donate his/her blood.



Army Staff donating his blood



Dr. P. K. Swain, Asst. Professor,  
Physics



The Medical Officer, Govt. of  
Arunachal Pradesh delivered lectures  
on blood donation



## V. SWACHCHA BHARAT ABHIYAN

The faculty members, staff members and students of NIT-Arunachal Pradesh whole-heartedly responded to the 'Swachh Bharat Abhiyan' programme which is launched by the Hon'ble Prime Minister of India. In the event of the 'Swachh Bharat Abhiyan,' a cleanliness drive around the campus and in adjacent areas of NIT-Arunachal Pradesh was organized by the students, staffs members and faculty members on 2nd October, 2014.



## VI. State Level Debate Competition

The Institute organized a State level debate competition on the topic of 'Implementation of Prepaid Energy Metering System on Energy Conservation' on 26th January, 2015. Students from other Central and State universities located in Arunachal Pradesh took part in this debate competition.



## VII. Mock Drill of Disaster Management Drive

The Mock Drill Disaster Management Drive arranged by the Institute aims at educating and imparting practical training to the local youths by the ITBP Jawans. The event was organized by the NCC Unit in coordination with the Disaster Management Cell, Govt. of Arunachal Pradesh and 31st ITBP Battalion.



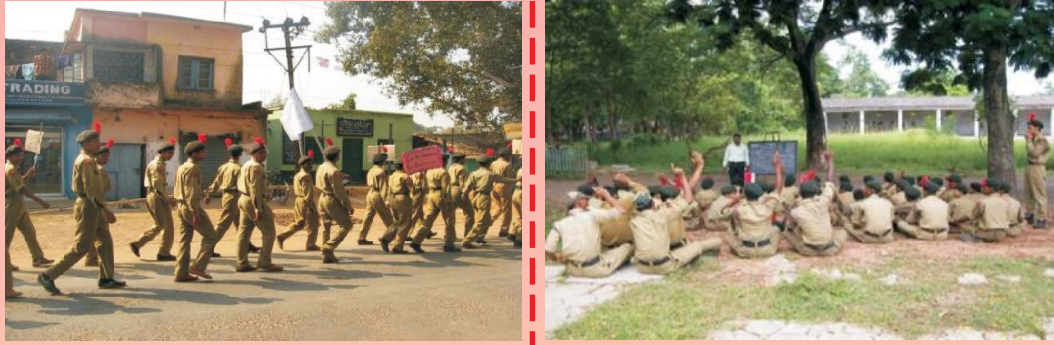
### VIII. Combined Annual Training Camp

A combined NCC annual training camp was conducted at Itanagar from 3rd February, 2015 to 12th February, 2015 under the guidance of 1AP Battalion NCC Unit Head Quarters. The NCC Unit of NIT-Arunachal Pradesh also took part in this camp.



### IX. Social Activity on Teacher's day

It was organized by the NCC unit with the objective to spread the awareness among people to save girl children. The faculty members, staff members, students along with the Institute's NCC Cadets actively campaigned for this awareness programme.



### X. World AIDs Day

An awareness programme was organized on 1st December, 2014 on the occasion of World AIDs Day by the Institute's NCC unit along with the coordination of AIDs Control Unit of the Government of Arunachal Pradesh. An essay competition was held on this occasion in the Institute. The summary report was forwarded to Arunachal Pradesh State AIDS Control Society, Government of Arunachal Pradesh.

### XI. ADG Conference

The Associate NCC Officer of NIT-Arunachal Pradesh made a presentation and discussed the policy-making (for recruitment of students of this Institute in the rank of Army Officer) with the ADG of NCC Army Wing & Group Commander and other Army Officers on their visit to NCC Battalion Head Quarters.



### XII. University Entry Scheme 25 Course for Joining as Regular ARMY Officer

NIT-Arunachal Pradesh organized the UES-25 course for the pre-final year students in 2014. After successful completion of this course, the students

may be recruited in Army Engineering Regiment. Nine out of the total 23 students qualified the PIB round and this is a good result. The following is the list of such students.

Sl. No.	Name of the Student	Stream	Remarks
i	Lindum Tassar	Electronics & Communication Engineering	Recommended
ii	Vishal Chauhan	Electrical & Electronics Engineering	Recommended
iii	Avanish Singh	Electrical & Electronics Engineering	Recommended
iv	Himesh Kumar	Electrical & Electronics Engineering	Recommended
v	Sourabh Prakash Roy	Electrical & Electronics Engineering	Recommended
vi	Nihin Raj	Computer Science & Engineering	Recommended
vii	Varun MS	Computer Science & Engineering	Recommended
viii	Ashutosh Kumar Singh	Electronics & Communication Engineering	Recommended
ix	Bishnu Chandra Nath	Electrical & Electronics Engineering	Recommended

These students are to proceed for interview by the Service Selection Board and await further correspondences from Army RO, ADG Branch, New Delhi.



University Entry Scheme

### **XIII. Other Programmes Organized by the NCC Unit of the Institute**

With the objective of developing a Sound Mind with a Sound Physical Health, overall personality and amenability to discipline of the students are given the prime priorities in NIT-Arunachal Pradesh. Sports, Armed

Force Military lessons, Social services and allied activities are emphasized while keeping a pace with the academics. The Institute encourages students to attend NCC Camps and achieve sporting excellence. It provides all the necessary facilities and equipments to them for maintaining physical fitness and good health.

NCC Unit of the Institute organized an awareness and motivational lecture in its Seminar Hall on 29th November, 2014 with an aim of motivating the students of North Eastern region to join Indian Armed Forces as Officer in collaboration with the Army 19 Engineering Regiment. Students attended this motivation lecture with full zeal. A wide publicity was given to the event which generated interest among the youths of this region. The Institute is also motivating the local youths to join as officers in Armed Forces.

1 AP Battalion NCC HQ conducted one CATC-VIII camp at Itanagar location from 03.02.2015 to 12.02.2015. The aim of this camp was to educate the youth in the subject of Military History; Armed Force Subjects i.e, Drill, Gun Drill, Firing and MR; Social Service Activity; Sports; and PT YOGA.

A grand cultural programme was organized by the NCC Unit, 1 AP Battalion and local cultural groups under the aegis of 1 AP Battalion. The cultural show included Mishmi dance by cultural groups of Arunachal Pradesh, students, and Chairi Dance (Bamboo Dance) and Bihu dance by troops of various groups of students.



## 8. Innovations and Emerging needs

### 8.0. Introduction

The National Institutes of Technology (NITs) were established with the mandate to impart higher technical education and also to carry out research work at par with the standards adopted by international universities. In pursuance of achieving excellence at par and meeting the basic objectives of establishing the NITs, this Institute has initiated various innovative measures not seen to be in operation everywhere. These innovations are meant to do things differently rather than to do different things. It is pertinent to mention here that the ten new NITs are in addition to twenty older NITs existing in the country prior to 2010. The older NITs have since acquired huge experience and have become matured with the passage of time. The ten new NITs are young enough and need to be innovative from the very beginning for achieving excellence. NIT-Arunachal Pradesh has started with a perfect tune and innovative ideas wherever and whenever possible within the existing frameworks of the NIT Acts and Statutes.

The following paragraphs portray a summary of things initiated in NIT-Arunachal Pradesh for stepping in the hall of fame. The motive of doing so is to invite constructive review opinions and suggestions for possible addition, deletion and modifications of current actions of the Institute for steering the wheel in the right direction towards perfect achievements while ensuring an inclusive growth.

### 8.1 Academic Innovations

The Vision and Mission of NIT-Arunachal Pradesh stand on the four pillars viz. EDUCATION, RESEARCH, SERVICE TO SOCIETY and ETHICS. In pursuit of the same, several noble approaches are made in framing syllabi, selecting judicious new disciplines for UG & PG studies, introducing Ph.D. programmes, undertaking social services and adopting country-specific programmes. The following are the details in this regard:

#### **Education in a frame of productive & forward looking syllabi in producing right and prospective engineers for the country**

The UG syllabi are chalked out with unique and distinct compulsory credit courses for all the disciplines, and those are: NCC/NSS to make the students mentally and physically competent; Historiography in Science & Technology to make future engineers to know about the philosophy and struggle of their great predecessors to establish scientific & technological temper in the societal cause; Values & Ethics to produce future engineers with ethical mind and value-oriented human beings; Design Contest as an attempt to

produce Technical Engineers rather than only Academic Engineers within the current framework of the fixed four-year programme; Research Paper Communication to ignite young minds in thought process and research viability; and Environmental Engineering & Disaster Management to provide time-relevant courses to meet emerging needs.

To make the students globally employable and competitive, several excellent courses are offered. These are basically communication skill development papers on English, French, German, Japanese and Chinese. All Electives are made open to students of any and all branches. Now-a-days, employability of students of CSE & IT (for that purpose all other disciplines too) is based on sometimes how much they know about Java, PHP, Ruby rather than that of core subjects. Hence, in order to enhance the employability, which is one of the responsibilities of any Institute of National Importance; add-on courses (non-credit) are offered to the students during vacation/holidays, preferably by the Industrial Houses.

#### **Fabulous measures in examination process**

Several bold measures have been introduced or are in process of implanting in the process of revamping the examination system in NIT-Arunachal Pradesh. The measures so undertaken are believed to examine as to how far the students know rather than what they do not know. Besides, engineers should be made to take up design on given problem with available formula and imaginative orientation rather than memorizing of dates, data and quotations. A few noteworthy initiatives already taken up are: setting question paper of more marks (say 140 marks rather than the conventional 100 marks) and asking students to write whatever they can with a maximum given score (for example 100 marks), open book examination in selective mathematics and design oriented papers, and on-line examination in papers of objective type.

#### **Catering Industrial flavours in imparting Education**

Since the days of recommendations of Kothari Commission for Institute-Industry interaction, various steps are in operation in different universities through many different ways to realize the concept. However, NIT-Arunachal Pradesh promises to do the interaction through an approach reportedly never seen hitherto. The big ideas in operation in the Institute are I-course and compulsory industrial training for members of faculty. One paper in each semester of all branches is marked as I-course meaning that at least 50% of the course content of the paper will be taught by an Industrial Expert. In order to meet the challenges of not getting industrial experts for delivering lecture, other way around approach has been adopted in NIT-

Arunachal Pradesh. During summer vacation, teachers on rotation are sent to industry for training at least for a month at full cost of the Institute so as to allow them to acquire Industrial experience gradually.

### **Inspiring changes through judicious selection of new UG & PG courses**

Several research works on technical education systems in India categorically pointed about the spurt of growth of institutes/universities owing to LPG (Liberalization, Privatization and Globalization) adopted in India after 1990s. But the emphatic spurt has resulted in creating several imbalances in the technical education in India primarily due to Private Investment Policy of low investment and high return clubbed with the profit-only motive in most of the cases. The disciplines, popularity in respect which is increasing in leaps and bounds, are low investment and service-oriented courses like Computer Science & Engineering, Information Technology and Electronics & Communication Engineering. Mother Core Sector engineering and high investment disciplines of Mechanical Engineering, Civil Engineering and Electrical Engineering are pathetically ignored. Any Institute of National Importance must act to correct this imbalance and, therefore, NIT-Arunachal Pradesh has resolved to start B. Tech programme in Mechanical Engineering and Civil Engineering in 2013-14. At the same time, the Institute does not like to ignore the emergent areas for taking a giant leap forward. It has aspired to start M. Tech in Mobile Computing & Communication Engineering, being one of the most promising and emergent fields, in 2013-14.

