

## SECTION – 1

### *DIRECTOR'S SUMMARY*

It is a privilege to write a foreword to this 29<sup>th</sup> Annual Report 2015-2016 of NERIST which gives a glimpse of various activities of this Institute during the last one year. In this period, we have worked together to develop and improve the infrastructure and strived hard to give a responsive and transparent administration.

In this endeavour, the Institute shall always remain indebted to the President of the Society for NERIST, Shri J.P.Rajkhowa, IAS (Retd.), His Excellency the Governor of Arunachal Pradesh for his guidance and support since 01.06.2015. The Institute is also indebted to its Chairman of Board of Management, ShriPranab Kumar Barbora, Air Marshal (Retd.). PVSM, VSM, who was a constant source of inspiration and guidance since 13<sup>th</sup> December, 2013 to Dec. 2016. In this connection, the Institute appreciates and thanks the Technical Bureau, IFD and other offices of MHRD for their administrative support and support to grow our Institute.

During the period of the year 2015-16, a number of academic initiatives and infrastructural development have been taken up, with support from all concerned. TEQIP activities with World Bank funding are going on in full-swing and the administration is ever alert to offer transparency and support growth. However, the Institute is geared up to achieve higher standard and will try to meet targets significantly within time frame.

The Institute has a highly qualified, motivated, and relatively young faculty and a devoted group of non-teaching employees. NERIST students are disciplined, motivated and sincere and have successfully competed with the students from some of the good institutions of the country in different competitive examinations in their respective fields. They have also earned laurels for themselves and for the Institute in India and abroad. The Institute has successfully carried out many prestigious sponsored research projects from reputed external funding agencies.

The placement record of the Institute has been satisfactory but more needs to be done. The present team of Training & Placement Cell has been doing their best to invite Govt./Semi Govt./Public Enterprises to the Institute to conduct placement interviews for our students. The Institute is functioning smoothly to achieve its goal.

**Director**

## SECTION-2

### INTRODUCTION

#### 2.1 The Institute

Perched in the untrammelled beauty of the “land of the rising sun” the North Eastern Regional Institute of Science and Technology (NERIST) was set up by the Government of India, initially as a pilot project of the North Eastern Council, Shillong under the Ministry of Home Affairs, Govt. of India to create a base of technical manpower, aimed at meeting the challenges at various level of development in the region. The campus of the Institute is located at Nirjuli, Itanagar, the capital city of Arunachal Pradesh and is well connected to Guwahati by road, air and rail.

The Institute came under the direct control of Ministry of Human Resource Development (MHRD), Government of India, from 1<sup>st</sup> April, 1994. It has been conferred with the “Deemed to be University” status on May 31<sup>st</sup>, 2005, by the MHRD under Section-3 of UGC Act, 1956.

The Institute follows a modular pattern of education, having a multiple entry and exit system and is producing skilled man-power in different levels, i.e., Certificate, Diploma and Degree, through its innovative educational programmes. The system of education adopted at NERIST is aimed at enabling the region consisting of eight states comprising of Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura, to bridge the technology gap with the rest of the country, and also to increase the pace of socio-economic development in the region. Sikkim has been included as the eight beneficiary state of the Institute in the year 2006.

The Institute has demonstrated successful implementation of modular pattern of education, which has been able to provide skilled manpower in nine Certificate courses, six Diploma courses and seven Degree courses, being offered by the different departments, namely, Agricultural Engineering, Civil Engineering, Computer Science and Engineering, Electrical Engineering, Electronics & Communication Engineering, Mechanical Engineering and Forestry. Chemistry, Physics, Mathematics, Humanities & Social Sciences also have a pivotal role as supporting departments. Although the Institute admits students at a tender age (after Class-X) having heterogeneous academic standards, but its academic and administrative set up has been quite effective to ensure appreciable academic growth including development of different traits of personality amongst the students.

The Post-Graduate academic programmes were started in 1996-97 in two subjects viz., Information and Technology and Environmental Science & Engineering with due approval of AICTE and MHRD. After acquiring ‘Deemed University’ status in 2005, PG and Ph.D. programmes, both part time and regular basis, in all Engineering departments, M.Sc. in Forestry w.e.f. 2007-08 and M.Sc. in Physics, Chemistry and Mathematics, w.e.f., 2009-10 sessions have also started. Full time, as well as part time Ph.D programmes has been started in all 11 departments since 2006 including MBA. NERIST has the distinction of being the first institute in the state of Arunachal Pradesh to start M.Tech and MBA programmes.

## **VISION OF THE INSTITUTE**

To produce professionals with competency for pursuing excellence in Science & Technology Education, Research, and Entrepreneurship with ethical values and social sensitivity for offering specialized services to the society meeting the global requirements and standards in a multicultural environment.

## **MISSION OF THE INSTITUTE**

1. To create a niche in the field of science & technology education and research through an innovative modular system.
2. To produce globally competitive technical and scientific manpower in different disciplines with high ethical values and with particular reference to the North Eastern Region.
3. To induce in engineers/technologists and trainees a mind-set full of creativity to pursue excellence with focus on stakeholders, accountability, environment, and people.
4. To develop collaborations with world class R&D organizations, industries, and educational institutions in India and abroad for attaining excellence in teaching, research and consultancy practices.

### **2.2 Administrative set up**

The Institute is registered as a Society under Societies Registration Act of 1860. At present, the Hon'ble Governor of Arunachal Pradesh is the ex officio President of NERIST Society and Mr. Pranab Kumar Barbora, Air Marshal (Retd.) is the present Chairman of Board of Management (BoM) of the Institute.

### **2.3 Salient Features**

- Modular Technical Education System;
- Multi-point entry and exit system;
- Unconventional and innovative academic programme to create technical manpower at various levels for the development of NE Region;
- Development of knowledge, skills and value based education system;
- Highly qualified faculty and dedicated staff;
- P.G. and Ph.D. programmes;
- Well equipped laboratories and workshops;
- Fully residential campus;
- Dedicated service for development of NE Region.

## SECTION – 3

### ACADEMIC PROGRAMMES

#### 3.1 A Brief Profile of the Section

Academic Section is the backbone of any Academic Institute/University. Present Academic Branch is divided into three cells, viz., Undergraduate, Postgraduate and Ph.D. for better functioning. The Undergraduate cell deals with admission process, scholarships/other academic affairs of Base, Diploma & Degree Modules. The Postgraduate Cell deals with admission and other related affairs of M.Tech., MBA, M.Sc. including scholarships of UG & PG students and the Ph.D. Cell deals with all activities like admission of Ph.D. scholars, conducting DPGC, BPGS, and other activities related to Ph.D. Scholars including scholarships of Ph.D. students. Matters relating to Convocation, AC meeting, RTI, Correspondences with AICTE, UGC etc. and other miscellaneous academic matters are being dealt by the two Senior Stenographers. Besides this, Academic Section also deals with all other matters related to academic affairs of the Institute with MHRD/UGC/AICTE and other miscellaneous academic matters. The branch is headed by Assistant Registrar (Academic). As on July-Dec. session 2015-16, the numbers of UG students were 1291, PG students were 280 and Ph.D. Scholar were 217. The total strength of students as on 31.03.2016 is **1745**.

#### 3.2 Status Report regarding activities

The modular structure of curriculum at NERIST consists of three independent modules in Engineering and Technology streams and one independent module in Forestry. These are as follows:

##### (a) Engineering & Technology Stream

1. Base (Certificate) Module
2. Diploma Module
3. Degree Module

##### (b) Forestry Stream

1. Degree Module

In the Engineering and Technology stream, the Institute runs three modules, viz., Base (admitted after Class X), Diploma (admitted after Class 10+2/NERIST Base Module Course) and Degree Module (admitted after Diploma with requisite CGPA/Polytechnic Diploma with 1<sup>st</sup> Class). Each module is of 2 years' duration, besides the duration of bridge courses of Degree Module admitted through NEE-III which takes three years to complete their degrees.

### 3.3 Courses offered for Under Graduate Programme

During 2015-16, the Institute offered the following courses in each module:

#### Base (Certificate) Module

Sl. No.	Base (Certificate) Module	Trades
1	Agricultural Engineering	Tractor Mechanic and Food Processing Technician
2	Construction Technology	Draftsman and Surveyor
3	Maintenance Engineering (Electrical)	Electrician
4	Maintenance Engineering (Electronics)	Electronic Technician
5	Maintenance Engineering (Mechanical)	Mechanical Craftsmanship and Refrigeration & Air Conditioning

#### Diploma Module (E&T Stream)

- a) Agricultural Engineering
- b) Civil Engineering
- c) Computer Science and Engineering
- d) Electrical Engineering
- e) Electronics and Communication Engineering
- f) Mechanical Engineering

#### Degree Module (E&T Stream)

- a) Agricultural Engineering
- b) Civil Engineering
- c) Computer Science and Engineering
- d) Electrical Engineering
- e) Electronics and Communication Engineering
- f) Mechanical Engineering

#### Degree Module (4-year programme in Forestry)

### 3.4 Course Offered in Post Graduate Programme

The Institute started its Post Graduate Courses and the following programmes are running during 2015-16.

#### M.Tech. (Full Time)

- a) M.Tech. in Information Technology under the Department of Computer Science and Engineering.
- b) M.Tech. in Computer Science & Engineering under the Department of Computer Science and Engineering.
- c) M.Tech. in Environmental Science and Engineering under the Department of Civil Engineering.
- d) M.Tech. in Geotechnical Engineering under the Department of Civil Engineering.
- e) M.Tech. in Power System Engineering under the Department of Electrical Engineering.
- f) M.Tech. in Computer Aided Manufacturing and Automation under the Department of Mechanical Engineering.

- g) M.Tech. in Thermo-Fluid Engineering under the Department of Mechanical Engineering.
- h) M.Tech. in VLSI under the Department of Electronics and Communication Engineering.
- i) M.Tech. in Farm Machinery and Power under the Department of Agricultural Engineering.
- j) M.Tech. in Soil and Water Conservation Engineering under the Department of Agricultural Engineering.

#### **M.Sc.**

- a) M.Sc. in Forestry under Department of Forestry
- b) M.Sc. in Physics under Department of Physics
- c) M.Sc. in Chemistry under Department of Chemistry
- d) M.Sc. in Mathematics under Department of Mathematics

#### **MBA**

Master of Business Administration under the Center for Management Studies.

#### **Ph.D. (Part time) & Ph.D. (Full time)**

##### **Engineering streams**

- Agricultural Engineering
- Civil Engineering
- Computer Science and Engineering
- Electrical Engineering
- Electronics and Communication Engineering
- Mechanical Engineering

##### **Science, Humanities and Management streams**

- Forestry
- Physics
- Chemistry
- Mathematics
- Humanities and Social Sciences

### **3.5 Any other relevant information/data**

Number of Students enrolled in July-December Semester, for the session 2015-16 are summarized and furnished in the following tables.

(a) Under Graduate Programmes

Table 1: No. of Students enrolled in 1<sup>st</sup> Year (Module-wise)

Discipline	Base	Diploma	Degree
Agricultural Engineering (AE)	33	21	26
Civil Engineering (CE)	39	43	49
Computer Science & Engineering (CSE)	00	11	13
Electrical Engineering (EE)	39	27	38
Electronics & Communication Engineering (ECE)	22	41	40
Mechanical Engineering (ME)	38	38	43
<b>Total</b>	<b>171</b>	<b>181</b>	<b>209</b>

Table 2: No. of Students enrolled in 2<sup>nd</sup> Year (Module-wise)

Discipline	Base	Diploma	Degree
AE	26	33	13
CE	38	43	36
CSE	00	07	20
EE	40	45	42
ECE	25	38	36
ME	41	46	48
<b>Total</b>	<b>170</b>	<b>212</b>	<b>195</b>

Table No.3: No. of Students enrolled in Degree (Forestry)

Year	No. of students
First	14
Second	13
Third	12
Fourth	19
<b>Total</b>	<b>58</b>

Table 4: No. of Students enrolled in Degree Bridge Year

Discipline	No. of students
AE	00
CE	11
CSE	12
EE	11
ECE	12
ME	07
<b>Total</b>	<b>53</b>

Table 5: No. of Students enrolled as Repeaters

Discipline	Base	Diploma	Degree
AE	05	04	01
CE	00	05	02
CSE	00	00	00
EE	05	05	03
ECE	03	04	01
ME	04	03	03
Forestry (FO)	00	00	03
<b>Total</b>	<b>17</b>	<b>21</b>	<b>13</b>

**Table 6: Gender-wise Detail of Students (Base Module)**

Discipline	1 <sup>st</sup> Year		2 <sup>nd</sup> Year		Repeater		Total
	Male	Female	Male	Female	Male	Female	
AE	28	05	14	07	04	01	<b>59</b>
CE	27	12	28	10	00	00	<b>77</b>
EE	30	09	31	04	04	01	<b>79</b>
ECE	15	07	19	03	02	01	<b>47</b>
ME	32	06	34	03	04	00	<b>79</b>
<b>Total</b>	<b>132</b>	<b>39</b>	<b>126</b>	<b>27</b>	<b>14</b>	<b>03</b>	<b>341</b>

**Table 7: Gender-wise Detail of Students (Diploma Module)**

Discipline	1 <sup>st</sup> Year		2 <sup>nd</sup> Year		Repeater		Total
	Male	Female	Male	Female	Male	Female	
AE	08	13	19	10	04	00	<b>54</b>
CE	27	16	29	09	04	01	<b>86</b>
CSE	08	03	06	01	00	00	<b>18</b>
EE	36	05	32	08	05	00	<b>86</b>
ECE	21	06	23	11	04	00	<b>65</b>
ME	35	03	42	01	03	00	<b>84</b>
<b>Total</b>	<b>135</b>	<b>46</b>	<b>151</b>	<b>40</b>	<b>20</b>	<b>01</b>	<b>393</b>

**Table 8: Gender-wise Detail of Students in Engineering (Degree Module)**

Discipline	1 <sup>st</sup> Year		2 <sup>nd</sup> Year		Bridge		Repeater		Total
	Male	Female	Male	Female	Male	Female	Male	Female	
AE	17	09	07	05	00	00	01	00	<b>39</b>
CE	40	09	28	06	08	03	02	00	<b>96</b>
CSE	09	04	12	08	08	04	00	00	<b>45</b>
EE	28	10	27	12	11	00	03	00	<b>91</b>
ECE	32	08	27	08	09	03	01	00	<b>88</b>
ME	40	03	41	04	07	00	03	00	<b>98</b>
<b>Total</b>	<b>166</b>	<b>43</b>	<b>142</b>	<b>43</b>	<b>43</b>	<b>10</b>	<b>10</b>	<b>00</b>	<b>457</b>

**Table 9: Gender-wise Detail of Students in Forestry (Degree Module)**

Discipline	1 <sup>st</sup> Year		2 <sup>nd</sup> Year		3 <sup>rd</sup> Year		4 <sup>th</sup> Year & Repeater		Total
	Male	Female	Male	Female	Male	Female	Male	Female	
FO	06	08	07	06	06	06	12	07	<b>58</b>

**Table 10: Category-wise Detail of Students (Base Module)**

Discipline	GE	OBC	SC	ST	PWD	Total
AE	09	02	01	47	00	<b>59</b>
CE	18	13	06	37	03	<b>77</b>
EE	23	10	02	41	03	<b>79</b>
ECE	18	04	2	21	02	<b>47</b>
ME	34	13	06	25	01	<b>79</b>
<b>Total</b>	<b>102</b>	<b>42</b>	<b>17</b>	<b>171</b>	<b>09</b>	<b>341</b>



**Table 11: Category-wise Detail of Students (Diploma Module)**

Discipline	GE	OBC	SC	ST	PWD	Total
AE	05	05	01	43	00	<b>54</b>
CE	20	08	05	49	04	<b>86</b>
CSE	04	05	00	07	02	<b>18</b>
EE	28	12	04	41	01	<b>86</b>
ECE	35	05	02	21	02	<b>65</b>
ME	40	11	07	25	01	<b>84</b>
<b>Total</b>	<b>132</b>	<b>46</b>	<b>19</b>	<b>186</b>	<b>10</b>	<b>393</b>

**Table 12: Category-wise Detail of Students (Degree Module)**

Discipline	GE	OBC	SC	ST	PWD	Total
AE	10	02	03	24	00	<b>39</b>
CE	33	11	06	44	02	<b>96</b>
CSE	09	06	04	25	01	<b>45</b>
EE	21	15	04	48	03	<b>91</b>
ECE	47	13	06	20	02	<b>88</b>
ME	41	18	06	33	00	<b>98</b>
FO	13	09	04	29	03	<b>58</b>
<b>Total</b>	<b>174</b>	<b>74</b>	<b>33</b>	<b>223</b>	<b>11</b>	<b>515</b>