NIT-Arunachal Pradesh has taken a bold decision to introduce M. Tech programme on Appropriate Technology & Entrepreneurship Practice in 2013-14 as a sole course in collaboration with the National Institute of Rural Development, Hyderabad. Several studies and statistics predict that the unemployment of engineering graduates in India will be a social crux and may be highly dismissive for engineering education in India to flourish and progress. As of today, around 40% engineering graduates are either jobless or in job with under-paid monthly emoluments. Most of the employed engineers suffer from frustration due to lack of job-satisfaction and lack of innovative strategies of the employers. In the age of LPG (Liberalization, Privatization and Globalization), it was predicted that the BRIC countries (i.e. Brazil, Russia, India and China) will be the power-centres to reckon with. The fact is that except in respect of China, it is difficult to believe that the prediction has come true. China has progressed based on several innovative measures one of which is the revolution in entrepreneurship in manufacturing sectors with global market. India has not progressed much in entrepreneurship in manufacturing industries, although it has some

impacts only in service sectors that too basically in IT sectors. Therefore, it will be a wise approach either to introduce noble new M. Tech programme in India to tackle the gaps mentioned above. Today in India, there is a need to produce engineers who will create jobs rather than running after jobs. At the same time, in India, one important unattended sector is appropriate technology relevant to rural, cultural and environmental development. A little attention has so far been given to bamboo technology, low cost & local made farming technology, rural home-made food processing technology, bio-gas technology, renewable energy resources, and environment and sustainable development. In order to address both the issues mentioned above, an innovative M. Tech programme on Appropriate Technology & Entrepreneurship Practice (AT & EP) has been started from 2013-14 as mentioned above. The 'Think Tank' of the Institute is also seized of the need of other aspects of inclusive growth in the present-day scenario.

Institute vision focuses to impart knowledge and essence of bio-technology in fundamental subjects such as molecular biology and other related areas, coupled with research applications for the improvement of life and sustainable development. The entire North-East of India including Arunachal Pradesh is rich with large number of flora and fauna. To explore the medicinal qualities of these floras, the NIT Arunachal Pradesh started a new B. Tech programme in Bio-technology from academic session 2014-15.

Electronic products are extensively used throughout the world - practically all the fields ranging from domestic appliances to space research. It has been made possible by the invent of semiconductors. VLSI has miniaturised the instrumentation for control and services. While taking an innovative lead, the NIT-Arunachal Pradesh has started a new M. Tech programme in Electronics Design & Manufacturing (EDM) from July 2014-15. This programme is focussing on the design and manufacturing of electronic devices. It includes electronic hardware design and manufacturing for IT, Telecommunications, Defence, Medical, Industrial, Automotive, Consumer products & applications, components & accessories of computers etc..

National Institute of Technology-Arunachal Pradesh offers online MBA program since July, 2014. The curriculum is constantly updated with the dynamic global and Indian environment. Learning is further enhanced by information technology that connects students to resources and data around the globe. The approach to management education is founded on continuous innovation, development of practical knowledge and a relentless commitment to academic excellence. The online MBA programme has been chalked out keeping in view the industry dynamics and the changing economic scenario of the world. This online course will facilitate a wide

flexibility to various groups of aspirants of higher education like (a) working people (b) economically backward candidates (c) those who are not getting opportunity to earn PG degrees in conventional mode of education. The online MBA students never miss out on interaction with any students/faculty members even if they do not meet each others. Faculty members and students communicate via instant message, email, phone, video-conferencing and online discussion.

### **Integrating Engineering into the process of Sustainable Development**

Engineering is the professional art of applied science for the optimum conversion of natural resources to the uses of mankind through a sustainable approach. This may be achievable by professional engineers through application of improved skills and modern technologies. Engineers have the obligations to work for enhancement of health, safety and social welfare of both the local and global community through the practice of sustainable development. Since public health and safety is fully dependent on engineering judgments, assessments of risk, decisions and practices incorporated into structures, machines, products, processes and devices, they are responsible and accountable to their assigned duties. Engineers are to embrace a wide range of additional skills beyond those traditionally relied upon by them. This will require changes in the way in which engineering education prepares students for professional practice. Every engineering discipline is engaged in sustainable design, employing numerous initiatives through new policy and regulatory innovations. The design must consider short and long-term impacts. A device must be designed to meet the criteria for performance, aesthetics and price. Green engineering attempts to achieve four goals viz. waste reduction, materials management, pollution prevention and product enhancement. It encompasses numerous ways to improve processes and products to make them more efficient from an environmental standpoint.

### **Highlighting the ethical roles of Engineers**

Engineering ethics aims at understanding the moral values that ought to guide engineering practice, resolving moral issues and justifying moral judgments concerning engineering. It is the field of applied ethics and system of moral principles that apply to the practice of engineering. The field examines and sets the obligations by engineers to society, to their clients and to the profession. It includes currently accepted codes and standards of conducts endorsed by various groups of engineers and Engineering Societies. By transforming the natural resources for the benefit of mankind, the engineer must increase his/her awareness of the world as the abode of living creatures. An engineer should reject any proposal having potential to harm the general interest, thus avoiding a situation that might

be hazardous or threatening. It is an inescapable duty of the engineer to uphold the prestige of the profession, to ensure its proper discharge and to maintain a professional ethics with the consciousness of individual well-being subordinate to the social good. The engineer must ensure continuous improvement of his/her knowledge, particularly of his/her profession; disseminate his/her knowledge & share his/her experience; provide opportunities for education and training of workers; provide recognition and moral & material support to the Institutes where he/she studied, thus returning the benefits and opportunities he/she has received. As members of this profession, engineers are expected to exhibit the highest standards of honesty, integrity, impartiality, fairness, equity and dedication to protection of the public health, safety and welfare.

### **Forward thinking research activities**

NIT-Arunachal Pradesh has taken up challenges to create potential and productive research culture in the Institute in the process of which notable exercises are introduction of Ph. D. programmes in Computer Science & Engineering, Electronics & Communication Engineering, Physics, Chemistry, Mathematics and Management; regular organization of research conferences including the North-Eastern Regional Science Congress in the centenary year of Indian Science Congress Association (proposals have been sent for organization of full Indian Science Congress in 2015, Indian Engineering Congress in 2015 and Annual Convention of Indian Society for Technical education in 2016); publication of regular bi-annual journal called International Journal on Current Science & Technology; encouraging and sponsoring members of faculty to enrol as members of scientific & professional societies like IEEE, IETE, IE(I), ISTE and ISCA leading to creating sections/chapters in short future. Lots of accolades are achieved in research productivity in NIT-Arunachal Pradesh [e.g. in 2011, two Professors / Assistant Professor visited USA, Italy and Jordan to present research papers & chair technical session; in 2012, two Professors / Assistant Professor to visit USA for the same function in 2013-14, four faculty members visited USA and in 2014-15, three faculty members visited USA, South Korea and Mexico to attend International Conferences; and many Professors have published research papers in leading national & international journals.

### **Developing resourceful laboratories & libraries**

NIT-Arunachal Pradesh has left no stone unturned in installing world class laboratories and those are: English Communication Laboratory, Computing & Network Laboratory, Campus Wi-Fi connectivity, Video Conferencing & other ten laboratories in the last two years with M. Tech class room with a computer (plus NET facilities) to each student. The library is immensely resourceful as is evident from the following Table of comparison based on data available in different websites.

**Table: Books per student available in libraries of leading Universities/Institutions**

Sl. No.	Name of the Institute / University	Total number of students (*)	Total number of books in library (*)	Book collection per student (*)
i	Stanford University, California	19,945	13,10,000	65.68
ii	IIT-Khargpur	6,450	3,00,000	46.51
<b>iii</b>	<b>NIT- Arunachal Pradesh</b>	<b>462</b>	<b>20212</b>	<b>43.75</b>
iv	IIT- Bombay	5,700	2,28,077	40.01
v	MANIT- Bhopal	4,000	1,40,719	35.18
vi	MNNIT- Allahabad	3,179	1,04,382	32.83
vii	IIT- Guwahati	3,900	1,17,000	30.00
viii	NIT- Agartala	2,200	34,000	15.45

(\*) Data in respect of the other Institute are being updated

### Fast Track students' activities

The Institute has provided enough encouragement to its students with partial financial support to make them enrolled as IEEE student members following which petition has been submitted for opening students' branch at NIT-Arunachal Pradesh. On every year on Technology Day on 9th May, the Institute has decided to organize National Students' Essay Contest with best essays awarded with (i) cash prizes and (ii) publication of the proceedings containing the selected essays. As a matter of bringing togetherness and to bring respect for seniors as well as confidence in juniors, senior students are encouraged to teach juniors on some selected course papers. The approach is believed to decrease/minimize conflicts between seniors and juniors often common in universities particularly on egoistic issues. NSS/NCC chapter has been opened in the Institute under the banner of which students do take part in plantation and beautification programmes in Yupia. Students have since organized three blood donation camps.

### Regular symposium of Visiting Professors

In each semester, a conclave of eminent professors from leading universities is initiated to supplement the regular teaching process and also to have interaction by teachers for research direction. A few distinguished professors invited for such conclave are: Prof S. C. Dutta Roy, IIT- Delhi; Prof S. L.

Maskara, IIT-Kharagpur; Prof Ajit Pal, IIT- Kharagpur; Prof P. K. Basu, University of Calcutta; Prof Atal Chowdhuri, Jadavpur University; and Prof Karmeshu, JNU, among others.

## 8.2. Administrative Innovations

Administrative reforms & innovations in NIT-Arunachal Pradesh go in tandem with those of academics so as to achieve maximum benefits. Administrative philosophy adopted by the Institute is binary : “0” for love, affection and humanitarian attitude with zero action while activities are performed to meet the defined objective in the framework of prevailing rules & regulations; and “1” while action is stringent when given function has failed to meet the targeted goal with non-acceptable pretext. The Institute categorically rejects the common excuse of not doing things on the pretext of having no time as its philosophy of time management is that “Busy men always get time to execute; but it is the idle men only who do not get time.” Accordingly, innovative practices introduced in NIT-Arunachal Pradesh are brought out hereunder.

### Six days a week

NIT-Arunachal Pradesh is following the practice of ‘six days a week’ in the first three/four weeks of a month, followed by holiday of the last week clubbed with cumulative 3 or 4 days compensatory leave for working on Saturdays/Sundays/Holidays of the previous weeks. The process has got multiple benefits of providing a substantial period of holiday at a stretch at least once in a month to the employees and students from distant places to enable them to go home for family togetherness without disturbing the effective continuity of teaching & learning process with a small gap for avoiding monotony and providing a short break in studies.

### Practice of E-office

NIT-Arunachal Pradesh is in the process of being transformed into a paperless office. Most of the communications are made by and through e-mails. ERP solutions are to be installed for complete automation of the offices in near future.

### Greenovations

Plenty of initiatives are implanted to make NIT-Arunachal Pradesh a zero-tolerance zone so far as the noise and pollution are concerned with the facilities of in-built waste disposal and energy conservation in place. The present temporary campus has an installed captive solar power plant of 100 kw serving all the purposes of energy requirement. This is reported to be the first of its kind in the entire North-Eastern region. Necessary plan

has been sanctioned to make the permanent campus (at Jote) a fully solar powered, earth-quake resistant, in-built waste disposal system with possible bio-gas plant and water recycling plant. Cost escalation for such a planned and noble campus is of course a matter of concern. The permanent campus is proposed to have a tram line communication with conventional vehicles deployed at the entrance only. The proposal is meant to make the campus less noisy and pollution-free.

### Attitudinal U-turn

NIT-Arunachal Pradesh believes to see half a glass of water as half-full rather than half- empty. Institute's authorities have since given verbal directions to all concerned to review and analyze all & every proposal with positive attitude as far as practicable. It has been categorically instructed all in the administration and academics to behave like Teachers rather than as Officers; but that does not mean any deviation from the existing rules & regulations. It envisages that if the reply in response to anything is "NO", the same is to be expressed as "*NOT BEING POSSIBLE, PLEASE.*"

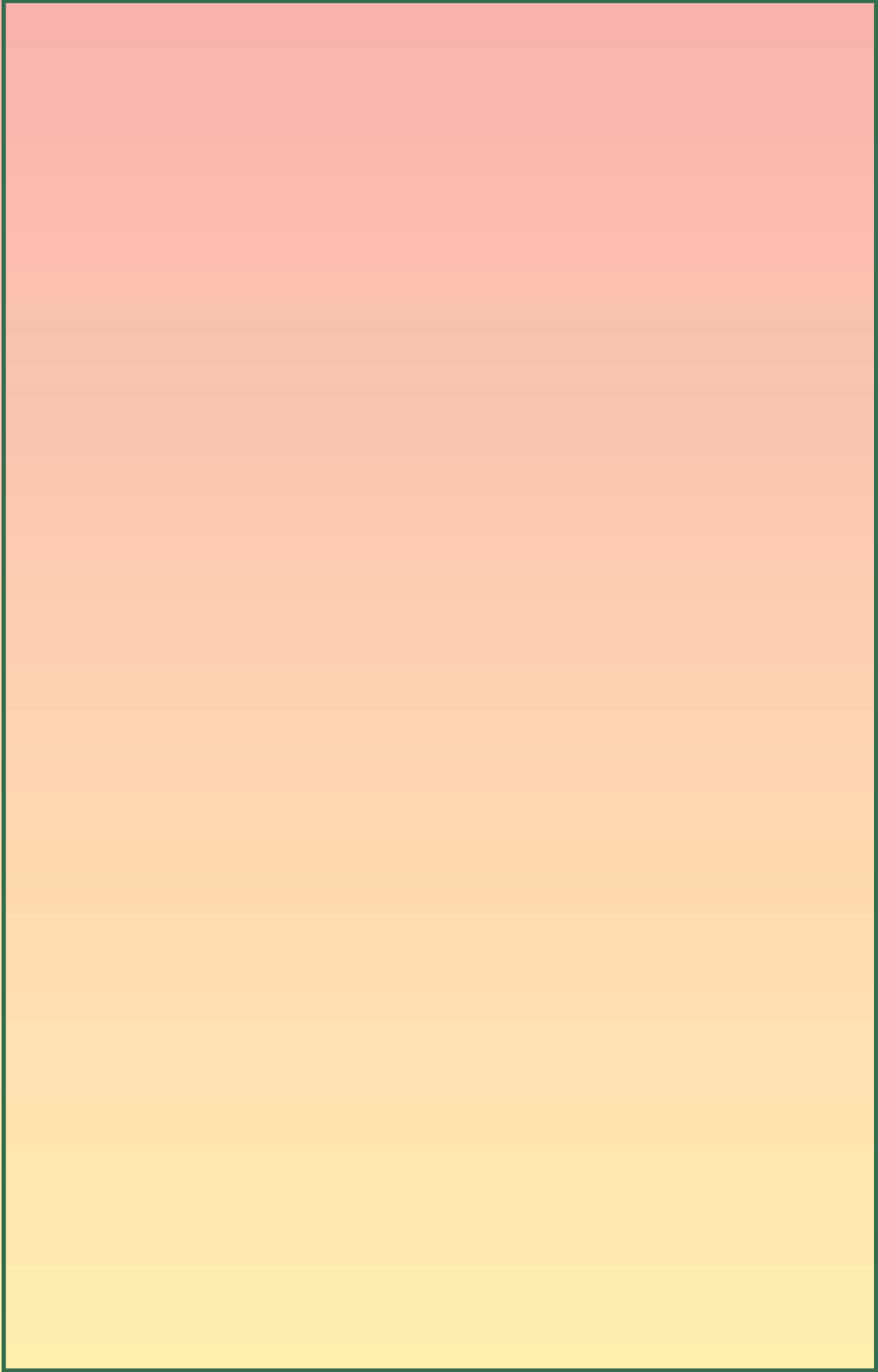
### Continuous encouragement

NIT-Arunachal Pradesh is in the practice of yearly award of best teacher, best student and best employee on performance matrix. The practice is to reward for good works. The Institute believes in rectification and, therefore, there is only 'Reward' scheme and no 'Punishment' scheme. The punishment scheme is rectification, providing suitable counselling and further renewed opportunities to excel.

### 8.3. Conclusions

It is the goodness and hard work of the members of faculty, officers, members of staff and students that NIT-Arunachal Pradesh is in continuous practice of doing innovations in chain to become second to none. Their art of converting difficulties into opportunities and the attitude of "never say no" have made the Institute to do such splendid works in a short span of five (5) years logically and practically during a period of two and half a years. To NIT-Arunachal Pradesh: "Yesterday is Memory, Today is Gift and Tomorrow is Hope." To fulfil the cherished hopes and aspirations, the Institute pledges support, review decision and constructive criticism from readers towards redefining the practices for greater societal benefits and to reach the sky which is the only limit to NIT-Arunachal Pradesh.

\*\*\*\*



## 9. MISCELLANEOUS

### 9.0 Introduction

Various other important issues pertaining to the Institute are brought out hereunder in a succinct form.

### 9.1 Remedial Measures

The Institute has already set up certain units/cells for properly handling the following items of works which are of very much importance in the functioning of the administration of an '*Institute of National Importance*':

#### Prevention of Sexual Harassment

The sexual harassment cell functioning in the Institute is maintaining a vigilant watch on any untoward incident which may outrage the modesty of girl students or lady employees or women family members of the employees. Till date, no such incident has come to the notice. The cell is functioning under the Chairmanship of Ms. Yaka Bulo, Assistant Professor, Electronics & Communication Engineering, along with other supporting members.

#### Prevention of harassment towards SC/ST

There is a cell for prevention of harassment towards SC/ST students and employees etc. in the Institute. The cell is keeping watch on all of them. The cell is headed by Shri Rajen Pudur, HoD, Electrical & Electronics Engineering Department.

#### Online/Offline Public Grievances

The Institute has a Public Grievances Cell which handles all the cases of grievances received from the students and employees of the Institute. Dr. M. K. Shome, Associate Professor, MH Department is the Co-ordinator of this Cell.

#### Online/Offline RTI Matters

A RTI Cell is functioning under the supervision of Rajat Subhra Goswami, Assistant Professor, Computer Science & Engineering Department. He is also the CPIO of the Institute. The Appellate Authority of the Institute is Dr. Pinaki Chakraborty, Dean In Charge (R&D). Details are as under:

**Sh. Taba Tadhe Goyang****Designation:** Central Public Information Officer (CPIO)**Email:** [cpio@nitap.in](mailto:cpio@nitap.in)**Contact:** 0360-2284801 (O), 09436634198 (M)**FAX No.:** 0360-2284972**Dr. Pinaki Chakraborty****Designation:** First Appellate Authority**Email:** [pchakraborty.ece@nitap.in](mailto:pchakraborty.ece@nitap.in)  
[pinakichk@gmail.com](mailto:pinakichk@gmail.com)**Contact:** 0360-2284801 (O), 09436271840 (M)**FAX No.:** 0360-2284972**Dr. Naba Kumar Pramanik****Designation:** Transparency Officer**Email:** [pramaniknaba@gmail.com](mailto:pramaniknaba@gmail.com)  
[nkpramanik.chem@nitap.in](mailto:nkpramanik.chem@nitap.in)**Contact:** 0360-2284801 (O), 09436271050 (M)**FAX No.:** 0360-2284972**Care for Physically Handicapped Persons**

The Physically Handicapped Persons Care cell is instrumental in ensuring that the physically handicapped students do not face any problem in attending classes and going to or staying in hostels in this hilly region. The cell also fixes all the cases of problem being faced by physically handicapped students and employees of the Institute. Shri Swarnendu Chakraborty, Assistant Professor, CSE Department is the Co-ordinator of the Cell.

**Anti-Ragging Machinery**

The Institute and its campus as well as the hostels are totally free from the menace of ragging. The Cell is keeping a strict watch and vigilance on the state of affairs in this regard. Prof. P. D. Kashyap (for day-time) and Shri Mohit Kr. Dey (for night-time) are the Chairman of the Cell.

**9.2 Security arrangements**

Security of the campus of the Institute is being maintained through outsourcing. Shri N. M. Sarmah, Security Officer is responsible for maintenance of security and sorting out the law and order problems in the campus. He is at present supported by one Assistant Security Officer, one Security Supervisor, seventy-six Security Guards (including the Lady Security Guards for girls' hostels) and five Arms Security Guards. Walky-talky has

been provided to the security personnel for smooth functioning of the security system. The existing security team is also responsible for running rescue operations in the campus in case of any accident or natural disaster.

### **9.3 Medical attention**

Necessary arrangements of medical facilities have been provided by the Institute round the clock in the campus including the Academic block and Residential block. One ambulance always remains present in the campus so as to tackle all types of emergencies. Necessary tie-ups have been made with the important hospitals (Government & Private) and Nursing Homes in the adjoining area. Suitable counselling is provided to the students so as to enable them to overcome any stress. Necessary steps have also been taken to ensure confidence building among the students so that they can continue their studies in a tension-free ambience.

### **9.4 Scholarship to SC/ST & Minority students**

The Institute is providing scholarships to SC/ST and minority students and merit scholarships to the meritorious students. The Institute is also planning for grant of waiver in fees to the deserving students. The scholarship section is being headed by Dr. Karam Ratan Singh, Assistant Professor, Mathematics.

### **9.5 Physical Verification Committee**

The Institute set up a Physical Verification Committee in 2014. The Committee is aimed at verifying the bills/challans of various physical items, laboratory instruments of all the academic departments of the institute. The chairman of the Committee is Dr. Ananta Kumar Atta, HoD, PCB Department. The other members of the committee are Dr. Pratap Kumar Swain, Assistant Professor, PCB Department and Dr. Susanta Maity, Assistant Professor, Mathematics Department.

### **9.6 Liaison Officer**

In compliance with the instructions issued by the Govt. of India on reservation of posts for persons belonging to SC/ST/OBC/PH category in government services, Shri Koj Sambyo, Assistant Professor, CSE Department has been designated to function as the common Liaison Officer of the Institute. He is to oversee compliance of the reservation orders issued in favour of SCs/STs/OBCs/PHs, for ensuring prompt disposal of grievances, and to scrutinize and consolidate relevant statistical data. In the performance of his duties, he is to collect necessary information/documents on the relevant subject from the Administration Unit of the Institute for ensuring strict compliance of the Rules and Regulations of the Govt. of India in this regard. Mobile no. is (+91)9436270039 and E-mail id of Shri Sambyo is sambyo.koj@gmail.com.