**Table 13: State-wise Detail of Students (Base Module)**

Discipline	AI	AL	AM	MG	MN	MZ	NL	SK	TR	TOTAL
AE	05	22	04	05	04	05	10	03	01	<b>59</b>
CE	04	19	08	07	07	08	08	07	09	<b>77</b>
EE	05	22	09	08	08	03	08	09	07	<b>79</b>
ECE	06	05	08	09	08	02	02	00	07	<b>47</b>
ME	05	20	11	10	09	03	05	05	11	<b>79</b>
<b>Total</b>	<b>25</b>	<b>88</b>	<b>40</b>	<b>39</b>	<b>36</b>	<b>21</b>	<b>33</b>	<b>24</b>	<b>35</b>	<b>341</b>

**Table 14: State-wise Detail of Students (Diploma Module)**

Discipline	AI	AL	AM	MG	MN	MZ	NL	SK	TR	TOTAL
AE	04	24	03	04	04	04	07	02	02	<b>54</b>
CE	08	17	10	08	09	07	11	07	09	<b>86</b>
CSE	05	02	01	02	04	01	02	01	00	<b>18</b>
EE	09	15	08	09	11	05	10	07	12	<b>86</b>
ECE	09	17	09	03	06	05	10	02	04	<b>65</b>
ME	09	13	14	06	11	06	07	08	10	<b>84</b>
<b>Total</b>	<b>44</b>	<b>88</b>	<b>45</b>	<b>32</b>	<b>45</b>	<b>28</b>	<b>47</b>	<b>27</b>	<b>37</b>	<b>393</b>

**Table 15: State-wise Detail of Students (Degree Module)**

Discipline	AI	AL	AM	MG	MN	MZ	NL	SK	TR	TOTAL
AE	05	12	02	04	04	00	08	02	02	<b>39</b>
CE	11	22	14	04	11	06	06	05	17	<b>96</b>
CSE	04	08	07	05	06	05	05	01	04	<b>45</b>
EE	12	22	13	10	09	01	08	04	12	<b>91</b>
ECE	13	11	12	06	14	08	06	08	10	<b>88</b>
ME	12	15	18	10	10	02	09	06	16	<b>98</b>
FO	02	11	06	09	07	05	04	09	05	<b>58</b>
<b>Total</b>	<b>59</b>	<b>101</b>	<b>72</b>	<b>48</b>	<b>61</b>	<b>27</b>	<b>46</b>	<b>35</b>	<b>66</b>	<b>515</b>

**(b) Post-Graduate Programmes****Table 16: No. of Students enrolled in M.Tech. (Full Time)**

Sl. No.	Name of the Dept.	Name of the Programme	No. of students admitted			Total
			1 <sup>st</sup> Year	2 <sup>nd</sup> Year	Repeater	
1.	AE	Soil and Water Conservation Engineering	07	04	00	11
		Farm Machinery and Power	04	04	00	08
2.	CE	Environmental Science and Engineering	10	11	03	24
		Geotechnical Engineering	10	09	02	21
3.	CSE	Computer Science & Engineering	06	06	01	13
		Information Technology	04	04	0	08
4.	EE	Power System Engineering	18	06	03	27
5.	ECE	Electronics and Comm. Engineering	00	00	00	00
		Very Large Scale Integrated	15	07	00	22
6.	ME	Computer Integrated Manufacturing and Automation	09	10	00	19
		Thermo-Fluid Engineering	08	07	00	15
<b>Total</b>			<b>91</b>	<b>68</b>	<b>9</b>	<b>168</b>

**Table 17: No. of Students enrolled in M.Sc.**

Sl. No.	Name of the Dept.	Name of the Programme	No. of students admitted			Total
			1 <sup>st</sup> Year	2 <sup>nd</sup> Year	Repeater	
1.	PH	M.Sc. in Physics	12	07	01	20
2.	CH	M.Sc. in Chemistry	10	06	00	16
3.	MA	M.Sc. in Mathematics	09	03	01	13
4.	FO	M.Sc. in Forestry	08	12	01	21
<b>Total</b>			<b>39</b>	<b>28</b>	<b>3</b>	<b>70</b>

**Table 18: No. of Students enrolled in MBA**

Sl. No.	Name of the Center	Name of the Programme	No. of students admitted			Total
			1 <sup>st</sup> Year	2 <sup>nd</sup> Year	Repeater	
1.	CMS	MBA	20	14	07	<b>41</b>

**Table 19: No. of Students enrolled in Ph.D. (Part Time & Full Time)**

<b>Engineering Disciplines (A)</b>				
<b>Sl. No.</b>	<b>Name of the Dept.</b>	<b>No. of Students admitted</b>		<b>Total</b>
		<b>Part Time</b>	<b>Full Time</b>	
1.	AE	02	17	19
2.	CE	12	05	17
3.	CSE	01	04	05
4.	EE	18	17	35
5.	ECE	06	13	19
6.	ME	10	13	23
<b>Total (A)</b>		<b>49</b>	<b>69</b>	<b>118</b>
<b>Science, Humanities and Management Studies Disciplines (B)</b>				
7.	Physics	07	08	15
8.	Chemistry	02	02	04
9.	Mathematics	05	10	15
10.	Forestry	08	26	34
11.	Humanities & Social Sciences	13	09	22
12.	Management Studies	07	02	09
<b>Total (B)</b>		<b>42</b>	<b>57</b>	<b>99</b>
<b>Total (A) + (B)</b>		<b>91</b>	<b>126</b>	<b>217</b>

### 3.6 Miscellaneous

The 5<sup>th</sup> Convocation of the Institute has been held on March 8, 2016. **Air Marshal (Retd.) P.K. Barbora**, Chairman, NERIST Board of Management, has presided over the convocation. Padma Bhushan Prof. Mrinal Miri, nominated Member of Rajya Sabha and Former Vice Chancellor of North Eastern Hill University, Shillong, has delivered the Convocation address as Chief Guest.

#### **MEMBERS OF ACADEMIC COUNCIL AS ON 31.03.2016**

- |     |  |   |          |
|-----|--|---|----------|
| 1.  | Prof. P.K. Das, Director, NERIST   | - | Chairman |
| 2.  | Prof. P.K. Tripathy, Dean (Academic)   | - | Member   |
| 3.  | Prof. Md. A. Hussain, Dean (Planning & Development )                                       | - | Member   |
| 4.  | Prof. B. Singh, Dean (Students Affairs)  | - | Member   |
| 5.  | Prof. M.F. Hussain, Dean (Administration)  | - | Member   |
| 6.  | Prof. N.S. Raghuwanshi, Dept. of Agri. and Food Engg., IIT, Kharagpur, W.B.                | - | Member   |
| 7.  | Prof. Sankar Chandra Deka, Deptt. of Food Engg. & Tech., Tezpur University, Tezpur (Assam) | - | Member   |
| 8.  | Prof. D.N. Das, Dean, Faculty of Life Science, Rajiv Gandhi University, Doimukh(Itanagar)  | - | Member   |
| 9.  | Prof. Debabrata Das, Head, Deptt. of Business Administration Tezpur University, Tezpur     | - | Member   |
| 10. | Prof. Tomo Riba ,Dean Faculty of Environmental.  | - | Member   |

	Science, Rajiv Gandhi University, Doimukh, Itanagar		
11.	Prof. Anjan Dutta, Deptt. of Civil Engg., IIT, Guwahati	-	Member
12.	Mr. Talo Potom, ADM cum CEO, Govt. of A.P, Itanagar	-	Member
13.	Prof. J. Choubey, Deptt. of Mathematics	-	Member
14.	Prof. S.K. Singh, Deptt. of Civil Engg.	-	Member
15.	Prof. Mubarak Hussain, Deptt of Chemistry	-	Member
16.	Prof. H.S. Yadav, Deptt. of Chemistry	-	Member
17.	Prof. M. Muralidhar, Deptt. of ME	-	Member
18.	Prof. S.K. Pandey, Deptt. of Mathematics	-	Member
19.	Prof. (Mrs). P. Rethy, Deptt. of Forestry	-	Member
20.	Prof. P.R. Alapati, Deptt. of Physics	-	Member
21.	Prof. P.P. Dabral, Deptt. of AE	-	Member
22.	Prof. L.K. Arora, Deptt. of Mathematics	-	Member
23.	Prof. K.D. Ram, Deptt.of Chemistry	-	Member
24.	Prof. K.N. Dewangan, Deptt. of AE	-	Member
25.	Prof. Saibal Chatterjee, Deptt. of EE	-	Member
26.	Prof. B.D. Nayak, Deptt. of HSS	-	Member
27.	Prof. C.L. Sharma, Deptt. of Forestry	-	Member
28.	Prof. A.S. Rai, Deptt. of Mathematics	-	Member
29.	Prof. N. Deb, Deptt. of Chemistry	-	Member
30.	HoD (CE)	-	Member
31.	HoD (ME)	-	Member
32.	HoD (EE)	-	Member
33.	HoD (AE)	-	Member
34.	HoD(ECE)	-	Member
35.	HoD (CSE)	-	Member
36.	HoD (Physics)	-	Member
37.	HoD (Chemistry)	-	Member
38.	HoD (Maths)	-	Member
39.	HoD (Forestry)	-	Member
40.	HoD (HSS)	-	Member
41.	HoC (CMS)	-	Member
42.	HoC (CATARD)	-	Member
43.	Dr. S.K. Srivastava, Associate Prof.,Deptt. of AE	-	Member
44.	Shri D.K. Shyamal, Associate Prof., Deptt. of AE	-	Member
45.	Dr. R.K. Mehta, Associate Prof., Deptt. of EE	-	Member
46.	Dr. M.P. Thaddues, Assistant Prof., Deptt. of ME	-	Member
47.	Shri T.V.P. Singh, Assistant Prof., Deptt. of EE	-	Member
48.	Shri K. Legoh, Assistant Prof., Deptt. CSE	-	Member
49.	Controller of Examination	-	Member
50.	Registrar	-	Non-Member Secretary

## SECTION - 4

### DEPARTMENTS

#### 4.1 DEPARTMENT OF FORESTRY

##### 4.1.1 A Brief Profile of the Department

The Department of Forestry came into existence in 1986 along with the establishment of NERIST with an object to impart forestry education to the younger generations of eight northeastern states of India. The department currently offers programmes at Graduate (4 years B. Sc), Post graduate (2 year M. Sc) and Ph. D levels. It is set against a large landscape of verdant scenic beauty and is equipped with infrastructure designed to produce professional personnel with management capacity and ability to take up the future challenges in the field of forestry. Forestry courses in the institute are also an attempt to conform to National Forest Policy 1988, which emphasizes forestry education in India. Northeastern states of India are endowed with a large forest cover which requires intellectual human resources for their conservation and sustainable management. Moreover, the region is considered as a mega diversity hot spot area rich not only in biodiversity but also having many rare, endangered, threatened and endemic species, some of which may become extinct soon without human intervention. With the vast learning experience, the outgoing students would be able to accomplish the mission of maintaining a balance between preservation of the genetic resources and sustainable utilization of forest resources on one hand and development of the region on the other. The students are given exposure and training in various forest-based aspects through field visits, project and dissertation work to gain practical knowledge and skills.

The back bone of the multi-disciplinary forestry course in the institute is its faculty, who are specialized in frontier subjects, i.e., Forest Ecology, Forest Geoinformatics, Wood Science and Technology, Horticulture, Taxonomy, Ethnobotany, Silviculture, Biodiversity conservation, Wildlife Management, Biotechnology, Microbiology, Forest Genetics, Forest Economics and Management etc. Apart from teaching, faculty members are also actively involved in conducting research work in different field of forestry and allied subjects and guiding Ph. D. students in their respective filed of specializations. The department has produced so far more than 41 doctoral theses leading to Ph.D. degrees.

##### List of Faculty member with their designation and field of specialization

Sl.	Name	Designation	Area of specializations
1.	<b>Dr. (Mrs.) P. Rethy</b>	Professor	Biosystematics & Ethnobotany
2.	<b>Dr. B. Singh</b>	Professor	Horticulture & Agroforestry
3.	<b>Dr. C. L. Sharma</b>	Professor	Wood Science & Technology
4.	<b>Dr. (Mrs.) M. Sharma</b>	Professor & <b>Head</b>	Wood Science & Forest Products
5.	<b>Dr. (Mrs.) K. Shrivastava</b>	Professor	Plant-microbe interaction & Biotechnology
6.	<b>Dr. P. R. Gajurel</b>	Associate Prof.	Floristic, Taxonomy and Ethnobotany

7.	<b>Dr. S. Sureshkumar Singh</b>	Associate Prof.	Natural Product Biotechnology
8.	<b>Dr. A. Kumar</b>	Associate Prof.	Wildlife behavioural ecology & Conservation
9.	<b>Dr. O. P. Tripathi</b>	Assistant Prof.	Ecology, Biodiversity Conservation & Forest Geo-informatics
10.	<b>Dr. L. B. Singha</b>	Assistant Prof.	Forest Ecology, Biochemistry & Biodiversity Conservation
11.	<b>Mr. G. Pangging</b>	Assistant Prof.	Forest Economics & Management

#### 4.1.2 Academic activities

Education in Forestry Science and research in Forestry and its allied discipline are the major academic activities of the department. The various academic courses presently offered in Forestry sciences are:

Sl. No	Name of Course	Duration
1	B. Sc. Forestry	4 Years
2	M. Sc. Forestry	2 years
3	Ph.D. programme	Minimum three years with one year course work

All the important aspects of Forestry, viz., Forest management, conservation, protection and utilization, Forest policy and planning, Forest Biology, Wildlife management, Silviculture, Wood Sciences & Technology, Application of GIS and Remote Sensing, Soil biology and management, Microbiology and Biotechnology, etc have been covered along with related interdisciplinary subjects like Biochemistry, Bio-statistics, Surveying, Marketing etc. particularly in B. Sc. Forestry. The department has the potential to do justice with the Forestry education in NERIST. Industrial training for 50 days is an integral component of B.Sc. forestry course wherein students are attached with forest departments, zoological parks, research institution across the country and in non-government organizations such as M. S. Swaminathan Research Foundation, WWF, WIMCO, PRADAN, etc. The major topics undertaken in industrial training are natural resource management, wildlife management, tea cultivation and management, rural management, remote sensing, NWFP, Biodiversity conservation and forest ecology, etc.

The Department has in its credit more than 55 projects completed and 8 ongoing projects. The students working in the research projects have also got the opportunity to register for Ph.D. by which several young scientists are being produced by the Department. The department has already produced more than 50 Ph. D. scholars. The faculty members working in different areas of forestry and allied disciplines have contributed significantly to the overall knowledge dissemination through publications in scientific journals of national and international repute. The department has a strong collaboration at national and international level with leading Institutes and Organization.

### 4.1.3 Laboratories and Laboratory development:

The department has seven well equipped laboratories for conducting practical classes and R & D activities inside the department beside three field labs (Nursery, Net house & Mist chamber). The Research Laboratory of the Department caters to the need of research activities of the department. It may be mentioned that the department has undertaken more than 65 research projects (completed/ongoing) sponsored by several funding agencies like MHRD, DST, CSIR, MOEF, UNESCO, GBPIHED, ICAR, ICFRE, DBT, ISRO, DSIR, FNDP, NEC etc. Laboratories of Forestry are well equipped with conventional and sophisticated instruments and apparatus like seed germinator, BOD incubator, portable leaf area meter (Licor), laminar air-flow chamber, rotary shaker, refrigerated centrifuge, refrigerator, deep freezer, hot air oven, muffle furnace, spectrophotometer, flame photometer, colony counter, autoclave, electronic balance, research microscopes (Leica), stereo microscope (Zeiss), wood microtome, circular saw, automatic weather station, PCR systems, Gas Chromatograph, Socs Plus and Fibra Plus, Kelplus, UV spectrophotometer, Flame photometer, GPSs, GIS softwares etc. for conducting different experiments for student practices at various modules as well as research activities. Well developed departmental computer centre and Library provides the resources to students and faculties to carry out their academic and research activities. The department has good number of computers with internet on LAN and printing facilities.