### 9.7 Sports Activities

The Institute has its Sports Unit and it is conducting regular sports activities for promoting physical and mental standard of the students by organizing regular programmes in games and sports like, football, volleyball, badminton, basket ball, cricket etc. The Unit also ensures active participation in the inter-NIT sports meet every year and also conducts intra-institutional sports events, athletic meet, cultural programme in the Institute as per academic calendar.



### 9.8 Annual Report

The Institute started functioning in 2010 under the mentorship of NIT-Durgapur and the arrangement continued till 31.10.2011. The Annual Reports of 2010-2011, 2011-12, 2012-13 and 2013-14 prepared by the Institute and approved by the Board of Governors in its 5th, 8th and 11th meeting respectively, have been forwarded to the Ministry of Human Resource Development, Government of India. Dr. Pratap Kumar Swain, Assistant Professor, PCB Department is the Chairman of the Committee set up in respect of the Annual Reports of this Institute.

### 9.9 Celebrations

The Institute celebrates the Independence Day Ceremony on 15th August and Republic Day Ceremony on 26th January every year in a colourful manner. The National Flags are hoisted with due honour in the presence of dignitaries. Photographs of the celebrations are attached below:



### 9.10 National Integration

In the National Institute of Technology, students of all the States and Union Territories of India are studying as per the existing scheme of admission approved by the Government of India. NIT-Arunachal Pradesh has become

a miniscule India with students from all the parts of the country. The students arrange various cultural programmes which provide a wide range of colourful regional flavour with an overall fusion of national taste and federal character. The students from all the parts of the country are mixing up with each other and they share various ethnic cultures, regional practices, ethical norms, societal behaviour and religious experiences while promoting the spirits of National Integration. This is the stepping stone to become the perfect citizens of India.

### 9.11 Swachh Bharat Abhiyan:

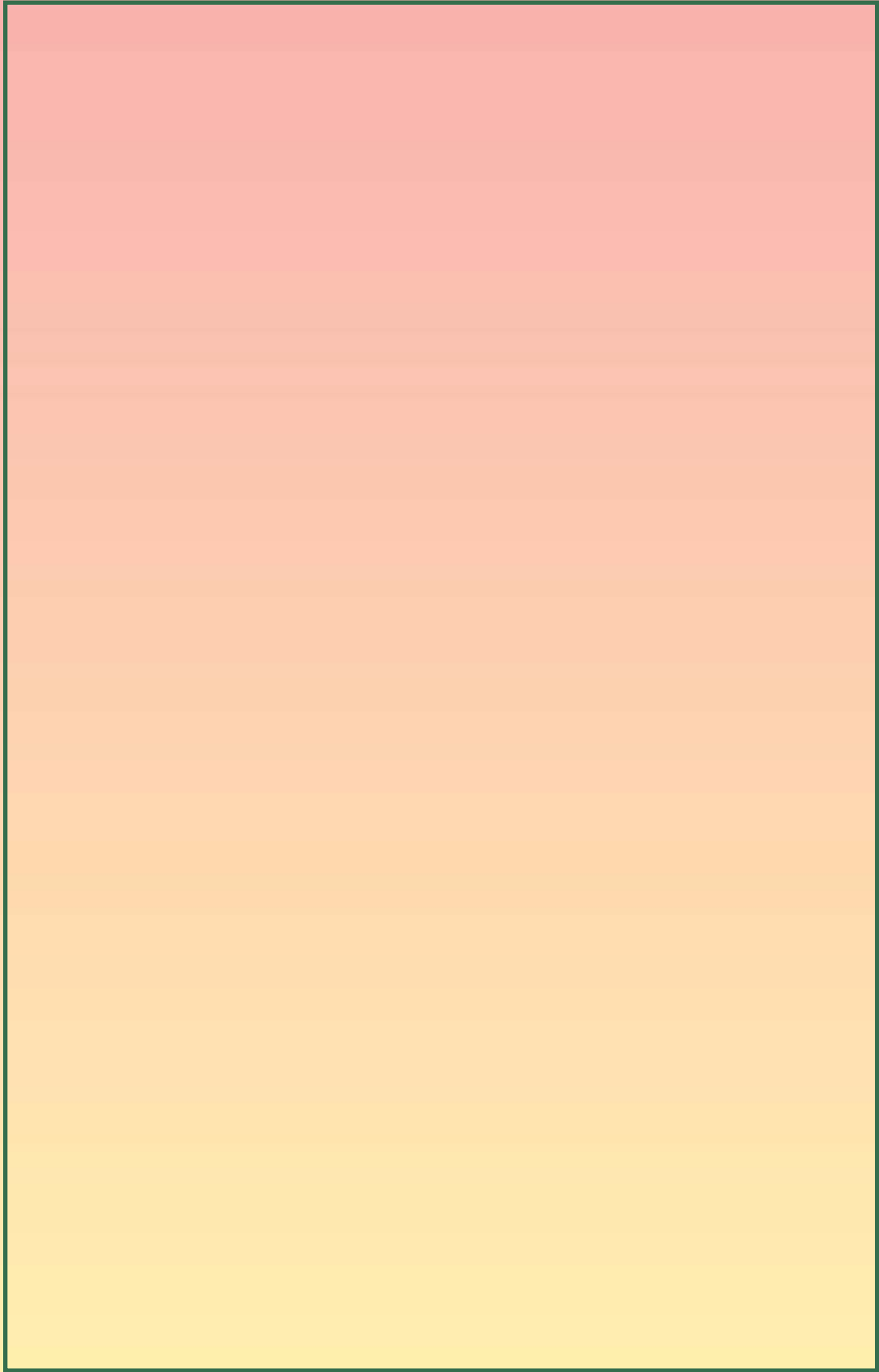
NIT- Arunachal Pradesh conducted “Swachh Bharat Abhiyan” on 2nd October, 2014, the birthday of the father of the nation ‘Mahatma Gandhiji’. It was organized by NCC wing. Students, Members of faculty, official & staff participated in “Swachh Bharat Abhiyan” under direction of Lt. A. Sarkar, Co-ordinator, NCC, NIT- Arunachal Pradesh.





**SECTION - B**





## 10. INSTITUTE'S AUTHORITIES (2014-15)

### I – Board of Governors

<b>Chairperson</b>	1	Dr. Gangan Prathap, Chairperson, Board of Governors, NIT-Arunachal Pradesh and Director, NISCAIR, New Delhi E-mail ID: <a href="mailto:gp@niscair.res.in">gp@niscair.res.in</a>
<b>Member (Ex-officio)</b>	2	Prof. (Dr.) C T Bhunia Director, NIT-Arunachal Pradesh, Po - Yupia, Dist. -Papum Pare, Arunachal Pradesh - 791112. E-mail ID: <a href="mailto:directornitap@gmail.com">directornitap@gmail.com</a>
<b>Members</b>	3	Additional Secretary (T), D/o. Higher Education, MHRD, Govt. of India, Shastri Bhawan, "C" Wing, New Delhi E-mail: <a href="mailto:technicalsection3@yahoo.co.in">technicalsection3@yahoo.co.in</a>
	4	Joint Secretary & Financ Adviser, D/o. Higher Education, MHRD, Govt. of India, Shastri Bhawan, "C" Wing, New Delhi E-mail: <a href="mailto:internalfinance1@gmail.com">internalfinance1@gmail.com</a>
	5	Dr. Joram Begi Former Director of Higher Education, Govt. of Arunachal Pradesh, Itanagar, Arunachal Pradesh, E-mail ID: <a href="mailto:begidhe@rediffmail.com">begidhe@rediffmail.com</a>
	6	Prof. Dr. Ajoy Ghose Former Director, Indian School of Mines, Dhanbad, E-mail ID: <a href="mailto:ghose.ajoy@gmail.com">ghose.ajoy@gmail.com</a>
	7	Ms Rita Chowdhury, Associate Professor, Cotton College, Guwahati, Assam, E-mail: <a href="mailto:reetachowdhury@gmail.com">reetachowdhury@gmail.com</a>

- 8 Prof. Sukumar Nandi  
Dy. Director, IIT-Guwahati,  
Assam – 781039,  
E-mail ID: [sukumar@iitg.ernet.in](mailto:sukumar@iitg.ernet.in)
- 9 Shri Tomi Ete  
Former Secretary, PHED,  
Govt. of Arunachal Pradesh, Itanagar,  
Arunachal Pradesh  
E-mail ID: [tomiete@yahoo.com](mailto:tomiete@yahoo.com)
- 10 Dr. Mihir Kumar Shome  
Associate Professor,  
NIT- Arunachal Pradesh  
E-mail: [prof.mihir.shome@gmail.com](mailto:prof.mihir.shome@gmail.com)
- 11 Dr. Pinaki Chakraborty  
Assistant Professor,  
NIT- Arunachal Pradesh  
E-mail ID: [pinakichk@gmail.com](mailto:pinakichk@gmail.com)
- 12 Shri S. P. Kar  
OSD (In-charge), NIT-Arunachal  
Pradesh,  
E-mail ID: [pkm6972@gmail.com](mailto:pkm6972@gmail.com)

## II - SENATE

### Chairman

- 1 Prof. (Dr.) C T Bhunia  
Director, NIT-Arunachal Pradesh,  
Po - Yupia, Dist. - Papum Pare,  
Arunachal Pradesh - 791112.  
E-mail ID: [directornitap@gmail.com](mailto:directornitap@gmail.com)

### Members

- 2 Prof. Dr. Dilip Kumar Sinha  
Former Vice-Chancellor,  
Visva Bharati University  
Santiniketan, West Bengal, India  
E-mail ID:  
[dilipkumarsinha@rediffmail.com](mailto:dilipkumarsinha@rediffmail.com)

- 3 Prof. Dr. Swapan Bhattacharjee  
Professor, Computer Science &  
Engineering, Jadavpur University,  
Kolkata & Director, NIT-Suratkal  
E-mail: [bswapan2000@yahoo.co.in](mailto:bswapan2000@yahoo.co.in)
- 4 Dr. Surabhi Banerjee  
Former Vice-Chancellor,  
Central University of Odisha  
E-mail ID:  
[surahibanerjee2008@gmail.com](mailto:surahibanerjee2008@gmail.com)
- 5 Dr. S. Bandyopadhyay (Invitee)  
Former Vice-Chancellor,  
WBUT, Kolkata  
E-mail ID: [skb1@vsnl.com](mailto:skb1@vsnl.com)
- 6 Prof. Dr. R. N. Bera (Invitee)  
Sr. Professor, Sikim Manipal  
University, Sikim  
E-mail ID: [rbera50@gmail.com](mailto:rbera50@gmail.com)
- 7 Dr. Mihir Kumar Shome  
Associate Professor, NIT Arunachal  
Pradesh,  
E-mail: [prof.mihir.shome@gmail.com](mailto:prof.mihir.shome@gmail.com)
- 8 Dr. Pinaki Chakraborty  
DIC (R&D), Asst. Professor, Physics,  
NIT Arunachal Pradesh  
E-mail ID: [pinakichk@gmail.com](mailto:pinakichk@gmail.com)
- 9 Dr. Nabakumar Pramanik (Invitee)  
DIC (F&A), Asst. Professor, Chemistry,  
NIT Arunachal Pradesh  
E-mail ID: [pramaniknaba@gmail.com](mailto:pramaniknaba@gmail.com)
- 10 Dr. U. K. Saha (Invitee)  
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Mathematics, NIT Arunachal  
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- 11 Sri Mohit Kumar De (Invitee)  
Assistant Librarian, NIT- Arunachal Pradesh  
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- 12 Sri S. P. Kar  
OSD (In-charge), NIT- Arunachal Pradesh  
E-mail ID: [pkm6972@gmail.com](mailto:pkm6972@gmail.com)