#### Existing Laboratories:

<b>Lab No.</b>	<b>Name of lab and facilities</b>	<b>In-charge</b>
Lab 1	Wood Science & Forest Products	Dr. M. Sharma
Lab 2	Plant Microbe Interaction and Microbial Biotechnology	Dr. K. Shrivastava
Lab 3	Forest Systematics & Horticulture	Dr. P. R. Gajurel
Lab 4	Environment & Natural Resource Management	Mr. G. Pangging
Lab 5	Forest Ecology and Biodiversity	Dr. O. P. Tripathi
Lab 6	Wildlife Conservation	Dr. A. Kumar
Lab 7	Remote Sensing and GIS Lab	Dr. O. P. Tripathi
Facility 1	Computing Facility	Dr. A. Kumar
Facility 2	Department library	Dr. A. Kumar
Facility 3	Forest Nursery	Dr. P. R. Gajurel
Facility 4	Forestry Herbarium	Dr. P. R. Gajurel
Facility 5	Bioinformatics Centre	Dr. S. S. Singh

#### 4.1.4 Project/ Thesis completed by PG / Ph. D students

##### (i) Ph.D. thesis (awarded/submitted):

Name; Regn. No./Roll No.	Supervisor (s)	Status	Title of Ph.D. Thesis
Ms. Bamin Yakang Ph.D.(P)/07/FO/01	Dr. P.R. Gajurel	Awarded	Studies on Non-Timber Forest Products and Associated Indigenous Knowledge System of Apatanis in Arunachal Pradesh
Mr. Kuladip Sarma Ph.D.(FT)/10/FO/07	Dr. A. Kumar	Awarded	Studies on population status, behavioural and habitat ecology of Eastern Hoolock gibbon ( <i>Hoolock leuconedys</i> ) in Arunachal Pradesh, India
Mr. Hemen Hazarika Ph.D.(P)/07/FO/10	Dr. P.R. Gajurel	Awarded	Distribution pattern, population structure and Phenology of <i>Piper betleoides</i> C. DC.
Mr. Ch. Sadananda Singh Ph.D.(P)/08/FO/04	Dr. L. B. Singha and Dr. O. P. Tripathi	Awarded	Nutritional and antioxidative properties of tender bamboo shoots and their products available in Arunachal Pradesh.
Mr. Amal Bawri Ph.D./(FT)/11/FO/01	Dr. P.R. Gajurel	Awarded	Diversity and Population structure of a few selected species of <i>Primula</i> L. in Arunachal Pradesh
Ms. Namram Sobharani Devi Ph.D.(P)/08/FO/05	Dr. L. B. Singha	Awarded	Biology of <i>Leucinodes orbonalis</i> Guenee and its ecofriendly management in brinjal through bio-rational pesticides and varietal screening.
Ms. Chumi Khanikar Ph.D.(FT)/FO/09/1/01	Dr. S. S. Singh	Awarded	Studies on functional diversity of microfungi in the rhizosphere soil of important medicinal plants of N.E. India using morphological and molecular techniques.
C. Murali Krishna Ph.D./(FT)/11/FO/05	Dr. A. Kumar	Submitted	Diversity and Ecology of Flying Squirrels in Arunachal Pradesh, India: With Special Emphasis to Red Giant Flying Squirrel ( <i>Petaurista petaurista</i> ).



(ii) Project work completed by PG students:

Name of Student/ Roll. No.	Dissertation title	Supervisor(s)
Mr. Yumnam Romio Singh (MS/13/FO/01)	Assessment of species diversity, community characteristics, above ground biomass and carbon stock in Langol Reserve Forest, Manipur.	Dr. O.P. Tripathi
Ms. Papor Khatonier (MS/13/FO/02)	Behavioural ecology and habitat characteristics of Malayan Giant squirrel ( <i>Ratu fabicolor</i> ) in Jeypore Reserve Forest under Dehing Patkai Wildlife Sanctuary, Assam, India.	Dr. A. Kumar
Mr. Sange DonduThungon (MS/13/FO/04)	Fuel wood consumption pattern in Shergaon village of West Kameng district of Arunachal Pradesh, and population structure and aboveground standing wood biomass of <i>Quercus serrata</i> - a most commonly used fuel wood species in this village.	Dr. L. B. Singha
Mr. Chenobu Seb MS/13/FO/05	Traditional natural resource management practice of Zealiang tribe of Nagaland: A case study of fringe villages in Mbaula forest range.	Mr. G. Pangging
Ms. Dorjee Dema Lema MS/13/FO/06	Anatomical characteristics and fibre morphology of some non-woody plants of Arunachal Pradesh in relation to pulp & paper.	Dr. M. Sharma and Dr. C. L. Sharma
Mr. Thaithuilung Pamei MS/13/FO/07	Documentation of floristic diversity and utilization pattern of plant resource in proposed Zeilad Wildlife Sanctuary of Tamenglong District, Manipur.	Dr. P. R. Gajurel
Mr. Nuzo MS/13/FO/08	Status of Nepal Prickly Ash ( <i>Zanthoxylum oxyphyllum</i> ) in Phek and Kohima Districts of Nagaland, India.	Prof. B. Singh
Mr. Sangno Tawe MS/13/FO/09	Study on prevailing Agroforestry system, Traditional forest Management System and Socio-economic status of Nyishi tribe of Pakoti and Papu valley area of East Kameng District, Arunachal Pradesh, India.	Prof. P. Rethy

#### 4.1.5. Short-term Courses/workshop organized:

Name	Title	Funding	Venue	Period
<b>Dr. M. Sharma &amp; Dr. O.P. Tripathi</b>	Enhancement of livelihood and biodiversity conservation through community based organization.	MoEF& CC, New Delhi; IIFM Bhopal.	DC Office, Bomdila.	21-03-15 to 24-03-15
<b>Dr. S. Suresh Kumar Singh</b>	i) 2-Days Science Direct and SCOPUS Orientation Programme at NERIST (As Coordinator)	DBT-DeLCON& Central Library, NERIST	Dept. of Forestry, NERIST	22-8-15 to 23-8-15
	ii) 1-Day E-Journal End User Orientation Programme (Wiley, Nature, Springer, IEEE, ACS, Turnitin, etc.)(As Coordinator)	DBT-DeLCON& Central Library, NERIST	Dept. of Forestry, NERIST	31-10-15
<b>Prof. B. Singh &amp; Dr.P.R.Gajurel</b>	Training programme for the farmers on Management and Cultivation of medicinal plants.	NEC, India	Miao, Changlang	14-15 Dec, 2015

#### 4.1.6. Short-term Courses/workshop, etc. attended:

<b>Dr. M. Sharma</b>	i) Attended 4 <sup>th</sup> INDEST User Convention organised by the AICTE_INDEST user Committee, NERIST, Nirjuli, Arunachal Pradesh on 22-23rd August and 31st October 2015.
<b>Dr. Karuna Shrivastava</b>	<p>i) <b>One Week</b> Short Term Course on “Soil health and food security” sponsored by TEQIP-II during 7<sup>th</sup> – 11<sup>th</sup> Dec., 2015 at CRDT, IIT, Delhi.</p> <p>ii) <b>Two weeks</b> Training program on “Gene Cloning, Protein Biochemistry, Structure Biology &amp; Bioinformatics”, sponsored by DBT, Govt. of India during 29<sup>th</sup> June – 10<sup>th</sup> July, 2015 at DBT’s Biotechnology/Bioinformatics Training Centre, ACTREC, Mumbai.</p> <p>iii) INDEST User Convention (E-Journal User Training Workshop), sponsored by AICTE-INDEST User Committee on 22<sup>nd</sup>-23<sup>rd</sup> August and 31<sup>st</sup> October, 2015 at NERIST, Arunachal Pradesh.</p> <p>iv) Paper presented in International conference on Asian Mycological Congress, 2015 Sponsored by Asian Mycological Association &amp; Mycological Society of India from 7<sup>th</sup> – 10<sup>th</sup> October, 2015 at Goa University, Goa.</p> <p>v) Paper presented in 2<sup>nd</sup> National Symposium on “Fish parasites” sponsored by DBT, Govt. of India, New Delhi and ICAR, New Delhi, Govt. of India held at Department of Zoology, RGU, Doimukh, Itanagar from 23<sup>rd</sup> – 24<sup>th</sup> November, 2015.</p>
<b>Dr. P.R. Gajurel</b>	<p>i) Attended and presented a research paper in the Annual meeting and International Conference of Society of Economic Botany, USA in South Africa (June, 2015).</p> <p>ii) Attended and delivered an Award lecture in the Annual Conference of Eastern Himalayan Society for Spermatophyta Taxonomy organized by Assam University, Silchar (March, 2015).</p> <p>iii) Attended a Project Review meeting for NEC projects in NEC Shillong in August. 2015</p> <p>iv) Attended a Project Review meeting for ongoing DBT project in Kashmir University in Nov. 2015</p>

<b>Dr. Sureshkumar Singh</b>	<b>S.</b> <ul style="list-style-type: none"> <li>i) Attended three days workshop from 3<sup>rd</sup> -5<sup>th</sup> June 2015 on “9<sup>th</sup> ISANH World Congress on Polyphenol Applications” at St Julians Bay, Malta, Eurpe (Int. Soc. for Antioxidants in Nutrition and Health, ISANH, France)</li> <li>ii) Attended 2-Days International Workshop on 30<sup>th</sup> Year of Biotechnology-Science for Society on 5<sup>th</sup> to 6<sup>th</sup> Feb. 2016 at Vigyan Bhavan, DBT, Govt. of India, New Delhi.</li> <li>iii) Attended the “28<sup>th</sup> All India BTISnet (DBT-BIF/BIC/SDIC) Coordinators Meeting” on 3<sup>rd</sup> and 4<sup>th</sup> March 2016 at BIF, Kumaun University, Uttarkhand.</li> <li>iv) Attended the “8<sup>th</sup> Coordinators Meeting of the NER-BTISNet (Bioinformatics Centres) in North-Eastern India” on 18<sup>th</sup> and 19<sup>th</sup> Nov 2015 at BIF, Tripura University, Agartala.</li> <li>v) Attended the “5<sup>th</sup> Review Meeting of the Coordinators of DBT-Biotech-Hubs in the North-Eastern Region” on 8<sup>th</sup> and 9<sup>th</sup> July 2015 at NRCM, Dimapur, Nagaland.</li> </ul>
<b>Dr. O.P. Tripathi</b>	<ul style="list-style-type: none"> <li>i) Attended Project Review meeting at JNU, New Delhi of DST funded project.</li> <li>ii) Attended Project Review meeting at SAC, Ahmedabad of ISRO-SAC funded project.</li> </ul>
<b>Dr. L.B. Singha</b>	<ul style="list-style-type: none"> <li>i) International seminar on advancements in angiosperm systematics and conservation, 19-21 Nov., 2015, organised by Indian Association of Angiosperm Taxonomy, Department of Botany, University of Calicut, Kerala, India.</li> <li>ii) Training programme on E-journal Access (Indest User Convention) on 22-23 Aug., 2015, Organized by Dept. of Forestry, NERIST, Nirjuli, Arunachal Pradesh.</li> <li>iii) Training programme on E-journal Access (Indest User Convention) on 31st Oct., 2015, Organized by Dept. of Forestry, NERIST, Nirjuli, Arunachal Pradesh.</li> </ul>
<b>Mr. G. Pangging</b>	<ul style="list-style-type: none"> <li>i) Attended training workshop: 4<sup>th</sup> INDEST USER Convention (E-Journals user training workshop) organised by the AICTE-INDEST User Committee during 22<sup>nd</sup> to 23<sup>rd</sup> August 2015 and 31<sup>st</sup> Oct, 2015 at NERIST.</li> </ul>

#### 4.1.7. Achievements, awards, membership, etc. earned by the faculty:

<b>Dr. M.B. Sharma</b>	<ul style="list-style-type: none"> <li>i) Life member of International Association of Wood Anatomists, Netherlands</li> </ul>
<b>Dr. Karuna Shrivastava</b>	<ul style="list-style-type: none"> <li>i) 1<sup>st</sup> Prize in Poster Competition in Asian Mycological Congress (AMC, 2015) held at Goa from 7<sup>th</sup>-10<sup>th</sup> October, 2015.</li> <li>ii) Nominated as Member, Technical Advisory Group of Multidisciplinary Research Unit, ICMR, Naharlagun, Govt. of Arunachal Pradesh.</li> <li>iii) Institute level: Chairperson, NERIST Health Unit w.e.f. June, 2015</li> </ul>
<b>Dr. P. R. Gajurel</b>	<ul style="list-style-type: none"> <li>i) Singapore Botanic Garden Research Fellowship by National Park Board, Singapore (to undertake research in Singapore Bot. Garden in January, 2015)</li> <li>ii) Badal Datta Award for 2014 for contribution in Ethnobotany by Eastern Himalayan Society for Spermatophyta Taxonomy (EHSST).</li> <li>iii) UGC nominated Advisory Committee member for UGC SAP programme in Kolhapur University.</li> </ul>
<b>Dr. L.B. Singha</b>	<ul style="list-style-type: none"> <li>i) Life member, Indian Science Congress Association, Kolkata, India.</li> <li>ii) Life member of Indian Association of Angiosperm Taxonomy, Kerala, India</li> </ul>
<b>Dr. Sureshkumar Singh</b>	<b>S.</b> <ul style="list-style-type: none"> <li>i) Biotechnology Ignition Grant (BIG) Award by BIRAC (DBT), 2015</li> <li>ii) Life Member, Association of Microbiologists of India.</li> </ul>

**4.1.8. Research project with amount date of sanction, agency, etc. (ongoing projects during the period)**

<b>Name of PI</b>	<b>Title of project</b>	<b>Funding agency with order No.</b>	<b>Period</b>	<b>Amount (Lakhs)</b>
<b>Dr. M. Sharma</b>	Studies on contribution of Agroforestry systems in wildlife and biodiversity conservation in Northeast India.	CSIR, New Delhi 37(1585)/13/EMR-II dated 11/04/2013	3 years (2013-16)	Rs. 28.10720
<b>Dr. B. Singh</b>	Mapping Management & Analysis of Medicinal and Aromatic Plants in Arunachal Pradesh using GIS and Phytochemical & Molecular Techniques.	NEC, Shillong	4 years (2012-16)	Rs. 212.00
<b>Dr. P.R. Gajurel</b>	Preventing extinction and improving conservation status of threatened plants through application of biotechnological tools.	DBT, New Delhi	5 years (2012-17)	Rs. 8.41
<b>Dr. O. P. Tripathi</b>	HIMADRI-Alpine Forest of Arunachal Pradesh. (PI)	ISRO-SAC, Ahmedabad	4 years (2013-16)	Rs.24.00
	Ecological analysis of traditional and developed AFS for sustainable livelihoods and improved land management in Arunachal Pradesh, Northeast India.	DST, New Delhi	2 years (2014-16)	Rs. 18.702
	Assessment of carbon stock and carbon sequestration potential of major land use sectors in Arunachal Pradesh.	DST, New Delhi	3 years (2015-18)	Rs. 84.624
	Biomass and carbon assessment in India- Phase II.	NRSC, ISRO	3 years (2015-18)	Rs. 14.00
<b>Dr. S. S. Singh</b>	Establishment of Institute Level Biotech Hub (IBTHub). (PI)	DBT, Govt. of India	3 Years	Rs. 39.5
	Development of food colorants and textile dyes from natural pigments of microbial origin. (PI/ Incubatee)	BIRAC (DBT), Govt. of India	18 months (Aug. 2015- Feb. 2017)	Rs. 25.00
	Infrastructure developmental Project on Establishment of Bioinformatics Infrastructure Facility (BIF). (Coordinator)	DBT, Govt. of India	8 years (2008-2017)	Rs. 30.5
	DBT-Electronic Journal Consortium (DeLCON) in Life Sciences and Biotechnology at NERIST. (Nodal Officer)	DBT, Govt. of India	6 years (2009-2015)	-

#### 4.1.9 Publications

##### **(a) Referred Research Journal:**

- Murali C. Krishna, Kuladip Sarma and Awadhesh Kumar. 2015. Microhabitat use and activity budget of four Himalayan river-birds, India. *TAPROBANICA*, 07 (4): 246–249.
- Bidyut Sarania, Ashalata Devi and Awadhesh Kumar. 2015. "A record of *Scutigernying chinesis* Fei, 1977 (Amphibia: Anuran: Megophryidae) in Eastern Himalaya of Northeast, India". *Current Science*, 109 (3):414-413
- Kuladip Sarma, Awadhesh Kumar, Murali Krishna and O.P. Tripathi. 2015. Predicting suitable habitats of vulnerable eastern hoolock gibbon (*Hoolock leuconedys*) in India using Maxent model. *Folia Primatologica*, 86 (4):387-397
- Parimal Chandra Ray, Awadhesh Kumar, Ashalata Devi, Murali C. Krishna, M.L. Khan and Brokelmann, W. 2015. Role of Habitat Characteristics on Group Density of Western Hoolock Gibbon (*Hoolock hoolock*) in Namdapha National Park, Arunachal Pradesh, India". *International Journal of Primatology*, 36(3): 445-459
- Sharma, M., Sharma C. L. and Lama, D. D. 2015. Anatomical and fibre characteristics of some agro waste materials for pulp and paper making. *International Jour. of Agri. Sci. and Res.* Vol. 5 (6):155-162
- Sharma, C. L., Sharma, M., Singh, L., Gogoi, B. R. and Kaur, M. J. 2015. Morpho-anatomical characteristics of leaves of *Taxus wallichiana* Zucc. from North Eastern and North Western Himalayas. *International Jour. of Current Res.* Vol. 7, Issue, 12, pp. 24624-24627.
- Singh, M. K., Sharma, M. and Sharma, C. L. 2015. Wood anatomy of some members of family Lauraceae with reference to their identification. *J. Indian Acad. Wood Sci.* 12(2):137–144.
- Kumar, Y. B., Sharma M. and Sharma C. L. 2015. Anatomical and physical properties of *Bambusa mizorameana* Naithani. *International Jour. Advanced Research* Vol. 3 (4) : 479-485
- Pangging, G. and Singh, S.L. 2015. Traditional Agroforestry System in Eastern Himalaya: A case study of fringe villages of Doimukh Forest Range, Arunachal Pradesh, India. *International Journal of Current Science in Biosciences and Plant Biology*, 2(10): 23-28. ISSN 2349 8080.
- Pangging, G. and Pongen, M. 2015. Avenue plantation in eastern Himalaya: A case study of avenue trees in NERIST campus, Arunachal Pradesh. *International Journal of Plant, Animal and Environmental Sciences*, 5(4): 73-75. ISSN 2231 4490.
- Pangging, G., Ao, A. and Das, A.K. 2015. Plant diversity and community characteristics in different disturbance regime in Singphan wildlife sanctuary, Nagaland, India. *International Journal of Current Research*, 7(11): 22955-22958. ISSN 0975-833X.
- Pangging, G. and Passah, S. 2015. Comparative study of plant diversity in Banderdewa forest range and community forest: A case study of Arunachal Pradesh, eastern Himalaya. *International Journal of Science Inventions Today*, 4(6): 622-628. ISSN 2319-5436.

- Pangging, G., Arunachalam, A., and Das, A.K. 2015. Management of people's forest in eastern Himalaya: A case study of Arunachal Pradesh. *Journal of Environment and Bio-Sciences*, 29 (2): 353-356. ISSN 0973-6913.
- Moitreyee Saikia and Karuna Shrivastava 2015. "Direct shoot organogenesis from leaf explants of *Aquilaria malaccensis* Lam.". *Indian Journal of Research in Pharmacy and Biotechnology*, 3(2):164-170. (ISSN: 2321-5674-Print; 2320 – 3471-Online).
- Moitreyee Saikia and Karuna Shrivastava 2015. "Biological control of *Heortia vitessoides* Moore, the most serious insect defoliator of *Aquilaria malaccensis* Lamk., a commercially important tree species of Northeast India". *Annals of Biological Research*, 6 (5):26-32. (ISSN 0976-1233).
- Singh, C. P, Khuroo, A. A, Hamid, M., Malik, A. H., Verma, A., Kumar, S., Ahmed, M., Kumar, A., Uniyal, S.K., Malik, Z. A., Nautiyal, M. C., Naidu, S., Joshi, A., Mehta, P., Sharma, S., Ali, S., Pandey, P. K., Tripathi, O. P, Mohapatra, J. 2015. Long-term monitoring of alpine Himalaya. *ENVIS Newsletter on Himalayan Ecology* 12(2): 1-10.
- Deka J, Yumnam, JY, Mahanta P and Tripathi OP 2015. Improvement in estimation of aboveground biomass of *Albizia lebbek* using fraction reflectance of Landsat TM data. *International Journal of Plant and Environment*, doi no.: 10.18811/ijpen.v1i1.7118.
- Yam, G and Tripathi, OP 2015. Plant diversity, community characteristics and above ground biomass of woody species in subtropical forests of Ziro valley, Arunachal Pradesh. *Indian Forester*, 141 (12): 1269-1277.
- Ali, S., Tripura, A., Kikhi S., Thungon L.T., Deka, J., and Tripathi, O.P., 2015. Species diversity, community characteristic and population structure in disturbed and undisturbed forest of Sepahijala Wildlife Sanctuary, Tripura. *International Journal of Current Research* 7(4): 15342-15349.
- Roy, PS., Behera, MD., Tripathi, OP., and Ramachandran, R., 2015. New vegetation type map of India prepared using satellite remote sensing: Comparison with global vegetation maps and utilities. *International Journal of Applied Earth Observation and Geoinformation*, 39: 142-159.
- Yam, G and Tripathi OP 2015. Tree diversity and community characteristics in TWS, Arunachal Pradesh, Eastern Himalaya, India. *Journal of Asia-Pacific Biodiversity* (in press).
- Murali, K.C, Kumar. A., Tripathi, O.P. and Koprowski, J., 2015. Diversity, Distribution and Status of Gliding Squirrels in Protected and Non-protected Areas of Eastern Himalayas in India. *Mammalian Biology* (Oxford University Press).
- Behera, M.D., Tripathi, P., Das, P, Behera, P.R., Kumar, P., Joshi, C., Bansal S., Krishnamurthy, Y.V.N., Srivatava, V.K., Srivastava S.K., Roy P.S., Khan M.L., Tripathi, O.P., Deka, J., 2015. A rear and front view of land use and land cover dynamics of two Indian river basins during 1985 and 2025 using Remote Sensing and modeling. *Regional Environmental change* (communicated).
- Murali, K.C., Kumar, A, and Tripathi, O.P., 2015 Characteristics of nesting trees of Red giant gliding squirrel (*Petaurista petaurista*) in a Tropical Forest of Namdapha National Park, India. *Mammalian Biology* (communicated).
- M.Roy, S. Roy, K. Surjit Singh, J. Kalita, S.Sureshkumar Singh. 2015. Synthesis, characterization and anti-diabetic activities of triorganotin (IV) azo-carboxylates derived from amino benzoic acids and resorcinol:

- Crystal structure and topological study of a 48 membered macrocyclic-tetrameric trimethyltin (IV) complex. *Inorganica Chimica Acta*. 439:164–172. ISSN no. 0020-1693
- C. Khanikar and S. Sureshkumar Singh. 2015. Seasonal and spatial variation of microbial population in the rhizosphere soils of five traditionally important medicinal plant species in NE India. *International Journal of Scientific Research*. 4(6): 366-369. ISSN no. 2277-8179
- Bawri, A., Gajurel, P. R. & Khan, M. L. 2015. Rediscovery of *Primula polonensis*. *Kew Bulletin*, 70: 56 (Online published DOI 10.1007/S12225-015-9605-6).
- Premkumar, N. Gajurel, P. R., Panmei, R. & Rethy, P. 2015. Indigenous healing practices and ethnomedicinal plants used against Jaundice by some Naga tribes in Nagaland, India. *Pleione*, 9(1): 40-48.
- Tamuly, C., Hazarika, M., Bora, J., Bordoloi, M., Boruah, M. P., & Gajurel, P. R. 2015. In vitro study on antioxidant activity and phenolic content of three Piper species from North East India. *Journal of Food Science and Technology*, 52(1), 117-128.
- Premkumar, N. Gajurel, P. R. & Rethy P. 2015. Ethnomedicinal value of some traditional foods plants uses by Zeling Tribes of Nagaland. *Indian Journal of Traditional Knowledge*, 14(2): 298-305.
- Gajurel, P. R. & Bamin, Y. 2015. Traditional utilization of plants in festivals, rituals and their conservation by Apatani Tribe of Arunachal Pradesh, North East India. *International Journal of Conservation Science*, 6(2): 189-200.
- Paul, A. Gajurel, P. R. & Das, A. K. 2015. Threats and conservation of *Paris polyphylla* an endangered, highly exploited medicinal plant in the Indian Himalayan Region. *BIODIVERSITAS*, 16(2): 295-302.
- Gajurel, P. R., Ronald, K. H, Buragohain, R., Rethy, P. 2015. Diversity and population status of high value medicinal plants with phytosociological characters of Indian Eastern Himalaya: An approach to conservation. *Journal of Threatened Taxa*, 7(6): 7243-7252.
- Bawri, A., Gajurel, P. R, Paul, A. & Khan, M. L. 2015. Diversity and Distribution of *Primula* species in Western Arunachal Pradesh, Eastern Himalayan Region, India. *Journal of Threatened Taxa*, 7 (1): 6788-6795.
- Dutta, J., Balasubramanian, D., Arunachalam, A. and Singh, S.S. 2016. Methane (CH<sub>4</sub>) emission from high altitude wetland rice-cum-fish integrated agriculture system in Eastern-Himalayan foothills. *Climate Change and Environmental Sustainability* 4 (1): 68-75. ISSN no. 2320-642X
- M. Roy, S. Roy, K. Surjit Singh, J. Kalita, S.Sureshkumar Singh. 2016. Synthesis, characterization and anti-diabetic activities of triorganotin(IV) azo-carboxylates derived from amino benzoic acids and resorcinol: Crystal structure and topological study of a 48 membered macrocyclic-tetrameric trimethyltin(IV) complex. *New Journal of Chemistry*. 439: 164–172. ISSN no. 1144-0546
- Devi, W. D., Gajurel, P. R. & Rethy, P. 2016. Bisexuality in dioecious male plant: An unusual phenomenon of sex expression in *Piper* species. *Int. J of Plant Reproductive Biology*. 8(1):82-86.
- Singha, L. B. Community structure and species diversity of *Pinus merkusii* Jung. & deVriese forest along an altitudinal gradient in Eastern Himalaya, Arunachal Pradesh, India. *Tropical Ecology* (Accepted).

Singha, L. B. Changes in N, P and K content in the culms of *Dendrocalamus hamiltonii* Nees and *Melocanna baccifera* (Roxb.) Kurtz during different phases of their life cycle. *Current Science* (Under review).

Singha, L. B. Nutritional value of six wild edible plants consumed by the ethnic tribes of Arunachal Pradesh, India. *Plant foods for human nutrition Journal* (Under review).

Singha, L. B. Population status of *Pinus merkusii* Jungh. & deVriese, A vulnerable gymnosperm in Eastern Himalayan region, India. *Plant Ecology & Diversity* (Under review).

#### **(b) Research articles in Books, Conference Proceedings etc.**

Murali C. Krishna and Awadhesh Kumar. 2015. Occurrence of Grey-headed Gliding Squirrel (*Petaurista caniceps*) in Arunachal Pradesh, India with a Note on its Taxonomy. *Proceeding of Zoological Society*, DOI 10.1007/s12595-015-0158-3

Karuna Shrivastava, Greeshma A. G., and Brijesh Srivastava. 2015. "Improvement in Traditional Technology of Rice and Millet Based Fermented Beverages of Arunachal Pradesh, North East, India through Scientific Approach". In the proceedings of International Conference on Chemical, Environmental and Biological Sciences (CEBS-2015), Rahim Ahmedi & Marium Gaidamashvili (Editors), Publisher- www.iicbe.org, Pp. 158-164. (ISBN: 978-93-84422-11-0).

Singha, L. B., Morphological and molecular approach for the phylogeny of bamboos of Northeast India' In: Proceedings, International seminar on advancements in angiosperm systematics and conservation' Organised by Indian Association of Angiosperm Taxonomy, Department of Botany, University of Calicut, Kerala, India during 19-21 Nov., 2015.

Singh S. S., C. Khanikar, N.C. Talukdar, G.K. Saini, M.L. Khan, K. Shivastava and J.C. Bohra. 2015. Production of mycotoxins free water soluble red pigment by a novel strain of *Talaromyces purpurogenus* NFML-X. pp 181 (ISBN: 978-2-35609-073-7). In the conference of 9th ISANH World Congress on Polyphenol Applications organized by *Int. Soc. for Antioxidants in Nutrition and Health*, ISANH, France during 3-5<sup>th</sup> June, 2015

Murali C. Krishna, Awadhesh Kumar and Tripathi O. P. 2016. Using gliding behaviour study to understand the conservation needs of Red giant flying squirrel (*Petaurista petaurista*) in Tropical Rainforest of Indian Eastern Himalaya. *Wildlife Biology*, 22(1):7-12

Kuladip Sarma and Awadhesh Kumar. 2016. Daily Path Length and Home Range Of Eastern Hoolock Gibbon *Hoolock leuconedys* (Mammalia: Primates: Hylobatidae) In Arunachal Pradesh, India. In Press.

#### **4.1.10 Interaction of faculty/department with out side agency, membership in professional bodies/committees, etc.**

The faculty members are actively interacting with the following outside organisation/ agencies for academic and developmental works

- Botanical Survey of India (BSI), Kolkata, Shillong and Itanagar
- Department of Biotechnology (DBT), Delhi
- Department of Science and Technology (DST), Delhi
- Research collaboration with Dept. of Chemistry, NIT, Agartala on biological activity screening of synthetic compounds
- Forest Research Institute (FRI), Dehradun
- Forest Survey of India (FSI), Dehradun
- Foundation for Revitalisation of Local Health Tradition (FRLHT), Bangalore



- Indian Institute of Remote Sensing (IIRS), Dehradun
- Indian Space Research Organisation (ISRO-SAC), Ahmedabad
- North Eastern Council (NEC), Shillong
- Multidisciplinary Research Unit, ICMR, Naharlagun, Govt. of Arunachal Pradesh.
- Universities like NEHU, Gauhati University, Manipur University, Delhi University, Tezpur University, Rajiv Gandhi University, etc.
- External experts for recruitments of project positions, dissertations, practical examinations, etc. in various Institutions.

**4.1.11 Consultancy project undertaken:** Nil

**4.1.12 Achievements of the students:**

- Miss. Banu Riba, M.Sc. Forestry student selected as Assistant Soil Conservator in Arunachal Pradesh.
- Mr. Sunayan Maitra B. Sc. Forestry selected as Assistant Manager in Tea Estate of Assam

**4.1.13 Any Others, if any:**

The following are the some of the important activities/achievement of the department during the year

**I. Developmental works-** Plantation and management of economically important plants in Forestry Nursery was undertaken.

**II. New equipments added:** Some equipments useful for teaching and research have been added in the department which are as follow

Sl. No.	Name of equipment	Lab No
1.	Sound level meter, HTC.	4
2.	Dissolved oxygen meter, labotronics.	4
3.	Spinix Multi plate shaker	2
4.	Spinwin Micro centrifuge	2
5.	Electrophoresis power supply	2
6.	Digital Microscopy Imaging with Micro-calibration facility	2
7.	Rotary Evaporator	3
8.	Water Purifier (Millipore)	3
9.	Gel Documentation	3
10.	Deep Freezer (Eppendorf)	3
11.	PCR (Eppendorf)	3

## 4.2 DEPARTMENT OF AGRICULTURAL ENGINEERING

### 4.2.1 A Brief Profile of the Department

Agricultural Engineering is the application of engineering principles in agriculture. Agricultural Engineering deals with the use of engineering tools and practice to solve crop production, handling and processing problems for food and fiber along with the production to consumption chain. It includes the application of scientific knowledge in diverse and multidisciplinary activities for the overall development of the nation and farming community under protective environment.

The Agricultural Engineering Department started its B. Tech. program in Agricultural Engineering in the year 1986. The department adopts modular pattern of education leading to the degree of B.Tech. in Agricultural Engineering, in three modules viz., base (in two separate trades of (i) Food Processing and (ii) Tractor Mechanic), diploma and degree. Each module provides terminality corresponding to an occupational level and at the same time provides entry to the next higher module finally leading to degree in Agricultural Engineering. After B.Tech they join postgraduate programmes and Ph.D. At present number students registered in M.Tech. (Farm Machinery and Power) & M.Tech. (Soil & Water Conservation Engineering) and in Ph.D programme are 07, 12 and 10, respectively.

At present the Department has 14 faculty members. The Department runs 05 sponsored research projects (SAC ISRO, MoEF, CSIR) on emerging areas of Agricultural Engineering. Presently one All India Coordinated Research Projects viz; AICRP on Human Engineering and Safety in Agriculture, ICAR, New Delhi are operative under the Department.