### III - FINANCE COMMITTEE

- |                            |   |   |
|----------------------------|---|---|
| <b>Chairman</b>            | 1 | Dr. Gangan Prathap<br>Chairperson, Board of Governors, NIT-<br>Arunachal Pradesh and Director,<br>NISCAIR, New Delhi,<br>E-mail ID: <a href="mailto:gp@niscair.res.in">gp@niscair.res.in</a>                      |
| <b>Member (Ex-officio)</b> | 2 | Prof. (Dr.) C T Bhunia<br>Director, NIT-Arunachal Pradesh,<br>Po - Yupia, Dist. - Papum Pare,<br>Arunachal Pradesh - 791112.<br>E-mail ID: <a href="mailto:nitarunachal@gmail.com">nitarunachal@gmail.com</a>     |
| <b>Members</b>             | 3 | Additional Secretary (T),<br>D/o. Higher Education, MHRD,<br>Govt. of India, Shastri Bhawan,<br>"C" Wing, New Delhi<br>E-mail: <a href="mailto:technicalsection3@yahoo.co.in">technicalsection3@yahoo.co.in</a>   |
|                            | 4 | Joint Secretary & Financ Adviser,<br>D/o. Higher Education, MHRD,<br>Govt. of India, Shastri Bhawan,<br>"C" Wing, New Delhi<br>E-mail: <a href="mailto:internalfinance1@gmail.com">internalfinance1@gmail.com</a> |
|                            | 5 | Dr. Bubu Bhuyan,<br>Associate Professor and Head,<br>Department of Information<br>Technology, NEHU, Shillong<br>E-mail ID: <a href="mailto:b.bhuyan@gmail.com">b.bhuyan@gmail.com</a>                             |

- 6 Prof. P. P. Sahu  
Professor, Electronics and  
Communication Engineering  
Tezpur University, Tezpur, Assam,  
E-mail ID: [pps@tezu.ernet.in](mailto:pps@tezu.ernet.in)
- 7 Sri S. P. Kar  
OSD (In-charge), NIT- Arunachal  
Pradesh  
E-mail ID: [pkm6972@gmail.com](mailto:pkm6972@gmail.com)

#### IV - BUILDING AND WORKS COMMITTEE

##### Chairman

- 1 Prof. (Dr.) C T Bhunia  
Director, NIT- Arunachal Pradesh,  
Po - Yupia, Dist. - Papum Pare,  
Arunachal Pradesh - 791112.  
E-mail ID: [nitarunachal@gmail.com](mailto:nitarunachal@gmail.com)

##### Members

2. Representative of the MHRD
- 3 Dr. Binoy Singh, Director,  
Professor, NERIST,  
Arunachal Pradesh  
E-mail ID: [bsingh.nird@gmail.com](mailto:bsingh.nird@gmail.com)
- 4 Dr. A. K. Atta  
DIC (P&D), Asst. Professor,  
Chemistry, NIT-  
Arunachal Pradesh  
E-mail ID: [attaananta@gmail.com](mailto:attaananta@gmail.com)
- 5 Er. S.P. Singh  
Chief Engineering, CPWD,  
Govt. of India  
E-mail ID: [cencz04@yahoo.co.in](mailto:cencz04@yahoo.co.in)
- 6 Er. S. R. Kumar, PHED, Western  
Zone, Govt. of Arunachal Pradesh,  
Itanagar  
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- 7 Sri S. P. Kar  
OSD (In-charge), NIT-Arunachal  
Pradesh  
E-mail ID: [pkm6972@gmail.com](mailto:pkm6972@gmail.com)

- 8 Sri Tomi Ete (Invitee)  
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E-mail ID: [tomiete@yahoo.com](mailto:tomiete@yahoo.com)
- 9 Sri Gautam Roy (Invitee)  
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Arunachal Pradesh  
E-mail: [gautam3roy@yahoo.co.in](mailto:gautam3roy@yahoo.co.in)
- 10 Sri Rajen Pudur (Invitee)  
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Department, NIT-Arunachal  
Pradesh  
E-mail: [rajen\\_pudur@yahoo.com](mailto:rajen_pudur@yahoo.com)

### V - BOARD OF STUDIES

#### Department of Computer Science & Engineering

- |                              |   |   |
|------------------------------|---|---|
| <b>Chairman (Ex-Officio)</b> | 1 | Head, Department of Computer Science & Engineering (at the grade of Professor only), National Institute of Technology-Arunachal Pradesh |
| <b>Members</b>               | 2 | Prof (Dr.) Ajit Pal<br>Department of Computer Science & Engineering, IIT-Kharagpur,   |
|                              | 3 | Prof (Dr.) Atal Chowdhury<br>Department of Computer Science & Engineering, Jadavpur University, Kolkata                                 |
|                              | 4 | Prof (Dr.) Bubu Bhuyan<br>Associate Professor and Head of the Department of Information Technology, NEHU, Shillong                      |
|                              | 5 | Prof (Dr.) Samir Roy<br>Department of Computer Science & Engineering, NITTTR, Kolkata, West Bengal                                      |

### Department of Electronics & Communication Engineering

<b>Chairman (Ex-Officio)</b>	1	Head, Department of Electronics & Communication Engineering (at the grade of Professor only), National Institute of Technology- Arunachal Pradesh
<b>Members</b>	2	Prof. (Dr.) P.P.Sahu Head of the Department, Electronics & Communication Engineering, Tezpur University, Tezpur, Assam
	3	Prof. (Dr.) A. Hussain Department of Electronics & Communication Engineering, NERIST, Nirjuli, Arunachal Pradesh
	4	Prof. (Dr.) Monojit Mitra Department of Electronics & Communication Engineering, BESU, Shibpur, West Bengal
	5	Prof. (Dr.) P. K. Basu Department of Radio Physics & Electronics, Calcutta University, Kolkata, West Bengal

### Department of Electrical & Electronics Engineering

<b>Chairman (Ex-Officio)</b>	1	Head, Department of Electrical & Electronics Engineering (at the grade of Professor only), NIT-Arunachal Pradesh
<b>Members</b>	2	Prof. (Dr.) U.K.Sharma Former Professor Electrical Engineering & Former Director, NERIST, Nirjuli, Arunachal Pradesh
	3	Prof. (Dr.) P. Sarkar Department of Electrical Engineering NITTTR, Salt Lake, Kolkata, West Bengal
	4	Prof. (Dr.) S.S. Pattanaik Department of Electrical Engineering NITTR-Chandigarh

- 5 Prof. (Dr.) S. Sen  
Department of Radio Physics &  
Electronics, Calcutta University,  
Kolkata, West Bengal

### VI - BOARD OF RESEARCH

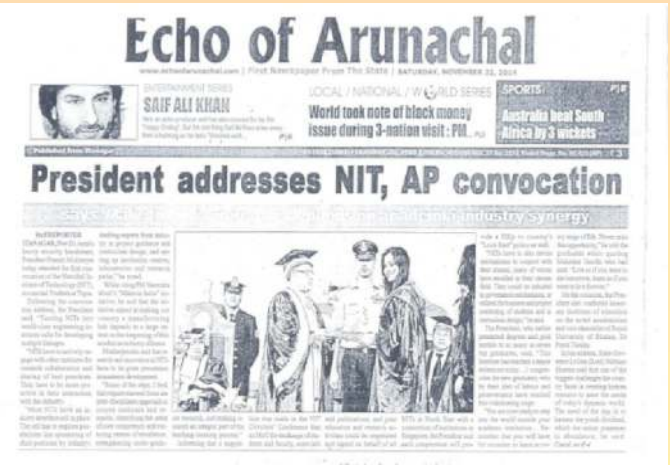
#### Chairperson

- 1 Prof. (Dr.) C T Bhunia  
Director, NIT- Arunachal Pradesh,  
Po – Yupia, Dist. – Papum Pare,  
Arunachal Pradesh – 791112.  
E-mail: [nitarunachal@gmail.com](mailto:nitarunachal@gmail.com)

#### Members

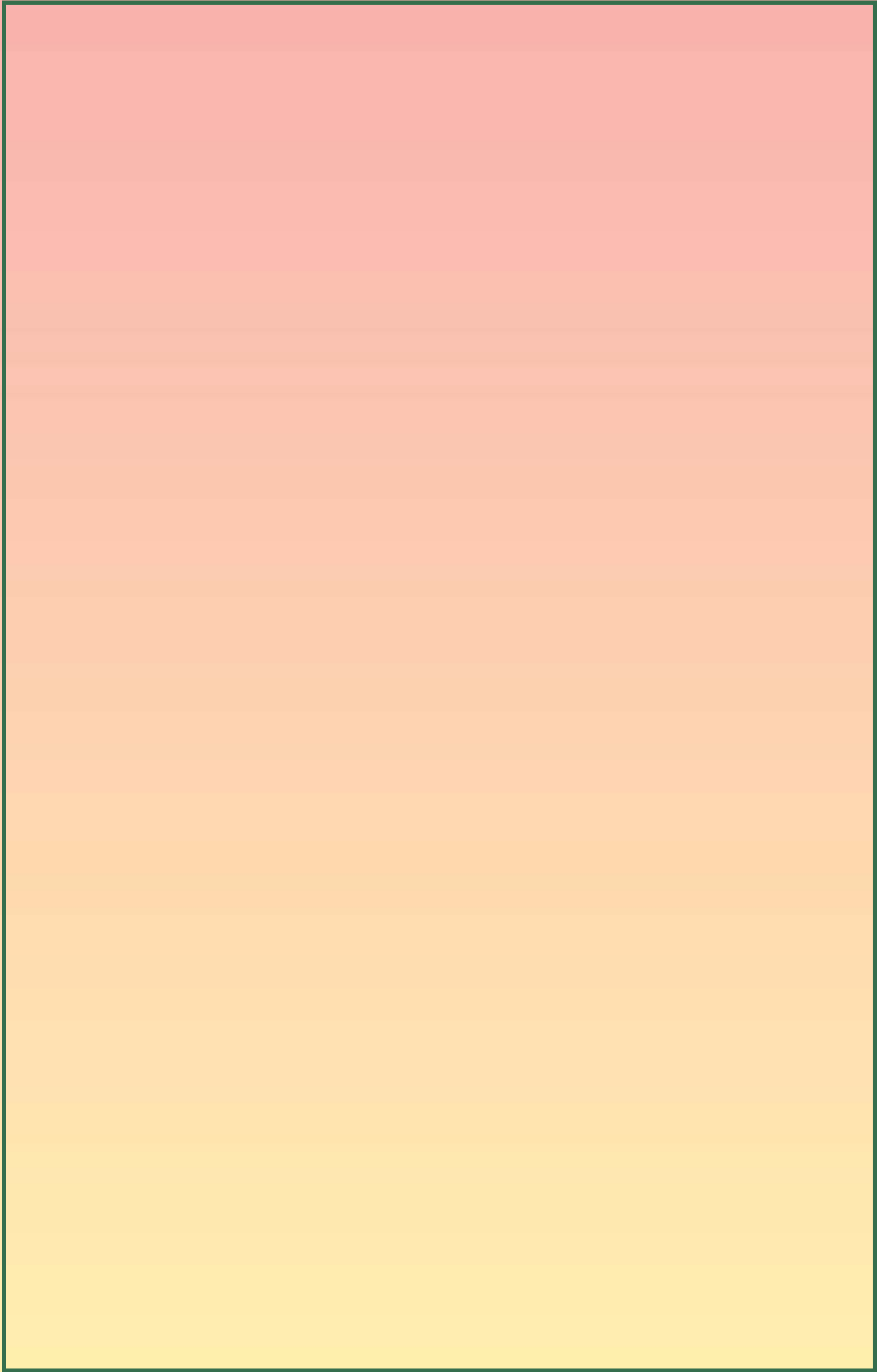
- 2 Prof. Gautam Ghose  
Professor, ECE, IRP & Electronics,  
CU, Kolkata  
E-mail: [gogglre.rpe@gmail.com](mailto:gogglre.rpe@gmail.com)
- 3 Dr. P. Kothari  
Director General, J. B. Group of  
Educational Institutions  
E-mail ID: [dg@jbggroup.org.in](mailto:dg@jbggroup.org.in)
- 4 Prof. R. N. Bera  
Professor & Head, ECE, SMU  
E-mail: [rbera50@gmail.com](mailto:rbera50@gmail.com)
- 5 Prof. M. V. Pitke  
Former Professor, CSE, TIFR, Mumbai  
E-mail ID: [pitke@vsnl.com](mailto:pitke@vsnl.com)
- 6 Prof. Ajit Pal  
Professor, CSE, IIT Kharagpur  
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- 7 Dr. Bubu Bhuyan  
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- 8 Prof. Promod Pathak  
Professor, DMS, ISM, Dhanbad  
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- 9 Dr. Pinaki Chakraborty  
DIC (R&D) & Dy. DDO,  
Asst. Professor, Physics,  
NIT Arunachal Pradesh  
E-mail ID: [pinakichk@gmail.com](mailto:pinakichk@gmail.com)

# 11. News Paper Cuttings (different events performed by NIT-Arunachal Pradesh in 2014-2015)





**ANNUAL REPPORT  
PART - II**



**NATIONAL INSTITUTE OF TECHNOLOGY  
ARUNACHAL PRADESH, YUPIA - 791112**

**BALANCE SHEET AS AT 31<sup>ST</sup> MARCH, 2015**

Amount in Rs.

<b>CORPUS / CAPITAL FUND AND LIABILITIES</b>	<b>SCHEDULE</b>	<b>CURRENT YEAR</b>	<b>PREVIOUS YEAR</b>
Corpus / Capital Fund	1	1856752903.71	1196345355.38
Earmarked / Endowment Funds	2	6651543.00	3398252.00
Current Liabilities & Provisions	3	-	-
<b>Total</b>		<b>1863404446.71</b>	<b>1199743607.38</b>

<b>ASSETS</b>	<b>SCHEDULE</b>	<b>CURRENT YEAR</b>	<b>PREVIOUS YEAR</b>
Fixed Assets	4	1820690779.00	1038886758.00
Investment from Earmarked / Endowment Funds	5	6651543.00	3398252.00
Current Assets, Loan, Advances etc.	6	36062124.71	157458597.38
<b>Total</b>		<b>1863404446.71</b>	<b>1199743607.38</b>

*Deena*  
12/6/15

*Deena*  
12/6/15  
Accountant  
National Institute of Technology  
Yupia, Arunachal Pradesh

*Asst. Dean*  
12/6/15  
Asstt. Dean  
Finance & Accounts  
National Institute of Technology  
Arunachal Pradesh

*Deena*  
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National Institute of Technology  
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Resource Development, Govt. of India)  
Yupia, Arunachal Pradesh

*Pradip*  
17/06/2015  
Chairperson  
National Institute of Technology  
Yupia, Arunachal Pradesh

**NATIONAL INSTITUTE OF TECHNOLOGY  
ARUNACHAL PRADESH, YUPIA - 791112**

**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31<sup>ST</sup> MARCH, 2015**

Amount in Rs.

<b>SCHEDULE-1 CORPUS FUNDS / CAPITAL FUND</b>	<b>CURRENT YEAR</b>	<b>PREVIOUS YEAR</b>
Balance at the beginning of the year	1196345355.38	241940491.00
Add : Contribution towards Corpus / Capital Fund : Grant-in-aid received from Ministry of Human Resource Development, Department of Education Govt. of India, vide sanction order No. (Details given in a separate sheet)		981500000.00
1)MHRD-F.No.34-10/2014-TS.III,dt26/05/14		
a) 112-31		
b) 112-35	7700000.00	
c) 789-31	61600000.00	
d) 789-35	1500000.00	
e) 796-31	12000000.00	
f) 796-35	800000.00	
	6400000.00	
2)MHRD-F.No.34-10/2014-TS.III,dt17/09/14		
a) 112-31		
b) 112-35	15400000.00	
c) 789-31	123200000.00	
d) 789-35	3000000.00	
e) 796-31	24000000.00	
f) 796-35	1600000.00	
	12800000.00	
3)MHRD-F.No.34-10/2014-TS.III,dt05/12/14		
a) 112-31		
b) 112-35	19250000.00	
c) 789-31	154000000.00	
d) 789-35	3750000.00	
e) 796-31	30000000.00	
f) 796-35	2000000.00	
	16000000.00	
4)MHRD-F.No.34-10/2014-TS.III,dt27/02/15		
a) 112-31		
b) 112-35	15400000.00	
c) 789-31	127500000.00	
d) 789-35	3000000.00	
e) 796-31	28350000.00	
f) 796-35	1332000.00	
	17418000.00	
<b>Total</b>	<b>1884345355.38</b>	<b>1223440491.00</b>
Add/Deduct : Balance of net (Income / Expenditure from Income / Expenditure Account)	(-) 27592451.67	(-) 27095135.62
<b>Total</b>	<b>1856752903.71</b>	<b>1196345355.38</b>

*Dr. Minu*  
13/6/15

*Dr. Minu*  
13/6/15  
Accountant  
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Yupia, Arunachal Pradesh

*Dr. Minu*  
13/6/15  
Asstt. Dean  
Finance & Accounts  
National Institute of Technology  
Yupia, Arunachal Pradesh

*Dr. Minu*  
13/6/15  
Chairperson  
National Institute of Technology  
Yupia, Arunachal Pradesh

*Dr. Minu*  
13/6/15  
DIRECTOR  
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(Established by Ministry of Human  
Resource Development, Govt. of India)  
Yupia, Arunachal Pradesh

SCHEDULE-2 EARMARKED / ENDOWMENT FUNDS	CURRENT YEAR	PREVIOUS YEAR
Opening balance of funds Students Welfare Funds Contributory Pension Scheme	6651543.00	3398252.00
<b>Total</b>	<b>6651543.00</b>	<b>3398252.00</b>

SCHEDULE-3 CURRENT LIABILITIES & PROVISIONS	CURRENT YEAR	PREVIOUS YEAR
<b>A : Current Liabilities</b>	<b>NIL</b>	<b>NIL</b>
1. Caution Money of Students		-
2. Security Deposits and others		
<b>Total (A)</b>	<b>NIL</b>	<b>NIL</b>
<b>B : Provisions : Outstanding Expenses Total (B)</b>	<b>NIL</b>	<b>NIL</b>
<b>Total (A+B)</b>	<b>NIL</b>	<b>NIL</b>

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*13/6/15*  
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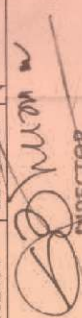
NATIONAL INSTITUTE OF TECHNOLOGY  
ARUNACHAL PRADESH, YUPIA - 791112


SCHEDULE FORMING PART OF BALANCE SHEET AS AT 31<sup>ST</sup> MARCH, 2015

Rupees

Sl/No.	Description	GROSS BLOCK				DEPRECIATION			NET BLOCK	
		Cost / Valuation at beginning of the year	Addition during the year	Deduction during the year	Cost / Valuation at end of the year	As at the beginning of the year	Addition during the year	Deduction during the year	Total upto the year end	As at the current year end
1	Fixed Assets Buildings	945340567	676604887	1564273358	57672096	17975874	10766248	7209626	50462470	927364693
2	Laboratory Equipment	72892538	68852196	-	141744734	5116992	4381666	9498658	132246076	67775546
3	Furniture	20582082	5708781	-	26290863	1726143	984035	2710178	23580685	18855939
4	Vehicles	1878602	-	-	1878602	-	-187860	187860	1690742	1878602
5	Office equipment	1561243	3830002	-	5391245	150629	68296	218925	5172320	1410614
6	Sports equipment	-	-	-	-	-	-	-	-	-
7	Medical equipment	-	-	-	-	-	-	-	-	-
8	Hostel equipment	-	-	-	-	-	-	-	-	-
9	Library equipment	-	-	-	-	-	-	-	-	-
10	Guest House furnishing	-	-	-	-	-	-	-	-	-
11	Guest house	-	51832	-	51832	-	-	-	51832	-
12	Musical instruments	-	-	-	-	-	-	-	-	-
13	Hostel furnishing	-	-	-	-	-	-	-	-	-
14	Library books	17906631	18809060	-	36715691	893611	1676776	2570387	34145304	17013020
15	Air conditioner	-	99900	-	99900	-	-	-	99900	-
16	Purchase of Gen Set	840314	533345	-	1373659	154512	40777	113735	1259924	685802
17	Canteen utensils	80824	23500	-	104324	8082	7274	15356	88968	72742
18	Hostel utensils	-	-	-	-	-	-	-	-	-
19	Solar Electrification, Jete	4369800	3514488	-	7884288	540000	154912	385088	7499200	3829800
20	Cooler	-	120000	-	120000	-	-	-	120000	-
	<b>Total of current year</b>	<b>1065452601</b>	<b>778147991</b>	<b>1564273358</b>	<b>279327234</b>	<b>26565843</b>	<b>7305907</b>	<b>10961937</b>	<b>22909813</b>	<b>256474721</b>
21	Building in progress	-	1564273358	-	1564273358	-	-	-	1564273358	-
	<b>Total</b>	<b>1065452601</b>	<b>2342421349</b>	<b>1564273358</b>	<b>1843600592</b>	<b>26565843</b>	<b>7305907</b>	<b>10961937</b>	<b>22909813</b>	<b>1820690779</b>
	Previous year	228833581	836619020	-	1055452601	3682484	22883359	-	103886758	-


  
Asstt. Dean  
Finance & Accounts  
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Yupia, Arunachal Pradesh


  
DIRECTOR  
National Institute of Technology  
(Established by Ministry of Human Resource Development Govt. of India)


  
Chairman  
National Institute of Technology

## NATIONAL INSTITUTE OF TECHNOLOGY

ARUNACHAL PRADESH, YUPIA - 791112

SCHEDULE-5 INVESTMENT FROM EARMARKED / ENDOWMENT FUNDS	CURRENT YEAR	PREVIOUS YEAR
1. Contributory Pension Scheme	6651543.00	3398252.00
<b>Total</b>	<b>6651543.00</b>	<b>3398252.00</b>

Amount in Rs.