### 4.2.2 Academic Activities

1. **Modification of existing courses** : Nil
- (b) Introduction of new elective : Nil
- (c) Laboratory Works Sheets designed : Nil
- (d) Modification in the course structures : Nil

**4.2.3 Laboratories and Laboratory Development:** Following equipments were purchased for laboratories:

**4.2.4 Project completed by the Ph.D., PG and UG students (completed in May,2015).**

#### **A. M. Tech. (Soil and Water Conservation Engineering/Farm Machinery and Power) project**

S.No	Title of the project	Name of the guide	Name of the student
1	Estimation of monthly reference evapotranspiration and its time series modelling for Bikaner, Rajasthan.	Prof. P.P. Dabral, Dr. Deepak Jhajharia	Ms. Neizevonmer
2.	Time series modelling of monthly runoff of Godavari river	Prof. P.P. Dabral, Dr. Deepak Jhajharia	Ms. Hatneikim Thomason

3.	Mapping of snow water equivalent in an Eastern Himalayan catchment.	Dr. A. Bhadra, Dr. A. Bandyopadhyaya	Ms. Grace Nengzouzam
4.	Study of evapotranspiration in context of global warming and changing climate	Dr. D. Jhahharia, Dr. P.P. Dabral	Ms. Subu Monia
5.	Copula based analysis for interdependence between rainfall and temperature.	Mr. P.K. Pandey, Dr. D. Jhahharia	Mr. Lakhyajit Das
6.	Generation of NDVI signature plots for major vegetation covers of A.P. from MODIS NDVI product.	Dr. A. Bandyopadhyaya, Dr. A. Bhadra	Ms. Liza G. Kiba
7.	Trend in onset and withdrawal dates of monsoon and monsoon rainfall in major river basin of India	Dr. S.K. Shrivastava	Ms. AnnuTaggu
8.	Investigations on grip strength of workers in north east India	Dr. K.N. Dewangan	Mr. SpondonChelleng
9.	Energy potential of tea waste in Assam and its gasification using downdraft Gasifier	Dr. P.K. Pranav	Mr. Sonu Kumar

### C. Degree projects

S.No	Title of the project	Name of the guide	Name of the student
1.	Antecedent moisture condition probabilities for Doimukh (Itanagar), Arunachal Pradesh	Prof. P.P. Dabral	Sanjana Deb Barma and Kabyasree Choudhury
2.	Variation of dynamic push / pull strength among youths of north eastern states of India	Prof. K.N. Dewangan	BrijKishor Thakur
3.	Evaporation modelling of Shillong	Prof. S.K. Shrivastava	Racho Sala and Taku Raji
4.	Trends in virgin flow in a sub-basin of Godavari river	Dr. D. Jhahharia	Choyivolu Khesoh and Nemtinkim Hangsing
5.	Temporal variation of snow line in Tawang river basin	Dr. AditiBhadra	Karamchand Kisku and Santosh Kumar
6.	Development of ArcGIS toolbar for net irrigation requirement calculation	Dr. A. Bandyopadhyay	Minotshing Maza and Momocha Langonjam
7.	Determination of maximum aerobic capacity of different tribes of Arunachal Pradesh	Dr. P.K. Pranav	Sapunii Sebastian and Vanlalremruatpuii

#### D. Diploma projects

S.No	Title of the project	Name of the guide	Name of the student
1.	Isometric strength among male youths of north east India	Prof. K.N. Dewangan	Ms. L. M. Gurung Mr. G. Lalremchunga Mr. S. Debbarma
2.	To study manual material handling in agriculture and allied industries	Prof. K.N. Dewangan	Mr. R. Singh Mr. K. Mangalam
3.	Estimation of rainfall erosivity of northeaster region of India using modified Fournier Index	Prof. S.K. Shrivastava	Mr. D. Bengde Mr. G. Dubi Ms. K. Meena
4.	Effects of moisture content on physical properties of kidney bean and Bengal gram	Mr. D.K. Syamal	Mr. B. Singh Kh Mr. C. Tzudir Mr. I. Lusang
5.	Drought analysis – a case study of Rajasthan	Dr. D. Jhajharia	Ms. T. Livi Ms. Goukhancing Ms. A. Xaviera Ms. N. Sangma
6.	Intra- annual variation in mean areal precipitation of Arunachal Pradesh using Thiessen Polygon Method	Dr. A. Bhadra	Mr. K. Micheile Mr. N. K. Mondal Mr. T. Matthew Mr. V. Khatso
7.	Classification of Arunachal Pradesh based on Vulnerability to Flood using Probability Density Function	Dr. A. Bandyopadhyay	Mr. R.N. Marak Mr. M. Ngasepam Ms. A.M. Sangma
8.	Comparative study of gasification potential of four local available feedstock in down draft gasifier	Dr. P.K. Pranav	Ms. S. Thokchom Ms. S. Kumari Ms. S. Kumari Mr. J. Marak
9.	Evaluation of pan coefficient equations for estimating reference crop evapotranspiration under the climatic condition of Jorhat (Assam)	Mr. P.K. Pandey Prof. P.P. Dabral	Mr. N. Singh Mr. K. Tiwari Mr. K.P. Narayanan
10.	Development of thermosyphone solar water heater for small sized family	Mr. Ukil Singh	Mr. T. Babing Mr. H. Taker Mr. G. Buchi

#### 4.2.5 Short-term course/seminars/workshops/conferences organized at NERIST: Nil

#### 4.2.6 Short-term courses/seminars/workshops/conferences attended by the faculty.

1. K.N. Dewangan, D.K. Symal, T. Patel and A.K. Choudhary attended short term training programme on Recent advances of electrical machines and industrial applications organized by Dept. of Electrical Engineering, NERIST at NERIST during Nov 4–8, 2015.
2. K.N. Dewangan and P.K. Pranav attended the 19<sup>th</sup> Triennial Congress of the International Ergonomics Association, Melbourne, Australia during Aug 9–14, 2015.
3. K.N. Dewangan attended the 13<sup>th</sup> International Conference on Hand-Arm Vibration, Beijing, China during Oct 12–16, 2015.

4. A. Bhadra and A. Bandyopadhyay attended XII International Symposium on Antarctic Earth Sciences (ISAES 2015), Goa, India, July 13-17, 2015.
5. T. Patel attended training programme on Competency Enhancement through Micro Teaching Methodology organized by NAARM Hyderabad during December 11, 2015- January 7 2016.
6. T. Patel attended training programme on Design: Education, Research and Innovation organized by IIT Guwahati at IIT Guwahati during February 2-6, 2015.
7. A.K. Choudhary and Anubhab Pal attended Induction training organized by NITTR, Kolkata at NERIST during Sept 11-20, 2015.
8. A.K. Choudhary and Anubhab Pal attended 4<sup>th</sup> INDEST user convention organized by AICTE-INDEST at NERIST, during 22-23 Aug 2015 & 31st October 2015.

#### 4.2.7 New Degrees/Professional Memberships obtained by the faculty. Nil

#### 4.2.8 Achievements/awards/recognition earned by the faculty. Nil

#### 4.2.9 Projects sanctioned by outside agencies to the faculty of the department (2015)

1. A. Bandyopadhyay (PI) and A. Bhadra (Co-PI), Measurement to Management (M2M): Improved Water Use Efficiency and Agricultural Productivity through Experimental Sensor Network, Information Technology Research Academy, Media Lab Asia, DEITY, Ministry of Comm. and IT (Oct 2015–Oct 2017). Fund ₹23,66,000/-
2. Bhadra (PI) and A. Bandyopadhyay (Co-PI), Vulnerability of North-East India to Climate Change for Hydrological Extremes of Floods and Droughts, INCSW, MoWR, New Delhi. Fund ₹30,71,880/-.
3. Bhadra (PI) and A. Bandyopadhyay (Co-PI), Development of Hydrological Module for Snowmelt Runoff in the Himalayan Region under Pracriti-II Hydrology Project, SAC ISRO, Ministry of Space (Dec 2013–Mar 2017), Fund ₹20,60,000.
4. O.P. Tripathi (PI) and P.K. Pandey (Co-PI), Alpine Ecosystem Dynamics and Impact of Climate Change in Indian Himalaya (Arunachal Pradesh), SAC ISRO, (2013-2016), ₹23,10,000.
5. O.P. Tripathi (PI) and P.K. Pandey (Co-PI), AICRP on Sacred Grove Ecosystem Services Assessment in Arunachal Pradesh, MoEF New Delhi, (2011-16), Fund ₹34,28,800.
6. P.K. Pranav (PI) and T. Patel (Co-PI), All India Coordinated Research Project on Ergonomics and Safety in Agriculture. ICAR, New Delhi.
7. P.K. Pranav (PI) and Anubhab Pal (Co-PI), Development of Automatic Front and Rear Axle Weight Distribution System for 2wd Tractor, ICAR, New Delhi.

#### 4.2.10 Publications:

##### (a) Referred Journal

1. Pandey, P. K., Dabral, P. P., Pandey, V. (2016). Evaluation of reference evapotranspiration methods for the northeastern region of India. *International Soil and Water Conservation Research*, 4: 56-67.
2. Dabral, P. P., Saring, T. and Jhaharia, D. (2016). Time series models of monthly rainfall and temperature to detect climate change for Jorhat (Assam), India, *Global NEST Journal*, 18(3): 494-507.
3. Dabral, P. P., Pandey, P. K. (2016). Models to estimate soil moisture retention limits and saturated hydraulic conductivity. *Journal of Indian Water Resources Society*, 36(1):50-55.
4. Jhaharia, D., Pandey, K., Dabral, P.P., Kumar, R., Choudhary, R. (2015). Variability in temperature and potential evapotranspiration over west Siang in Arunachal Pradesh, India. *Journal of Indian Geological Congress* 7(2):37-43.

5. Chowdhuri, P., Dabral, P.P. and Singh, R. K.(2015). Runoff coefficient for different hilly micro watershed under different land uses. *Journal of Indian Water Resources Society*, 35(1): 34-40.
6. Dewangan, K.N.,Patil, M.R. (2015). Evaluation of dust exposure among the workers in agricultural industries in northeast India. *Annals of Occupational Hygiene*, 59 (9): 1091-1105.
7. Kalra, M., Rakheja, S., Marcotte, P., Dewangan, K.N.,Adewusi, S. (2015). Measurement of coupling forces at the power tool handle-hand interface. *International Journal of Industrial Ergonomics*, 49: 105–20.
8. Kalra, M., Rakheja, S., Marcotte, P., Dewangan, K.N.,Adewusi, S. (2015). Feasibility analysis of low-cost flexible resistive sensors for measurements of driving point mechanical impedance of the hand-arm system. *International Journal of Industrial Ergonomics*, 49: 44–52
9. Dewangan, K.N., Rakheja, S., Marcotte, P.,Shahmir, A. (2015). Effects of elastic seats on seated body apparent mass responses to vertical whole body vibration. *Ergonomics*, 58: 1175–90.
10. Senzeba, K.T., Bhadra, A., Bandyopadhyay, A. (2015). Snowmelt runoff modelling in data scarce Nuranang catchment of eastern Himalayan region. *Remote Sensing Applications: Society and Environment*, 2015: 20-35.
11. Bhadra, A., Bandyopadhyay, A., Singh, R., Raghuwanshi, N.S. (2015). Development and application of a simulation model for reservoir management. *Lakes & Reservoirs: Research & Management*, 20: 216-228.
12. Bandyopadhyay, A., Bhadra, A., Chiphang, N., Senzeba, K.T. (2015). Assessment of snowmelt runoff in the eastern Himalayan region under climate change scenarios. *Journal of Indian Geophysical Union*, 19(3): 312-321.
13. Senzeba, K.T., Rajkumari, S., Bhadra, A., Bandyopadhyay, A. (2016). Response of stream flow to projected climate change scenarios in an eastern Himalayan catchment of India. *Journal of Earth System Science*, 125(3): 443-457.
14. Mishra, P., Zaphu, V.V., Monica, N., Bhadra, A., Bandyopadhyay, A. (2016). Accuracy assessment of MODIS fractional snow cover product for an eastern Himalayan catchment. *Journal of the Indian Society of Remote Sensing*, DOI: 10.1007/s12524-016-0548-7.
15. Pranav, P.K., Tapang, T., Pal, A., Deb, S.K.(2015). Importance of automatic variable single hitch point for 2WD tractors - A theoretical analysis. *Engineering in Agriculture, Environment and Food*, 8: 298-306.
16. Pranav, P.K., Pandey, K.P., Tewari, V.K. (2015). Development of Electronic Ground Speed Sensor for Tractors. *Journal of Agricultural Engineering*, 52(3), 46-50.
17. Pranav, P. K., Biswas, M.(2016). Mechanical intervention for reducing dust concentration in traditional rice mills. *Industrial Health*. DOI: 10.2486/indhealth.2015-0180.
18. Pranav, P.K., Patel, T. (2015). Impact of ergonomic intervention in manual orange harvester among the workers of hilly region in India. *WORK: A Journal of Prevention, Assessment, and Rehabilitation* (accepted).
19. Pranav, P.K., Patel, T., Singh, P.K.(2015). Development of database and mathematical models for predicting engine performance parameters using biodiesel. *International Journal of Agricultural and Biological Engineering* (Accepted).
20. Pranav, P.K., Phukan, Y., Saha, B.(2016). Computer program for cost estimation of agricultural machines. *Scientific Journal, Agricultural Engineering* (Accepted).
21. Yadav, S., Deb P., Kumar, S., Pandey, V., Pandey, P.K.(2016) Trends in major and minor meteorological variables and their influence on reference evapotranspiration for mid Himalayan region at east Sikkim, India. *Journal of Mountain Science*, 13(2):302-315.

22. Singh C.P., Sharma, S., Pandey, P.K., Agnihotri, V. (2015). HIMADRI Site in Arunachal Pradesh, ENVIS Newsletter: Himalayan Ecology, 12(2):8.
23. Kumar, P., Chakrabarti, D., Patel, T., Chowdhuri, A. (2016). Work-related pains among the workers associated with pineapple peeling in small fruit processing units of North East India. *International Journal of Industrial Ergonomics*, 53, 124-129.
24. Patel, T., Sanjog, J., & Karmakar, S. (2016). Ergonomics Perspective in Agricultural Research: A User-Centred Approach Using CAD and Digital Human Modeling (DHM) Technologies. *Journal of the Institution of Engineers (India): Series A*, 1-10.
25. Patel, T., Sanjog, J., Karmakar, S. (2015). Isometric handgrip strength of agricultural workers from northeast region of India. *Agricultural Engineering International: CIGR Journal*, 17(1):130-140.
26. Patel, T., Sanjog, J., Chatterjee, A., & Karmakar, S. (2016). Statistical Interpretation of Collected Anthropometric Data of Agricultural Workers From Northeast India and Comparison With National and International Databases. *IIE Transactions on Occupational Ergonomics and Human Factors*, 4(4), 197-210.
27. Sanjog, J., Patel, T., Chowdhury, A., Karmakar, S. (2015). Musculoskeletal ailments in Indian injection-molded plastic furniture manufacturing shop-floor: Mediating role of work shift duration. *International Journal of Industrial Ergonomics*, 48, 89-98.
28. Sanjog, J., Karmakar, S., Patel, T. and Chowdhury, A., 2015. Towards virtual ergonomics: aviation and aerospace. *Aircraft Engineering and Aerospace Technology: An International Journal*, 87 (3): 266 – 273.
29. Sanjog, J., Patnaik, B., Patel, T., Karmakar, S. (2015). Context-specific design interventions in blending workstation: an ergonomics perspective. *Journal of Industrial and Production Engineering*, 1-19.
30. Choudhary, A.K., Garg, S.K., Bawankar, M.K., Chavan, A.N., Singh, M. (2015). Influence of single-and Double-Stage Hammer Grinding on Quality Attributes of Turmeric Powder. *Journal of Agricultural Engineering*. 52(3): 9–15.
31. Barnwal, P., Singh, K.K., Sharma, A., Choudhary, A.K., Saxena, S.N. (2015). Influence of pin and hammer mill on grinding characteristics, thermal and antioxidant properties of coriander powder. *Journal of Food Science and Technology*. 52(12): 7783–7794.

#### **(b) Conference papers**

1. Rakheja, S., Marcotte, P., Dewangan, K. and Kalra, M. (2015). Evaluations of low-cost resistive sensors for measurements of hand forces on vibrating handles. 13<sup>th</sup> International Conference on Hand-Arm Vibration, Beijing, China 47–48
2. Dewangan, K.N. and Sora, K. (2015). Job demand and human-machine characteristics on musculoskeletal pain among female weavers in India. *Proceeding of the 19th Triennial Congress of the International Ergonomics Association, Melbourne, Australia, Paper No: 1703, pp 1-8.*
3. Pranav, P. K., Challeng, S., Das, L. (2015). Maximum Acceptable Work Period in Load Carrying of Sherpa Mode for Female Workers of Arunachal Pradesh. Presented in 19th Triennial Congress of the International Ergonomics Association, Melbourne, Australia
4. Pranav, P.K., Kumar, S. (2016). Syngas Potential of Industry Tea Waste using Downdraft Gasifier. Presented in 50<sup>th</sup> ISAE convention at OUAT, Bhubaneswar.
5. Sanjog, J., Dash, T., Patel, T., Karmakar, S. (2015). Redesign of small and medium scale injection-molded plastic furniture manufacturing shop-floor: physical and environmental ergonomics perspective. *Proceeding of the 8th International Conference on Planning and Design, May 25th - 28th, National Cheng Kung University, Taiwan.*

6. Khayer, S. M., Patel, T. 2016. Digital human modeling and simulation for optimization of physical dimensions of pedal operated paddy thresher: Human-centered product design approach. In 50<sup>th</sup> Annual Convention of ISAE and Symposium on ‘Agricultural Engineering in Nation Building: Contributions and Challenges’. pp. 157.
7. Patel T., Vidhu, K. P., Kumar, A., Singh, W. A. 2016. Physiological and perceptual responses to Sherpa mode of load carriage using hip and shoulder supports. In 7th International Conference on Food and Agricultural Engineering (ICFAE'16) March 17-18, 2016 Abu Dhabi (UAE).pp. 75.

**(c) Chapters in Books:** Nil

**(d) Books:** Nil

#### **4.2.11 Interaction of faculty/department with outside agencies:**

1. K.N. Dewangan visited CONCAVE Research Centre in Concordia University, Montreal and worked there as visiting scientist from 01.06.2015 to 18.07.2015 with Prof. S. Rakheja.