SCHEDULE-6 CURRENT ASSETS, LOAN ADVANCES ETC	CURRENT YEAR	PREVIOUS YEAR
<b>A : CURRENT ASSETS</b>		
1) Cash in Hand	41808.00	245529.00
2) Imprest	1919.00	1919.00
<b>Total</b>	<b>43727.00</b>	<b>247448.00</b>
<b>Bank Balance with Schedule Banks</b>		
a) On Current Account with SBI, Nirjuli	16478845.71	32616351.38
<b>Total</b>	<b>16478845.71</b>	<b>32616351.38</b>
<b>Total (A)</b>	<b>16522572.71</b>	<b>32863799.38</b>

<b>B : LOANS, ADVANCE AND OTHERS</b>		
<b>1) Loan</b>		
<b>a) Staff</b>		
2) advance and other amounts recoverable in Cash or kind or for value to be received	10122116.00	14712123.00
<b>a) On Current Accounts</b>	9417436.00	109882675.00
I) United India Insurance Co. Ltd.		
II) Advance for purchase of Equipments		
<b>Total (B)</b>	<b>19539552.00</b>	<b>124594798.00</b>
<b>Total (A+B)</b>	<b>36062124.71</b>	<b>157458597.38</b>

*Deena*  
13/6/15

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13/6/15  
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Yupia, Arunachal Pradesh

NIT (Ar.P)  
Schedule forming Part of Income & Expenditure Accounts as at 31<sup>st</sup> March, 2015.

SCHEDULE 7- GRANTS		Current Year	Previous Year
Ministry of Human Resource Development Dept. of Higher Education, New Delhi Vide sanction order no.			
i)	MHRD.F No. 34-10/2014-TS III Dated 26/05/2014		
	a) 112-36	77,00,000.00	
	b) 789-36	15,00,000.00	
	c) 796-36	8,00,000.00	
ii)	MHRD.F No. 34-10/2014-TS III Dated 17/09/2014		
	a) 112-36	1,54,00,000.00	
	b) 789-36	30,00,000.00	
	c) 796-36	16,00,000.00	
iii)	MHRD.F No. 34-10/2014-TS III Dated 05/12/2014		
	a) 112-36	1,92,50,000.00	
	b) 789-36	37,50,000.00	
	c) 796-36	20,00,000.00	
iv)	MHRD.F No. 34-10/2014-TS III Dated 27/02/2015		
	a) 112-36	56,40,000.00	
	b) 789-36	10,50,000.00	
	c) 796-36	3,10,000.00	
<b>Total</b>		<b>6,20,00,000.00</b>	<b>3,35,00,000.00</b>

SCHEDULE-8 FEES		Current Year	Previous Year
1.	Registration Fee	1,41,54,549.00	1,38,58,662.00
2.	Other Fees	58,16,527.50	65,11,510.38
3.	Miscellaneous Receipts	2,62,248.83	3,55,836.00
<b>TOTAL</b>		<b>2,02,33,325.33</b>	<b>2,07,26,008.38</b>

SCHEDULE-9 INTEREST EARNED		Current Year	Previous Year
Short Term Deposit with State Bank of India		51,27,786.00	40,96,637.00
<b>Total</b>		<b>51,27,786.00</b>	<b>40,96,637.00</b>

SCHEDULE-10 OTHER INCOME		Current Year	Previous Year
Other Income			
<b>Total</b>		<b>1,30,80,085.00</b>	<b>1,30,80,085.00</b>

12/10/15  
Asstt. Dean  
Finance & Accounts  
National Institute of Technology  
Chairperson

NIT (A.R.P)

Income & Expenditure Accounts as at 31<sup>st</sup> March, 2015.

Particulars	Schedule	Current Year	Previous Year
<b>A. Income</b>			
Grant-in-aid			
112-36	7	4,79,90,000.00	2,57,95,000.00
789-36		93,00,000.00	50,25,000.00
796-36		47,10,000.00	26,80,000.00
Fees from students & others	8	2,02,33,325.33	2,07,26,008.38
Interest earned on investment	9	51,27,786.00	40,96,637.00
Other Receipts	10	(-) 49,81,316.00	1,30,80,085.00
<b>Total (A)</b>		<b>8,23,79,795.33</b>	<b>7,14,02,730.38</b>
<b>B. Expenditure</b>			
1) 112-36 ESH. Expd & Admn Exp			
2) 789-36 ESH. Expd & Admn Exp			
3) 796-36 ESH. Expd & Admn Exp			
Total Establishment Expenditure	11	5,75,90,466.00	3,65,39,932.00
Total Administrative Expenditure	12	5,23,81,781.00	6,19,57,934.00
<b>Total (B)</b>		<b>10,99,72,247.00</b>	<b>9,84,97,866.00</b>
Balance being excess/deficit of expenditure over income (B-A)		2,75,92,451.67	2,70,95,135.62
<b>TOTAL</b>		<b>2,75,92,451.67</b>	<b>2,70,95,135.62</b>
Balance being deficit/ excess carried over to corpus fund		2,75,92,451.67	2,70,95,135.62

*S. K. Singh*  
Accountant  
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Yupia, Arunachal Pradesh

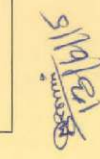
*S. K. Singh*  
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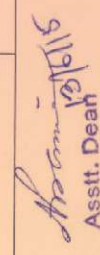
*S. K. Singh*  
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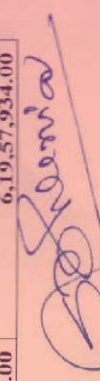
SCHEDULE-11- Establishment Expenses		
	Current Year	Previous Year
a) Salary & Wages	4,91,74,173.00	3,45,76,795.00
b) Bonus		17,181.00
c) Contributory Pension Scheme	32,53,291.00	
d) Liveries & Uniform	20,92,185.00	57,200.00
e) Honorarium	90,000.00	9,27,760.00
f) Computer Grants to Faculty Members	27,23,049.00	
g) Medical Claims	2,57,768.00	7,66,532.00
h) Book Grants to Faculty Members	5,75,90,466.00	1,94,464.00
<b>Total</b>		<b>3,65,39,932.00</b>

SCHEDULE-12- Other Administrative Expenses		
	Current Year	Previous Year
1. Travelling Allowance	52,50,954.00	59,34,242.00
2. Printing & Stationery	18,23,573.00	7,21,310.00
3. Vehicle running & Maintenance	1,00,31,666.00	74,26,312.00
4. Advertising	24,55,132.00	36,59,290.00
5. Office Expense	53,89,499.00	23,52,176.00
6. Mess Account	40,500.00	6,61,470.00
7. Sports & Extracurricular Activities	16,13,684.00	17,72,891.00
8. Electricity Charges	10,67,688.00	6,43,190.00
9. Postage/ Telephone	4,36,168.00	3,42,401.00
10. Consumable items for Teaching	2,75,211.00	2,95,673.00
11. Maintenance of Buildings	1,43,08,697.00	30,58,751.00
12. Rent of Buildings	62,76,822.00	1,15,73,902.00
13. Depreciation	(-) 36,56,030.00	2,28,83,319.00
14. Seminar/ Projects	3,78,798.00	36,706.00
15. Scholarship	28,25,079.00	5,89,132.00
16. Maintenance of office equipments	8,690.00	8,125.00
17. Convocation	38,55,640.00	
<b>Total</b>	<b>5,23,81,781.00</b>	<b>6,19,57,934.00</b>


  
 Accountant  
 National Institute of Technology  
 Yupia, Arunachal Pradesh

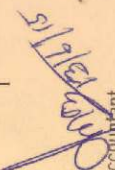

  
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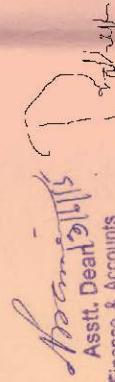

  
 Chairperson  
 National Institute of Technology  
 Yupia, Arunachal Pradesh


  
 DIRECTOR  
 National Institute of Technology  
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 Yupia, Arunachal Pradesh

Receipts and Payment Accounts as at 31st March 2015

Sl.No.	Receipt			Payment				
	Particular	Schedule	Current Year	Previous Year	Particular	Schedule	Current Year	Previous Year
1	Opening Balance:	13						
*	Cash in hand		245,529.00	245,529.00	A) Establishment Expenses	16	57,590,466.00	36,539,932.00
	Imprest		1,919.00	10,000.00	B) Administrative Expenses	17	56,037,811.00	39,074,575.00
	Bank Balance		32,616,351.38	5,349,030.00				
2	Grants-in-aid received from Ministry to HRD, Deptt. of Education, Govt. of India, New Delhi, vide sanction order No. PLAN:				Expenditure on Fixed Assets and capita work in Progress:			
A	MHRD-F.No. 34 - 10/2014 TS-III Dated 26.05.2014				A) Capital Work in Progress	18A	639,427,276.00	743,375,019.00
	112-31		7,700,000.00		B) Lab/Workshop equipments	18B	68,852,196.00	38,511,120.00
	112-35		61,600,000.00		C) Library Books/Journals	18C	18,809,060.00	11,695,536.00
	112-36		7,700,000.00		D) Furniture & Fixture	18D	5,928,681.00	9,276,625.00
	789-31		1,500,000.00		E) Other Construction work	18E	40,692,099.00	31,314,693.00
	789-35		12,000,000.00		F) Other Capital Expenditure	18F	4,438,679.00	2,446,027.00
	789-36		1,500,000.00					
	796-31		800,000.00		3. Other Payments	19	15,401,876.00	113,409,963.00
	796-35		6,400,000.00					
	796-36		800,000.00					
B	MHRD-F.No. 34 - 10/2014 TS-III Dated 17.09.2014							
	112-31		15,400,000.00					
	112-35		123,200,000.00					
	112-36		15,400,000.00					
	789-31		3,000,000.00					
	789-35		24,000,000.00					
	789-36		3,000,000.00					
	796-31		1,600,000.00					
	796-35		12,800,000.00					
	796-36		1,600,000.00					

  
 Accountant  
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 Yupia, Arunachal Pradesh

  
 Asstt. Deast  
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 National Institute of Technology  
 Arunachal Pradesh

  
 DIRECTOR  
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 Yupia, Arunachal Pradesh



**SCHEDULES FORMING PART OF RECEIPTS AND PAYMENTS ACCOUNTS  
FOR THE YEAR ENDED AS AT 31<sup>ST</sup> MARCH-2015.**

**SCHEDULE 13 - OPENING BALANCE**

(Amount in Rs.)

		CURRENT YEAR	PREVIOUS YEAR
i)	Cash in Hand	2,45,529.00	2,45,529.00
ii)	Imprest	1,919.00	10,000.00
iii)	State Bank of India	3,26,16,351.38	53,49,030.00
	<b>Total</b>	<b>3,28,63,799.38</b>	<b>56,04,559.00</b>

**SCHEDULE 14 - OTHER INCOME**

(Amount in Rs.)