**4.2.12 Consultancy projects undertaken:** Nil

**4.2.13 Achievements of students:**

1. MinotshingMaza (DE/13/AE/07) and Sapunii Sebastian (DE/13/AE/03) qualified GATE 2015
2. Sapunii Sebastian (DE/13/AE/03) qualified ICAR JRF 2015



## 4.3 DEPARTMENT OF CIVIL ENGINEERING

### 4.3.1 A Brief Profile of the Department

The Department of Civil Engineering came into existence as a part of the Institute since its inception in 1985. Over the years the Department has developed and is recognized as one of the major engineering departments in the north-eastern region of the country. The main objectives of the Department are to develop high quality technical manpower at Certificate, Diploma and Degree levels and to cater to the needs of the North Eastern Region in particular, and the nation in general. It has started offering PG programmes and research activities leading to PhD, after the Institute attaining the Deemed-to-be University status.

The laboratories of the department are well equipped to meet the requirements of undergraduate as well as postgraduate courses. The Department offers courses in Structural Engineering, Geotechnical Engineering, Structural Dynamics, Earthquake Engineering, Computational Methods in Civil Engineering, Advance Mechanics of Solids, Hydraulics and Water Resources Engineering, Fluid Mechanics, Environmental Engineering, Transportation Engineering, Geodetic Surveying, Engineering Graphics and Drafting, Building Science, Town Planning, Planning, Estimation and Valuation, etc . Projects offered to the Diploma and Degree final year students keep in view the academic advances, requirements of the industry as well as the local needs. The Department has the competency of carrying out challenging consultancy works and sponsored research projects. The Department organizes workshops and short-term courses to disseminate the knowledge to the teaching community, Government officials particularly of Arunachal Pradesh, NGOs as well as village level community of the state.

### 4.3.2 The Department at present has the following laboratories:

1. Computer Lab
2. Drawing and Drafting Section, including CAD facilities
3. Engineering Geology Lab
4. Environmental Engineering Lab - I
5. Environmental Engineering Lab - II
6. Field Engineering Lab
7. Geotechnical Engineering Lab -I
8. Geotechnical Engineering Lab -II
9. Highway Engineering Lab
10. Material Testing Lab
11. Structures Lab
12. Surveying Lab
13. Water Resources Engineering Lab

In addition, it has a Seminar Hall equipped with audio visual teaching and presentation facilities. All the labs are equipped with modern equipments used for both teaching and research and rendering consultancy services.

### 4.3.3 Joining of New Faculty Members: Nil

### 4.3.4 Academic Activities - Curricular Development:

- |  |       |
|--|-------|
| (a) Modification of existing courses/ Course Structure | : NIL |
| (b) Introduction of New Electives                      | : NIL |
| (c) Laboratory/ workshop designed                      | : NIL |
| (d) Introduction of new programmes                     | : NIL |

#### 4.3.5 Laboratory Development

##### List of new equipments procured:

The following are the list of equipment procured during the year.

S. No.	Name of Labs	Name of equipment	Quantity	Make	Total Cost (Rs.)

#### 4.3.6 Projects completed by the UG students (completed in May 2015 for B. Tech., & Diploma)

- (a) B. Tech. Projects completed : NIL  
(b) Diploma Projects completed : One group

##### (c) M. Tech Projects Completed:

S. No	Title	Submitted in	Guide
1	Soil stabilisation using crumb rubber tyre chips with cement as an admixture.	May 2015	Dr. (Mrs.) Ajanta Kalita
2	Compaction and strength behaviour of red soil blended with rice husk ash and cement.	May 2015	Dr. (Mrs.) Ajanta Kalita
3	Strength & stiffness response of Bamboo Fibre Reinforced Soil	May 2015	Dr. (Mrs.) Ajanta Kalita

##### (d) Ph.Ds Supervised:

S. No	Topic	Co-supervisor	Scholar's Name	Status of Ph.D	Registration Year
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S. No	Topic	Co-supervisor	Scholar's Name	Status of Ph.D	Registration Year
1	Evaluation and improvement of pavement sub grade using additive and soil reinforcement techniques in frost affected areas of Arunachal Pradesh.	Prof. S.K.Singh	Yamem Tamut	Comprehensive seminar completed. Research works are continuing.	2013
2.	Strength enhancement, modelling and application of cement fly-ash treated soil reinforced with glass fibre and natural fibre.		Yachang Omo	Comprehensive seminar completed. Research works are continuing	2013

#### 4.3.7 Short-term Courses/Seminars/Workshops Organized: NIL

#### 4.3.8 Short term courses/seminars/workshops attended by the faculty who attended

Sl.No.	Name of courses/seminars/workshops/conferences	Location	Duration
1.	Short term course on "Orientation Programme on Pedagogy"	NERIST	11 <sup>th</sup> to 20 <sup>th</sup> sep'2015

7. New Degrees/Professional Memberships obtained by the members of faculty : NIL

8. Special achievements/awards/recognition earned by the members of faculty : NIL

9. Projects sanctioned by outside agencies to the faculty of the department (April, 2015 to March, 2016) : NIL

#### 4.3.9 Publications

(a) Referred Journals : NIL

(b) Conference Papers:

B. N. Patel, A. Kalita, A. Chetri and K. Tate (2015) "Compaction and Strength Characteristics of red soil blended with fly ash and Lime" proceeding of Advances in Civil and Infrastructure Engineering (ACIE) , pp 114-119.

(c) Books: NIL

#### 4.3.10 Interaction of faculty/department with outside agencies: NIL

#### 4.3.11 Consultancy Projects undertaken

	Name of consultancy Work/Agencies	Amount	Detail of work	Faculty & Technical Staff involved
1.	VKV School, Itanagar	Rs.78853.00	Soil testing for V.K.V Campus, Itanagar, Arunachal Pradesh	Dr. Ajanta Kalita(f) Mrs. Yamem Tamut (f) R. Bora(Lab .Assistant )  M. C. Bora (Lab helper)
2.	Star Cement (CMCL)	Rs 6212	Testing of Star cement of GGU plant	Dr. Ajanta Kalita(f) Mr. A. S.R. Prasad  (Lab. Assist)  M. C. Bora (Lab helper)
3.	S. P.CONSTRUCTION	Rs. 3,378.00	Testing of sand.	Dr. Ajanta Kalita(f) Mr. A. S.R. Prasad  (Lab. Assist)  M. C. Bora (Lab helper)
4.	M K ROY & BROS PROJECTS PRIVATE LIMITED	Rs. 44,799.00	Soil Testing for IOCL Depot, Doimukh	Dr. Ajanta Kalita(f) R. Bora(Lab .Assistant )  M. C. Bora (Lab helper)
5.	M K ROY & BROS PROJECTS PRIVATE LIMITED	Rs.9,017.00	Soil Testing for IOCL Depot, Doimukh	Dr. Ajanta Kalita(f) R. Bora(Lab .Assistant )
6.	Voyants Solutions Pvt. Ltd.	Rs. 78,776.00	Testing of soil	Dr. Ajanta Kalita(f) R. Bora(Lab .Assistant )  M. C. Bora (Lab helper)

#### 4.3.12 Achievement of students : NIL

#### 4.3.13 Any Other Information:

	From	To	Designation	Organisation
1)	2014	Till date	Member of NEQIP	NERIST
2)	2011	Till date	Programme officer of NSS	NERIST
3)	September 2014	August 2015	Warden of Subansiri Girls' Hostel	NERIST
4)	2015		Member, convocation committee	NERIST

## **4.4 DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**

### **4.4.1 A Brief Profile of the Department**

The Computer Science and Engineering Department of NERIST came into existence right at the inception of the institute in 1986. It offers a unique combination of courses and projects that helps the students to cope with the recent advancements in the computer industry and information technology. The Department gives Diploma and Degree in computer science and engineering using a modular pattern. The M.Tech programme in Computer Science and Engineering started in 2008, M.Tech programme in Information Technology in 2011 (shifted from ECE dept) and the PhD programme started in 2007.

The Department offers regular courses like Computer Organization, Application Software, Operating System, Discrete Mathematics, Digital Electronics, Microprocessors, Database Management Systems, Compiler Design, Data Communications, Computer Networks, Design and Analysis of Algorithm to name a few of them. Apart from the regular courses a few of the important courses offered are Artificial Intelligence, VLSI Design, Image Processing, Fault Tolerant Computing, Information Theory, etc.

The faculty members of the Department are involved in various inter-disciplinary research projects funded by agencies like DeiT, AICTE, CISR, MHRD, NEC, DoE etc.

The Department has well equipped LAN connected laboratories such as System Lab-I, System Lab-II, PC Lab-I, PC Lab-II, Microprocessor Lab, Hardware Lab, Networking Lab with state-of-the-art machines. The Department is facilitated by the NKN (National Knowledge Network) internet connectivity.

Our graduates are well placed in organizations like, Infosys, C-Dot, SIEMENS, Tata Telecom, British Mahindra Telecom, DRDO, NICNET, ISRO, OIL, CSIR, Telecom, CMC, PCL, HCL, IDPL, IOC, SAIL, TELCO, TISCO, ESCORTS, Mindtree, State Departments of Electronics, Power & PHED.

### **4.4.2. ACADEMIC ACTIVITIES**

The department offers Diploma, Degree and M.Tech and Ph. D programme. Besides undergoing the regular courses, the students of each module carry out project in the second year. The degree first year students also undergo industrial training for 50 days. The Department student counselor guides these students in allotment of training seats. The students also give seminar presentation after completion of their summer training.

### **4.4.3 LABORATORIES AND LABORATORY DEVELOPMENT**

#### **LABORATORIES AND FACILITIES**

##### **PC Lab I**

The practical classes of Diploma Module and Base Module are held in this laboratory. The students get exposure to various types of Application Software such as Visual Basic, C++, Visual C++, etc in this lab. Basic Computer training for the students of all the Departments of NERIST is also given here. It is well equipped with Pentium PCs Laserjet printers, Deskjet printers, Line Printers etc.

## **PC Lab II**

This is a newly setup lab where practical classes of Diploma Module and Base Module are held. The students get exposure to various types of Application Software such as Turbo C++, Dev C++, etc in this lab. High level language programming experience for students of all the engineering departments of NERIST is given here. It is well equipped with i5 PCs.

## **System Lab I**

The Systems Laboratory - I is well equipped with servers and terminals basically for working in UNIX/LINUX and Windows environment as well. Practical classes for Diploma and Degree and PG students are held here. Hands on exposure to various programming Software such as C, C++, and RDBMS software like Oracle 9i and SQL Server, Visual Studio.NET are available in this lab. Several HCL Infinity Global Line Servers are connected to highend Intel i5 PCs and iMAC desktops. The lab also has Laserjet printers, Line matrix printer, Scanner etc. All the machines are on the institute LAN and thus have internet access. The students are encouraged to do network related projects in this lab.

## **System Lab II**

System laboratory II is well equipped with Servers running on Red Hat Linux 4.0 Enterprise Edition, and several HP Thin clients for working purely in UNIX/LINUX environment. This lab also has high end Intel i7 PCs and MAC mini desktops. Practical classes for M.Tech and Degree students are held here.

## **Microprocessor & Digital Lab**

Training in various types of Microprocessors and Computer hardware is imparted in Microprocessor laboratory. This laboratory is complete with different types of Microprocessor and Micro-controller Kits and hardware related equipment. It also has the facility for training in Digital Electronics, which is the heart of every Computer. Practical classes for Diploma and Degree students are held here. The lab is well equipped with Frequency counters, Oscilloscopes, Analog Multi-meters, Power supplies, Digital IC trainers, Electronic Multi-meters, Functional Generators, Audio Generators, Pulse Generators, Microprocessor Trainer Kit IMPACT, Microprocessor Trainer Kit Star 85, Microprocessor Kit 68 K, Microprocessor Trainer Kit 6802, Microprocessor Trainer Kit DYNA86, Micro-controller Kit DYNA 51, STD Based Card for Computers, Servo Controlled Voltage Stabilizers, Isolation Transformer, Bread Boards, Bush Monitors for 85 kit, Colour TVs etc.

## **Hardware Lab**

The Hardware lab is set up in the Computer Science and Engineering Department for subjects like Peripherals, Assembling of Computer, Fault tolerance and different hardware related topics. To carry on these classes the lab is well equipped with Pentium PCs (100 Mhz, 16 MB RAM, 2.1 GB HDD), different 386 machines like a set of PC ORG SYSTEM XT, PC ORBIT XT, PCL PC AT 386, WIPRO GENIUS 386, ESPL SUPERCHIP XT, ESPL SUPERCHIP AT, PCL-HALLMARK-II and various types of monitor like GeBBS COLOUR MONITOR, DOSL/50 MONO MONITOR, HCL GR-86 VDU, WEBEL MONITOR, one color TV, TVSE, L&T and INKJET printers, 1KV UPS and Tool kits like ISA Post Card (Hardware Diagnostic Card), Advanced Hardware Debugger Card, PC Trainer Cum Demonstrators, etc.

## Network Lab

This lab is equipped with PCs which are connected to LAN T (LAN Trainer kits) consisting LANT – NIU, LAN-T PS and LANT Software. It also has ISECURIT - a Network and Data Security Training System and and QUALNET 5.0 . M.Tech and B.Tech lab assignments on Computer Communication, Networking, Simulation and Network Security are carried out in this lab.

### 4.4.4. PROJECTS COMPLETED BY THE UG/PG/Ph.D STUDENTS

#### M.TECH CSE

	Title of Project	Name of guide
1.	Detection of Spectrum Sensing Data Falsification Attack in Cognitive Radio N/W Using Hierarchical Clustering	Dr. (Mrs.)N.Marchang
2.	Theoretical Study and FPGA Implementation of Efficient Arithmetical Units in Residue Number System (RNS) for Elliptic Curve Cryptography	Mr. Monjul Saikia
3.	A Collaborative Detection Strategy for SSDF attacks in Cognitive Radio Networks	Mr. Amar Taggu

#### M.TECH IT

	Title of Project	Name of guide
1.	Matrix projection Secret Image Sharing Scheme Using Discrete Haar Wavelet Transformation	Dr. (Mrs.)T. Tuithung
2.	Detection of Spectrum Sensing Data Falsification Attack in Cognitive Radio N/W Using Hard Clustering Techniques	Dr. (Mrs.)N.Marchang
3.	Attacks on Biometrics and its Countermeasure: A Bio-cryptosystem Approach	Mrs. M. Kathing
4.	Theoretical Study and FPGA Implementation of Efficient Arithmetical Units in Residue Number System (RNS) for Elliptic Curve Cryptography.	Mr. Monjul Saikia

#### DEGREE MODULE

	Title	Faculty
1.	Classification of regions using image segmentation	Dr. Mrs. T. Tuithung
2.	A Mechanism for Detecting Colluding Attacks using Data Mining in Collaborative Spectrum Sensing in Cognitive Radio Network	Dr. Mrs. N. Marchang
3.	Phoneme recognition using feed-forward neural network	Mr. Kapang Legoh
4.	Biometric authentication system using face recognition	Mrs. M. Kathing
5.	Manet performance in presence of black hole attack	Mr. M. Marjit Singh



6.	Design and Implementation of a Homomorphic Encryption Scheme towards the Application of Cloud Computing	Mr. Monjul Saikia
7.	A fusion centre based detection mechanism of ssdf attacks in cognitive radio network	Mr. Amar Taggu

#### **4.4.5. SHORT TERM COURSES/ SEMINARS/WORKSHOPS CONFERENCES ORGANIZED AT NERIST:**

1. National Conference on Computing, Communication and Information Processing sponsored by AICTE and NEQIP during 2<sup>nd</sup> May – 3<sup>rd</sup> May 2015.
2. Two weeks ISTE Short term training programme, funded by NMEICT, MHRD on “Introduction to Design of Algorithms” conducted by Indian Institute of Technology Kharagpur, organized at NERIST (physical remote center), Nirjuli Arunachal Pradesh during 25th M
3. ay to 30th May 2015.

#### **4.4.6. SHORT TERM COURSES/ SEMINARS/WORKSHOPS CONFERENCES ATTENDED BY THE FACULTY :**

##### **Dr. (Mrs.) N. Marchang, Associate Professor**

1. National Conference on Computing, Communication and Information Processing sponsored by AICTE and NEQIP during 2<sup>nd</sup> May – 3<sup>rd</sup> May 2015.
2. Two weeks ISTE Short term training programme, funded by NMEICT, MHRD on “Introduction to Design of Algorithms” conducted by Indian Institute of Technology Kharagpur, organized at NERIST (physical remote center), Nirjuli Arunachal Pradesh during 25th may to 30th May 2015.

##### **Mrs. M.Kathing, Assistant Professor**

1. National Conference on Computing, Communication and Information Processing sponsored by AICTE and NEQIP during 2<sup>nd</sup> May – 3<sup>rd</sup> May 2015.
2. Two weeks ISTE Short term training programme, funded by NMEICT, MHRD on “Introduction to Design of Algorithms” conducted by Indian Institute of Technology Kharagpur, organized at NERIST (physical remote center), Nirjuli Arunachal Pradesh during 25th may to 30th May 2015.

##### **Mr. Manjul Saikia, Assistant Professor**

1. National Conference on Computing, Communication and Information Processing sponsored by AICTE and NEQIP during 2<sup>nd</sup> May – 3<sup>rd</sup> May 2015.
2. Two weeks ISTE Short term training programme, funded by NMEICT, MHRD on “Introduction to Design of Algorithms” conducted by Indian Institute of Technology Kharagpur, organized at NERIST (physical remote center), Nirjuli Arunachal Pradesh during 25th may to 30th May 2015.

3. 4th INDEST User Convention (E-Journals User Training Workshop) 22-23 August and 31 Oct 2015 organized by AICTE-INDEST User Committee, NERIST Nirjuli Arunachal Pradesh
4. TEQIP sponsored Two Days workshop on Teaching Methodology of Mathematics Organized by Department of Mathematics NERIST during November 21-22, 2015

**Mr. Amar Taggu, Assistant Professor**

1. National Conference on Computing, Communication and Information Processing sponsored by AICTE and NEQIP during 2<sup>nd</sup> May – 3<sup>rd</sup> May 2015.
2. Two weeks ISTE Short term training programme, funded by NMEICT, MHRD on “Introduction to Design of Algorithms” conducted by Indian Institute of Technology Kharagpur, organized at NERIST (physical remote center), Nirjuli Arunachal Pradesh during 25th may to 30th May 2015.
3. 2 weeks Orientation Programme on Pedagogy organized by TEQIP, NERIST and NITTTR, Kolkata during 11<sup>th</sup> September to 20<sup>th</sup> September 2015.
4. 11<sup>th</sup> IEEE International Conference on Wireless and Mobile Computing, Networking and Communications (WiMob), Abu Dhabi, during 19<sup>th</sup>-21<sup>st</sup> October 2015.
- 5.

**4.4.7 NEW DEGREES/PROFESSIONAL MEMBERSHIPS OBTAINED BY THE FACULTY :**

**Dr. Mrs. T. Tuithung – Professor**

**Mr. S. J. Borah - Associate Professor**

**Mr. K. Legoh - Associate Professor**

**Mrs. Margaret Kathing - Associate Professor**

**4.4.8. ACHIEVEMENTS/AWARDS/RECOGNITION EARNED BY THE FACULTY :**

**Mr. M. Marjit Singh was conferred the IEI Young Engineers Award 2014-2015 in Computer Engineering awarded by The Institution of Engineers (India).**

**4.4.9. PROJECTS SANCTIONED BY OUTSIDE AGENCIES TO THE FACULTY OF THE DEPARTMENT :**

**Mobile Broadband Service Support over Cognitive Radio Networks", as a New Partner Institution (PIN) (ITRA/15(63)/Mobile/MBSSCRN/o2/2015,**

**P.I. : Dr. N. Marchang, Co-PI: Mr. Amar Taggu**

Funding Agency :- ITRA (MediaLabAsia) DeiTy, Govt. of India

Date: 23rd July, 2015

Amount : Rs. 35.94 lakhs

**4.4.10 . PUBLICATIONS :**

**A. Referred Journal**

**Dr. T. Tuithung**

1. Anil Choudhary, Dr. O. P. Roy and **Dr. T. Tuithung**, “Reliability Evaluation of Mobile Ad-hoc Networks”, International Journal of Future Generation Communication and Networking, Vol. 8, No. 5(2015), pp. 207-220, <http://dx.doi.org/10.14257/ijfgen.2015.8.5.21>, ISSN:2233-7857.
2. Anil Choudhary, Dr. O. P. Roy and **Dr. T. Tuithung**, “Reliability Evaluation of Mobile Ad-hoc Networks in case of Node Failure”, International Journal of Communication Systems and Network, (IJCSNT) Vol. 3, No. 1(2015), pp. 23-32, 2014 ISSN:2053-6283.
3. Anil Choudhary, Dr. O. P. Roy and **Dr. T. Tuithung**, “Reliability modeling of a Cluster Based Distributed Mobile Ad-hoc Network”, International Journal of Computing and Digital

Systems(IJCDS), ISSN 2210-142x, University of Bahrain Scientific Publishing Centre, April 2015.

4. B. Pushpa Devi, Sudipta Roy, Y. Jina Chanu, Kh. Manglem Singh and **T. Tuithung**, “A Watermarking Scheme for Digital Images Based on Visual Cryptography”, Contemporary Engineering Sciences, Vol.8, 2015, no. 32, 1517-1528, HIKARI Ltd, [www.m-hikari.com](http://www.m-hikari.com), <http://dx.doi.org/10.12988/ces.2015.59277>(SCOPUS).

**Mr. M. Marjit Singh**

1. **Singh, M.M.**, Singh, A., Mandal, J.K, “A Snapshot of Black Hole Attack Detection in MANET”, **International Journal of Computer Applications (IJCA)**, New York USA, Vol 16, Number 14, April 2015, ISSN: 0975-8887, DOI: 10.5120/20406-2759, pp 23-26, 2015.
2. Pal, M, Mandal, J. K., **Singh, M. M.**, “Modified PCT on Variable Cipher Block Chaining Mode”, **Springer AISC 340**, DOI: 10.1007/978-81-322-2247-7\_47, pp 457-465, 2015.

## B. Conference papers:

**Dr. T.Tuithung**

1. Himanka Kalita, M.M.Singh, **Dr. T.Tuithung**, “A Reversible Secret Image Sharing Scheme in Matrix Projection Using Discrete Haar Wavelet Transform”, National Conference on Computing, Communication and Information Processing(NCCCCIP-2015), Itanagar, 2-3 May-2015, , ISBN: 978-93-84935-27-6, pp 105-111, 2015.

**Dr. N. Marchang**

1. “Taggu A., Chunka C. and **Marchang N.**”, “CODES: A Collaborative Detection Strategy for SSDF Attacks in Cognitive Radio Networks”, “Third International Symposium on Women in Computing and Informatics (WCI-2015)”, ACM Digital Library (ISBN No. 978-1-4503-3361-0) “DOI: [10.1145/2791405.2791501](https://doi.org/10.1145/2791405.2791501)”, Kochi, Kerala, India, August 10-13, 2015.
2. “Rajkumari R. and **Marchang N.**”, “Distributed Binary Decision-Based Collaborative Spectrum Sensing in Infrastructure-less Cognitive Radio Network”, “Third International Symposium on Women in Computing and Informatics (WCI-2015)”, ACM Digital Library (ISBN No. 978-1-4503-3361-0) “DOI: [10.1145/2791405.2791483](https://doi.org/10.1145/2791405.2791483)”, Kochi, Kerala, India., August 10-13, 2015.
3. “Nath S., **Marchang N.** and Taggu A.”, “Mitigating SSDF Attack using K-Medoids Clustering in Cognitive Radio Networks”, “In proc. STWiMob'2015 at WiMob 2015”, “DOI: [10.1109/WiMOB.2015.7347972](https://doi.org/10.1109/WiMOB.2015.7347972)”, Abu Dhabi, UAE, October 19-21 2015.
4. “Bhattacharjee S., **Marchang N.**”, “Attack-Resistant Trust-based Weighted Majority Game Rule for Spectrum sensing in Cognitive Radio Networks”, “Eleventh International Conference on Information Systems Security (ICISS 2015)”, “DOI: [10.1007/978-3-319-26961-0\\_26](https://doi.org/10.1007/978-3-319-26961-0_26)”, Jadavpur University, Kolkata, India, 16-20 December 2015.
5. Suchismita Bhattacharjee, Raiping Keitangnao and **Ningrinla Marchang**, “Association Rule Mining for Detection of Colluding SSDF Attack in Cognitive Radio Networks”, Proc. 2016 International Conference on Computer Communication and Informatics (ICCCI -2016), Jan. 07 – 09, 2016, Coimbatore, INDIA

6. Nishi Kumar T M Singh, **Ningrinla Marchang** and Saratchandra H Sharma. Article: Boundary Probabilistic Algorithm for Source Location Privacy in Wireless Sensor Networks. NCIT 2015(1):18-22, January 2016, Rajiv Gandhi University.

***Mrs. Margaret Kathing***

1. Integrating Face and Iris trait to design a Personal Authentication Technique(PAT) by using PCA &Canny edge detection Method: Rima Rani Chutia, **Margaret Kathing**, Accepted and Presented in NCIT2015, 15th - 16th Sept. 2015, Rajiv Gandhi University, India.

***Mr. M. Marjit Singh***

2. **Singh, M.M**, Mandal, J.K., “*Reliability Analysis of Mobile Ad hoc Network*”, 7<sup>th</sup> IEEE International Conference on Computational Intelligence and Communication Networks (CICN-2015), 12-14 December **2015**. Jabalpur, India,
3. **Singh, M.M**, Mandal, J.K., “*Reliability Computation Method for Computer Network Under Wired Scenario*”, Proceedings of the National Conference on Computing, Communication and Information Processing (**NCCCIP-2015**), 2-3 May **2015**, India, **ISBN: 978-93-84935-27-6, pp 206-213, 2015.**
4. Kalita, H., **Singh, M.M**, Tuithung,T., “*A Reversible Secrete Image Sharing Scheme in Matrix Projection Using Discrete Haar Wavelet Transform*”, Proceedings of the National Conference on Computing, Communication and Information Processing(**NCCCIP-2015**), 2-3 May **2015**, India, **ISBN: 978-93-84935-27-6, pp 105-111, 2015.**

***Mr. Monjul Saikia***

1. **Saikia Monjul** and Baruah Bikash "Chaotic Map based Image Encryption in Spatial Domain: A brief Survey" Proceedings of First International Conference on Intelligent Computing and Communication - 2016 (ICIC2-2016) Organized by Faculty of Engineering, Technology and Management University of Kalyani, Kalyani-741235, West Bengal, India during February 18-19, 2016
2. **Saikia, Monjul**; Hussain, Md. A., "Combinatorial Group Based Approach for Key Pre-distribution Scheme in Wireless Sensor Network" 4th International Conference on Computing, Communication and Sensor Network, CCSN 2015 Vol-II held in Kolkota, India during 24-25 dec 2015 organized by International Association of Science, Technology and Management, India, page no. 19-25 ISBN: 81-85824-46-0
3. **Saikia, Monjul**; Acharjamayum, Irani; Hussain, Md.A., "A review on desirable measures for good Key Pre-distribution Scheme in wireless sensor network," in *Green Computing and Internet of Things (ICGCIoT), 2015 International Conference on*, vol., no., pp.129-134, 8-10 Oct. 2015 doi: 10.1109/ICGCIoT.2015.7380443
4. Ayub Hussain Mondal, Manish Ranjan and **Monjul Saikia** "A Brief Overview of Homomorphic Cryptosystem and Their Applications" National Conference on Recent Trends in Information Technology - 2015 (NCIT-2015) 15th-16thSeptember 2015 at Rajiv Gandhi University (A Central University), Rono Hills, Doimukh, Arunachal Pradesh

***Mr. Amar Taggu***

1. Marchang, N.; Rajkumari, R.; Brahmachary, S.B.; **Taggu, A.**, “ Dynamic Decision Rule for Cooperative Spectrum Sensing in Cognitive Radio Networks”, 2015 IEEE International Conference on Electrical, Computer and Communication Technologies (ICECCT), ISBN: 978-1-4799-6084-2, DOI: 10.1109/ICECCT.2015.7226198.

2. Nath, Shikhamoni; Marchang, Ningrinla; **Taggu, Amar**, “ Mitigating SSDF attack using k-medoids clustering in Cognitive Radio Networks”, 2015 IEEE 11th International Conference on Networking and Communications (WiMob), Abu Dhabi, ISBN: 978-1-4799-3078-4 , DOI: 10.1109/ICACCI.2014.6968561.
3. **Taggu Amar**, Chunka C, Marchang N, “CODES: A Collaborative Detection Strategy for SSDF Attacks in Cognitive Radio Networks”, 2015 ACM Third International Symposium on Women in Computing and Informatics (WCI), ISBN: 978-1-4503-3361-0, DOI: 10.1145/2791405.2791501

**Mr. A. K. Patra**

1. Multi objective evolutionary algorithms for association Rule Mining: Advances and Challenges, ICAROB 2016, Ginowan, Okinawa, Japan.

**B. Books**

1. Choudhury, Hussain Ahmed and **Saikia, Monjul** “Block Matching Algorithms for Motion Estimation: A Performance-Based Study” Book chapter @ ISBN: 978-81-322-2463-1 Advances in Communication and Computing 347 Lecture Springer Notes in Electrical Engineering edited by Prabin Kumar Bora; S R Mahadeva Prasanna; Kandarpa Kumar Sarma; Navajit Saikia, DOI: 10.1007/978-81-322-2464-8\_12 [http://dx.doi.org/10.1007/978-81-322-2464-8\\_12](http://dx.doi.org/10.1007/978-81-322-2464-8_12) Springer India Page 149-160.

**4.4.11 ACHIEVEMENT OF STUDENTS :**

**PLACEMENT**

Name	Organization
Ms. Srawani Kachari	CEPTAM (DRDO)
Ms. Priyanka Das	Wipro
Sandeepan Roy	Wipro, SAP
Raiping K.T.	TCL India

**GATE**

1. Joseph Pachuau
2. Swmdwm Basumatry

## **4.5 DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

### **4.5.1 A Brief Profile of the Department**

The Department of ECE was established in the year 1985. The first batch of intake was taken in the year 1986. The Department of Electronics and Communication Engineering runs courses for three modules, namely Base, Diploma and Degree, giving B.Tech degree to the students who pass out degree module successfully and M.Tech in VLSI. The courses are designed by taking into consideration of present trends in technology, basic knowledge to pursue technological steps in the fields of Electronics and Communication Engineering and to meet the demand of man power in the technology development and support to the country. The department has been running PG programme (M. Tech in VLSI) since 2012. From the next academic year M.Tech in ECE with two specializations is going to be offered. The Department of Electronics and Communication Engineering also runs PhD (part time and full time) in the fields of Electronics and Communication Engineering, VLSI and Information Technology. There are 13 regular faculty members in the department of which two are on QIP leave and pursuing Ph. D. at IIT, Kharagpur and IIT, Guwahati, respectively.

### **4.5.2 Academic Activities**

The Department conducts academic activities based on the modular pattern of NERIST-certificate in Maintenance Engineering, Diploma and Degree in Electronics and Communication Engineering. The students of M.Tech and Ph.D students are encouraged to attend and present their published papers across the country. The NERIST Electronics Society (NES) is a pioneer body which encourages professional activities of students. The Department has organized workshops, seminars with technical collaboration with the faculty members /experts of other universities.

### **4.5.3 Laboratories and Laboratory development**

The Department has 14 numbers of laboratories to conduct practical classes for various courses. The Department has modernized DSP laboratory with funds from the MHRD. The department is also further developing the existing VLSI and Computer Networking laboratories. The Department has taken up steps to develop labs for M.Tech (VLSI) courses for which Xilinx ISE series along with VHDL based kits, TI 6713 series DSP kits, etc. have been procured along with ORCAD and Microwind Design Software and cadence. Procurement of online UPS and batteries has been made for DSP and computer lab for uninterrupted power supply.