		CURRENT YEAR	PREVIOUS YEAR
i)	Fees from Students (Registration)	1,41,54,549.00	1,38,58,662.00
ii)	Other Fees	58,16,527.50	65,11,510.38
iii)	Miscellaneous Receipt	2,62,248.83	3,55,836.00
	<b>Total</b>	<b>2,02,33,325.33</b>	<b>2,07,26,008.38</b>

**SCHEDULE 15 - ANY OTHER RECEIPTS**

(Amount in Rs.)

		CURRENT YEAR	PREVIOUS YEAR
i)	Interest earned on Investment	51,27,786.00	40,96,637.00
ii)	Other Precept	55,53,734.00	57,56,551.00
iii)	Security Deposits	22,55,411.00	22,93,632.00
iv)	Welfare Fund	1,55,306.00	48,586.00
v)	Advances	75,11,355.00	49,81,316.00
	<b>Total</b>	<b>2,06,03,592.00</b>	<b>1,71,76,722.00</b>

**SCHEDULE 15 A - INVESTMENT ACCOUNT**

(Amount in Rs.)

		CURRENT YEAR	PREVIOUS YEAR
i)	Investments A/c STDR Maturity	10,00,00,000.00	-
	<b>Total</b>	<b>10,00,00,000.00</b>	<b>-</b>

**SCHEDULE 16 - ESTABLISHMENT EXPENSES**

(Amount in Rs.)

		CURRENT YEAR	PREVIOUS YEAR
i)	Salary & Wages	4,91,74,173.00	3,45,76,795.00
ii)	Bonus	-	17,181.00
iii)	Computer Grant	90,000.00	NIL
iv)	Honorarium	20,92,185.00	9,27,760.00
v)	Purchase of Medicine	27,23,049.00	7,66,532.00
vi)	Book Grand of Faculty Member	2,57,768.00	1,94,464.00
vii)	Liverirs & Uniform	-	57,200.00
viii)	Contribution Pension Schme	32,53,291.00	NIL
	<b>Total</b>	<b>5,75,90,466.00</b>	<b>3,65,39,932.00</b>

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*Asstt. Dean*  
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13/6/15

Accountant  
National Institute of Technology  
Yupia, Arunachal Pradesh

Asstt. Dean  
Finance & Accounts  
National Institute of Technology  
Arunachal Pradesh

DIRECTOR  
National Institute of Technology  
(Established by Ministry of Human  
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Yupia, Arunachal Pradesh

*P. K. S.*  
Chairperson  
National Institute of Technology  
Yupia, Arunachal Pradesh

## SCHEDULE 17 – OTHER ADMINISTRATIVE EXPENSES

(Amount in Rs.)

		CURRENT YEAR	PREVIOUS YEAR
i)	Consumable Items for Teaching	2,75,211.00	2,95,673.00
ii)	Printing & Stationery	18,23,573.00	7,21,310.00
iii)	Travelling Allowances	52,50,954.00	59,34,242.00
iv)	Vehicle running & Maintenances	1,00,31,666.00	74,26,312.00
v)	Advertisement	24,55,132.00	36,59,290.00
vi)	Maintenance of Building	1,43,08,697.00	30,58,751.00
vii)	Postage, Telephone	4,36,168.00	3,42,403.00
viii)	Electricity Charges	10,67,688.00	6,43,190.00
ix)	Office Expenses	53,89,499.00	23,52,176.00
x)	Sport & Extra Curriculum Activities	16,13,684.00	17,72,893.00
xi)	Rent on Building	62,76,822.00	1,15,72,902.00
xii)	Mess Accounts	40,500.00	6,61,470.00
xiii)	Maintenance of office Equipments	8,690.00	8,125.00
xiv)	Seminar / Projects	3,78,798.00	36,706.00
xv)	Scholarship	28,25,079.00	5,89,132.00
xvi)	convocation	38,55,650.00	-
	<b>Total</b>	<b>5,60,37,811.00</b>	<b>3,90,74,575.00</b>

## SCHEDULE 18 A – EXPENDITURE ON CAPITAL WORK IN PROGRESS

(Amount in Rs.)

		CURRENT YEAR	PREVIOUS YEAR
i)	C/o Feeder Road & Retaining wall at NIT- Jote	14,36,68,556.00	10,49,32,169.00
ii)	C/o Resident Quarters at NIT- Jote	16,74,86,000.00	-
iii)	C/o Boundary Wall at NIT- Jote	7,19,72,197.00	6,49,69,253.00
iv)	Providing Water Supply at NIT- Jote	3,30,25,000.00	3,10,81,967.00
v)	C/o Hostel Building at NIT- Jote	20,95,26,400.00	17,95,49,400.00
vi)	Electricity Supply at NIT- Jote	37,49,123.00	-
vii)	C/o Shopping Complex at NIT- Jote	1,00,00,000.00	2,94,00,000.00
viii)	C/o Library Building at NIT- Jote	-	18,67,75,000.00
ix)	C/o Laboratory/ Work Shop at NIT- Jote	-	74,65,193.00
x)	Other Contractors	-	1,46,88,237.00
xi)	C/o Academic Building at at NIT- Jote	-	12,45,13,800.00
	<b>Total</b>	<b>63,94,27,276.00</b>	<b>74,33,75,019.00</b>

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Accountant

National Institute of Technology  
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*Asst. Dean*  
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Asstt. Dean  
Finance & Accounts  
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*S. Sharma*  
13/6/15

DIRECTOR  
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Chairperson  
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**SCHEDULE 18 B – EXPENDITURE ON THE PURCHASE LAB / WORKSHOP EQUIPMENT**

(Amount in Rs.)

		CURRENT YEAR	PREVIOUS YEAR
i)	Mechanical Engineering Department	1,56,11,827.00	30,50,565.00
ii)	Electrical Engineering Department	1,58,33,785.00	96,96,212.00
iii)	Computer Service & Engineering Department	21,12,289.00	52,70,992.00
iv)	Physics Department	90,315.00	10,290.00
v)	Chemistry Department	17,02,677.00	29,840.00
vi)	Electronics & Communication Engineering Department	1,03,47,648.00	-
vii)	Mathematics Department	-	1,83,66,937.00
viii)	Civil Engineering Department	2,31,53,655.00	-
ix)	Net Working	-	20,86,280.00
	<b>Total</b>	<b>6,88,52,196.00</b>	<b>3,85,11,120.00</b>

**SCHEDULE 18C – LIBRARY BOOKS / JOURNALS**

(Amount in Rs.)

		CURRENT YEAR	PREVIOUS YEAR
i)	Library Books	1,28,14,556.00	1,16,95,536.00
ii)	Library Journals	59,94,504.00	
	<b>Total</b>	<b>1,88,09,060.00</b>	<b>1,16,95,536.00</b>

**SCHEDULE 18D – FURNITURE & FIXTURE**

(Amount in Rs.)

		CURRENT YEAR	PREVIOUS YEAR
i)	Furniture	57,08,781.00	92,76,625.00
ii)	Air Conditioner	99,900.00	-
iii)	Water Cooler	1,20,000.00	-
	<b>Total</b>	<b>59,28,681.00</b>	<b>92,76,625.00</b>

**SCHEDULE 18E – OTHER CONSTRUCTION WORKS**

(Amount in Rs.)

		CURRENT YEAR	PREVIOUS YEAR
i)	Land Development at NIT Jote	17,50,000.00	36,20,947.00
ii)	Addition & Alternative of Building	1,03,40,663.00	43,55,806.00
iii)	C/o Temporary Wood Bridge with cc	-	38,44,000.00
iv)	Payment to Architect / Consultant	2,50,86,948.00	1,78,24,140.00
v)	SolarLight	35,14,488.00	16,69,800.00
	<b>Total</b>	<b>4,06,92,099.00</b>	<b>3,13,14,693.00</b>

**SCHEDULE 18F – OTHER CAPITAL EXPENDITURE**

(Amount in Rs.)

		CURRENT YEAR	PREVIOUS YEAR
i)	Office Equipment	38,30,002.00	5,67,425.00
ii)	Purchase of Generator Set	5,33,345.00	-
iii)	Canteen --	23,500.00	-
iv)	Guest House	51,832.00	-
v)	Vehicle	-	18,78,602.00
	<b>Total</b>	<b>44,38,679.00</b>	<b>24,46,027.00</b>

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13/6/15

Accountant  
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*Diwan*  
13/6/15

Asstt. Dean  
Finance & Accounts  
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Arunachal Pradesh

*Diwan*  
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DIRECTOR

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*Diwan*  
13/6/15

Chairperson  
National Institute of Technology  
Yupia, Arunachal Pradesh

**SCHEDULE 19 – OTHER PAYMENTS**

(Amount in Rs.)

		CURRENT YEAR	PREVIOUS YEAR
i)	Advances to Employees	79,02,664.00	49,68,361.00
ii)	Security Deposit	28,60,764.00	6,17,387.00
iii)	Misc Payment	46,38,448.00	10,78,24,215.00
	<b>Total</b>	<b>1,54,01,876.00</b>	<b>11,34,09,963.00</b>

**SCHEDULE 20– CLOSING BALANCE**

(Amount in Rs.)

		CURRENT YEAR	PREVIOUS YEAR
i)	Cash-in-hand	41,808.00	2,45,529.00
ii)	Imprest	1,919.00	1,191.00
iii)	State Bank of India	1,64,78,845.71	3,26,16,351.38
	<b>Total</b>	<b>1,65,22,572.71</b>	<b>3,28,63,799.38</b>

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**Schedule – 24 : Significance of Accounting Policies**

1. National Institute of Technology, Arunachal Pradesh is a newly setup Autonomous Institute in the form of a deemed University. It is established vide order No. F.23-13/TS-III dated 30.10.2009 by the Ministry of Human Resource Development Govt. of India, Deptt. of Higher Education. The Institute is fully financed by Plan/non plan grants of MHRD, New Delhi.

2. **Accounting Convention**

(A) The financial statements are prepared based on the historical convention, unless otherwise stated and on the accrual method of accounting.

(B) Investment has taken place during the financial year 2014-15.

(C) Fixed assets are stated at cost of acquisition inclusive of inward expenses incidental and direct expenses.

(D) Depreciation has been charged at the rate 10%.

(E) Govt. grants received during the financial year for Capital expenditure are treated as Corpus Fund. Government Grants are accounted on accrual basis.

**Schedule – 25 :- Contingent Liabilities and Notes on account.**

1. Contingent Liabilities : - Claims against the Institute under suit is NIL.

**Notes on Account :** A. Corresponding figure for the year have been regrouped / rearranged whenever necessary.

B. Capital assets acquired during the financial year of Rs. 1820690779/- only.

C. Expd. Shown on average basis as  
 Estt. Expd. (Salary) - ST – 29.92%  
 SC – 7.46%  
 GE – 62.62% as per availability of officials.

Admn. Expd. - ST – 10%  
 SC – 5%  
 GE – 85%

Works Expd. booked as per availability of fund based on – head of a/c wise.

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 Accountant  
 National Institute of Technology  
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*13/6/15*  
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 National Institute of Technology  
 Yupia, Arunachal Pradesh

**Flow Chart of Total Fund Allotted and Expenditure in various financial years:**