#### 4.5.4 Projects completed by the UG/PG/PhD students:

##### a. Under-graduate Projects:

Sl. No	Name of the students	Name of Guide(s)	Project Title
1.	H.Donald Singh Sanjita Sahu Manidipta Saha Kallol S. kashyap	Dr. Joyatri Bora  Mr. Madhusudhan Mishra	VEHICLE ACCESS CONTROL AND SECURITY SYSTEM
2.	T. Chngkheinganba Vicky Sharma Mrinmoy Nath L. Bobison Singha	Dr. A Dinamani Singh	DRIVER FATIGUE DETECTION USING PERCLOS ANALYSIS
3.	Ranjan Kumar Powlomi Roy Archana Kumari	Mr. Anil Kumar Gautam	PERFORMANCE ANALYSIS OF SRAM MEMORY CELL
4.	Arti Kumari Neekita Naorem Anupama Sharma	Mr. Akho John Richa	RFID BASED SECURITY CONTROLLING AND MONITORING SYSTEM USING PLC
5.	S.Watson Singh Prem Babu	Dr. Swanirbhar Majumdar	ROBUST DETECTION OF HEART BEATS FROM MULTIMODAL DATA
6.	Rihit Kumar Bablu Singh Kaushik Saha Mihir Das Lashkar	Dr. Manish Kumar	ANALYSIS OF LOW POWER & HIGH SPEED DUAL TAIL COMPARATOR
7.	Dhritiman Das D.Rudra Sarma Uttam Raut Preeti chaudhury	Mr. Rusni Kima Mangang	UNDER WATER ACOUSTIC CHANNEL ESTIMATION IN AN OFDM SYSTEM
8.	S. Kumar Mahto Maheus Sungoh Ashish Bhandari W. Johnny Singh	Mr. Madhusudhan Mishra	TEXTURE BASED IMAGE RETRIVAL ON FINGER PRINT
9.	Abdul Ahad Khan H. Hmar	Dr. Md. Anwar Hussain	VIDEO WATERMARKING
10.	Sauradeep Dey C. Hmingthansanga	Dr. Swanirbhar Majumdar	IRIS RECOGNITION

11.	Aparna Prakash Sagnik Ray G. Benhur Singson Debdulal Bhowmik	Mr. Ashok Kumar Ray	MAXIMUM POWER POINT TRACKING OF A SOLAR CELL USING PERTURB AND OBSERVE, INCREMENTAL CONDUCTANCE METHODES AND HIGH CURRENT STEP DOWN LED DRIVER CONTROLLER
12.	Ankit Kr Pandey Atikur Rahman	Dr. Md. Anwar Hussain	DESIGN OF LINEAR AND NON LINEAR REGRESSION MODEL

**a. Post Graduate (M.Tech) Projects:**

M. Tech VLSI who have passed in May'2015:

Student Name	Supervisor	Project Title
MS. SHREYASHEE DEBNATH	AKR	FPGA IMPLIMENTATION OF CONJUGATE GRADIANT SOLVER
MR. INAMUL HUSSAIN	MKR	DESIGN OF A FAST AND REDUCED COMPLEXITY WALLACE TREE MULTIPLIER
MR. ROHIT KUMAR SAH	MKR	DESIGN AND PERFORMANCE ANALYSIS OF DIFFERENT SRAM CELL CONFIGURATIONS
MS. MANASHWI TAMULI	SMD AKR	FPGA IMPLEMENTATION OF JACOBI SOLVER
MR. NINGOMBAM AJIT KUMAR	MRK	LOW POWER CONTINUOUS TIME DELTA SIGMA MODULATOR BASED ON PRE-AMPLIFIER LATCH COMPARATOR
MR. DIVAKAR TAMANG	AH	EFFECT OF PHYSICAL PARAMETER VARIATION ON DIGITAL VLSI CIRCUITS IN SUB THRESHOLD AND NEAR THRESHOLD REGIME
MR. GYATI YUBBEY	TVPS	TIME BASED CMOS ANALOG TO DIGITAL CONVERTER

**4.5.5 Courses/Seminars/Workshops/Conferences Organized at the department**

Department of Electronics and Communication Engineering has conducted one student's seminar on 25/02/2016.

**4.5.6 Short term courses/Seminars/Workshops/Conferences attended by the faculty**

Course attended by Mr. Madhusudhan Mishra:

Sl. No.	Programme	Duration, Year and date	Organized by
1.	National Course on Recent Advances in Communications and Signal Processing under TEQIP.	12-16 January, 2015	EEE Department, IIT Guwahati.
2.	Twenty Second National Conference on Communications : NCC 2016	4-6 March 2016	EEE Department, IIT Guwahati.

Course attended by Mr. P K Dutta:

1.	Faculty Development Programme on Recent Advancements of Electrical Machines and Industrial Applications	4 <sup>th</sup> -8 <sup>th</sup> November, 2015	NERIST, TEQIP Sponsored
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Course attended by Dr. J. Bora:

1	TEQIP FDP on “Recent Advances in Electrical Machines and Industrial Applications”	One week, 4-8 November, 2015	EE Dept., NERIST
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Courses attended by Dr. Swanirbhar Majumder:

1.	IEEE International Instrumentation and Measurement Technology Conference (I2MTC 2015)	11th to 14th May 2015	IEEE Instrumentation and Measurement Society (IMS), at Pisa, Italy
2.	TEQIP FDP on Recent Advancements of Electrical Machines and Industrial Applications	4th to 8th November 2015	NERIST by Dept of Electrical Engg.

Course attended by Mr. A.K.Ray:

1	INUP hands on training workshop on nanofabrication technologies	18-22 April 2016	IIT Bombay
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Courses attended by Dr. Manish Kumar:

1.	FDP on “Recent Advancements of Electrical Machines and Industrial Applications”	4 <sup>th</sup> - 8 <sup>th</sup> November, 2015	EE Department, NERIST
2.	Winter School on Digital VLSI Design	26 <sup>th</sup> - 30 <sup>th</sup> December, 2015	ISVE, Ranchi

Courses attended by Mr. R. K. Mangang

Sl. No.	Programme	Duration, Year and date	Organized by
3.	Faculty Development Programme on Recent Advances of Electrical Machines and Industrial Applications sponsored by TEQIP	4 – 8 November 2015	Department of Electrical Engineering, NERIST

Course attended by Mr. Akho John Richa:

1.	Ishan Vikas, Initiative of M.H.R.D	49 days, 30.05.2015 to 17.07.2015	IIT Bombay.
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Courses attended by Mr. Anil Kr. Gautam

Sl. No.	Programme	Duration, Year and date	Organized by
1.	Short term training programme on “ <b>Induction Training</b> ” organised by NITTtR.	10 <sup>th</sup> -20 <sup>th</sup> September, 2015	NITTTR, Kolkata
2.	Attended the national conference on “ <b>Computing, Communication and Information Processing(NCCCIP-2015)</b> ”	2 <sup>nd</sup> -3 <sup>rd</sup> May, 2015	Dept. of CSE, NERIST
3.	Acted as member, organising committee in the management development program on “ <b>Getting Ready for Corporate World</b> ” sponsored by TEQIP-II, MHRD	7 <sup>th</sup> -22 <sup>nd</sup> Feb., 2015	Dept. of CMS and Dept. of ECE, NERIST

#### 4.5.7 New Degree/Professional membership obtained by the faculty:

- i. Dr. A. Dinamani Singh becomes life Member of ACM.

##### Achievements/Awards/recognition by the faculty:

- i. Mr. Aheibam Dinamani Singh, Assistant Prof. has received PhD Degree from NERIST on 1<sup>st</sup> June 2015.
- ii. Ms. Joyatri Bora, Assistant Prof. has received PhD Degree from NERIST on 1<sup>st</sup> June 2015.
- iii. Mr. Swanirbhar Majumder, Assistant Prof. has received PhD Degree from Jadavpur University, Kolkata on 15<sup>th</sup> July 2015.

#### 4.5.8 Projects Sanctioned by outside agencies to the faculty of the department

The Department has secured six Visvesvaraya PhD Scheme from DeitY, Government of India.

#### 4.5.9 Publications

##### Publication of Md. Anwar Hussain

1. S.Majumder, **A.Hussain**, "Effect Of Content Size On Start And Finish Time Of P2P Based Video On Demand (Vod) Services", international journal of innovative science , engineering and technology, Volume 2, issue 7, ISSN 2348 – 7968, july 2015, IF:1.50 ESCI-MHL:067X-0512-3541
2. Sudipta Majumder, **Md. Anwar Hussain**, "Upload Data Rate for Optimal First Chunk Download Time for P2P based Video on Demand (VoD) Services", May 15 Volume 3 Issue 5, International Journal on Recent and Innovation Trends in Computing and Communication (IJRITCC), ISSN: 2321-8169, PP: 2967 – 2972, DOI:10.17762/ijritcc2321-8169.1505102
3. Saikia, Monjul; Acharjamayum, Irani; **Hussain, Md.A.**, "A review on desirable measures for good Key Pre-Distribution Scheme in wireless sensor network," in Green Computing and Internet of Things (ICGCIoT), 2015 International Conference on, vol., no., pp.129-134, 8-10 Oct. 2015 doi: 10.1109/ICGCIoT.2015.7380443
4. Saikia, Monjul; **Hussain, Md. A.**, "Combinatorial Group Based Approach for Key Pre-Distribution Scheme in Wireless Sensor Network" 4th International Conference on Computing, Communication and Sensor Network, CCSN 2015 Vol-II held in Kolkota, India during 24-25 dec 2015 organized by International Association of Science, Technology and Management, India, page no. 19-25 ISBN: 81-85824-46-0
5. Saikia Monjul, **Hussain Md. A.** "Improving the performance of Key Pre-Distribution Scheme in Sensor Network using Clustering of Combinatorics" International Conference on Computing, Communication and Automation (ICCCA2016), 29-30 April 2016 at Greater Noida, UP (INDIA).
6. J.Bora and **Md.A.Hussain**, "Performance of Multiuser Diversity TAS-Receive Diversity System under Channel Degradations," Proc. IEEE- 2nd International Conference on Advances in Electrical, Electronics, Information, Communication and Bio-Informatics (IEEE-AEEICB 2016), pp.142-146, 27-28 February, 2016, Prathyusha Institute of Technology and Management, Chennai, ISBN: 978-1-4673-9745-2

7. A. Biswas, **Md. Anwar Hussain**, "A fully grouped routing for Homogeneous FAT Tree Network – On – Chip Topology". IEEE International Conference on Computing, Communication and Automation (ICCCA2016), April 27 – 30, 2016
8. A. Biswas, **Md. Anwar Hussain**, "A Limited scalable MIN FAT TREE Topology based on Fully Grouped routing strategy for Network – On – Chip". IEEE International Conference on Advanced Communication Control and Computing Technologies (ICACCCT' 16). May 25 – 27 2016.
9. Kalita, K.Ray, A. Biswas, **Md. Anwar Hussain**, "A topology for Network – On – Chip", in the proceedings of 5th IEEE international conference on Information Communication and Embedded Systems (ICICES 2016), Feb 25 – 26, 2016.
10. K.Ray, A. Kalita, A. Biswas, **Md. Anwar Hussain**, "A multipath Network – On – Chip Topology", in the proceedings of 5th IEEE international conference on Information Communication and Embedded Systems (ICICES 2016), Feb 25 – 26, 2016
11. H. J. Mahanta, Abhijit Biswas, Md. Anwar Hussain, "An Architecture Based Routing for Heterogeneous Fat Tree Network on Chip". IEEE international symposium on advanced computing and communication (ISACC 2015). Sept 14 – 15, 2015

Publication of Mr. T. Sharan

1. **T. Sharan** and V. Bhadauria, "Low-power Bulk-driven Feed-forward Reverse Nested Miller Compensated OTA with high Drive Capability," Presented in an *IEEE UP section sponsored* student conference, *SCES 2015, organized at* at EE Department of MNNIT, Allahabad, *UP during 6<sup>th</sup> to 8<sup>th</sup> November, 2015.*

Publication of Mr. M. Mishra

1. **Madhusudhan Mishra** "Glaucoma detection based on the phase information of fundus Images", International Journal of latest trends in Engineering and Technology, vol-6, issue-4- March 2016, page no.444-449.

Publication of Mr. P.K.Dutta

1. **Pranab Kishore Dutta**, Navjeet Bagga, Kausik Naskar, Subir Kumar Sarkar, "Analysis and simulation of dual metal double gate son mosfet using hafnium dioxide for better performance" Michael Faraday IET International Summit: MFIIS-2015, Kolkata, India, September 12– 13, 2015, DOI: 10.1049/cp.2015.1665
2. Sudipta Mukherjee, Dipan Bandyopadhyay, **Pranab Kishore Dutta**, Subir Kumar Sarkar, Quantum analytical modeling and simulation of CNT on insulator (COI) and CNT on nothing (CON) FET: a comparative analysis, Journal of Theoretical and Applied Physics, January 2016, DOI: 10.1007/s40094-015-0205-5.
3. Dayananda Rajkumar, **Pranab Kishore Dutta** and Subir Kumar Sarkar, "Design and Implementation of 4-bit Ripple Carry Adder Using SETMOS Architecture" International Conference on Recent Trends in. Electronics, Information & Communication Technology: RTEICT-2016, Bangalore, India, May 20-21, 2016

#### Publications of Dr. A. Dinamani Singh

1. **Aheibam Dinamani Singh** and Rupaban Subadar, "Performance of Dual-EGC Receivers over TWDP Fading Channels" *Telecommunication Systems (Springer)*, Vol 61, No. 2, Jan 2016. DOI: 10.1007/s11235-016-0137-7.
2. **Aheibam Dinamani Singh** and Rupaban Subadar, "Capacity Analysis of M-MRC Receiver over TWDP Fading Channels." Accepted at *IEEE sponsored ISACC 2015, Assam University, Silchar – 11, 14 - 15 September, 2015*. DOI: 10.1109/ISACC.2015.7377357
3. **Aheibam Dinamani Singh** and N. Ajit Kumar, "On effect of diversity order on the SNR of M-SC Receivers over TWDP fading channels." in *Proceeding of International Conference on Computing and Communication Systems (I3CS'15), 9-10 April, 2015. North Eastern Hill University (NEHU), Shillong*.
4. **Aheibam Dinamani** and Suparna Goswami, "Performance of Digital Modulations over TWDP Fading Channel." in *Proceeding of International Conference on Electronic Design, Computer Networks & Automated Verification (IEEE EDCAV 2015), NIT Meghalaya, 29-30<sup>th</sup> January 2015*. DOI: 10.1109/EDCAV.2015.7060554

#### Publications of Dr. Joyatri Bora

1. S.Kaushik and **J.Bora**, "Face Image Retrieval using Eigenfaces," *Advanced Research in Electrical and Electronic Engineering (AREEE)* , Vol.2, Issue 13 October-December, 2015, pp.40-42, p-ISSN: 2349-5804, e-ISSN:2349-5812.
2. **J.Bora** and Md.A.Hussain, "Performance of Multiuser Diversity TAS-Receive Diversity System under Channel Degradations," *Proc. IEEE- 2nd International Conference on Advances in Electrical, Electronics, Information, Communication and Bio-Informatics (IEEE-AEEICB 2016)*, pp.142-146, 27-28 February, 2016, Prathyusha Institute of Technology and Management, Chennai, ISBN: 978-1-4673-9745-2

#### Publications of Dr. Swanirbhar Majumder

1. Baddrud Z Laskar, Ashutosh Pandey, **S. Majumder**) "Artificial Neural Networks and Gene Expression Programming Based Age Estimation Using Facial Features", *Elsevier International Journal of King Saud University - Computer and Information Sciences* 10.1016/j.jksuci.2014.06.017
2. (M. Saikia, **S. Majumder**), "A Joint SVD based Watermarking and Encryption Scheme using Chaotic Logistic Map", *The ECTI TRANSACTIONS ON COMPUTER ENG., COMPUTER and INFORMATION TECHNOLOGY (ECTI-CIT)* pg 101-105, Vol 9 No 2 ISSN NO: 2286-9131

#### Book:

1. "Hybrid SVD based Image Watermarking-", ISBN-13: 978-3-659-85454-5, ISBN-10: 3659854549, EAN: 9783659854545, LAMBERT PUBLISHERS, Germany, on 9th March 2016.

#### Book Chapters:

1. (**S. Majumder**, S. Pal), Chapter 9 "Trends of ECG Analysis and Diagnosis", in Book "Handbook of Research on Trends in the Diagnosis and Treatment of Chronic Conditions", ISBN13: 9781466688285|ISBN10: 1466688289|EISBN13: 9781466688292| DOI:

10.4018/978-1-4666-8828-5, published by IGI Global Publications. DOI: 10.4018/978-1-4666-8828-5.ch009

Conferences:

1. (S. Dey, C. Hmingthansanga , S. W. Singh, P. Babu , **S. Majumder**), "*Iris Recognition Techniques A Review*", proceedings of International Conference on Computing and Communication Systems (I3CS'15) 9 – 10 April, 2015 in pg 56 to 60 Vol I of book ISBN: 978-1-4799-5857-01
2. (U. Majhi, S. Pal, **S. Majumder**) "Estimation of Arrhythmia Episode using Variational Mode Decomposition Technique", pg 767-772 of proceedings of IEEE International Instrumentation and Measurement Technology Conference (I2MTC 2015), organized by IEEE Instrumentation and Measurement Society (IMS), at Pisa, Italy on 11th to 14th May 2015, 10.1109/I2MTC.2015.7151365 .
3. (R. Das, P. B. Gohain, **S. Majumder**) , "A Novel Gene Expression Programming based ECG Biometric Scheme", IET conference proceedings page 56 (6) of Michael Faraday IET International Summit (MFIIS 2015) organized by IET Kolkata section from 11th to 13th September 2015 at Kolkata, India. DOI: 10.1049/cp.2015.1652, ISBN: 978-1-78561-186-5
4. (A. K. Shaw, **S. Majumder**) "MR SVD and Pixel wise masking based image watermarking" Proceedings of Second International Conference on Control, Instrumentation, Energy and Communication 2016 (CIEC16) to be held 28-30 January'16 at Kolkata, ISBN No.: 978-1-5090-0035-7
5. (M. Tamuli, S. Debnath, A. K. Ray, **S. Majumder**) "Implementation of Jacobi Iterative Solver in Verilog HDL" Proceedings of Second International Conference on Control, Instrumentation, Energy and Communication 2016 (CIEC16) to be held 28-30 January'16 at Kolkata, ISBN No.: 978-1-5090-0035-7.

Publications list of Mr. A. K. Ray

1. **Ashok Ray**, Gaurav Kumar, Mandeep Singh, P. Agarawal and **Gaurav Trivedi**, "Silicon Carbide : An emerging material for high power device applications", XXVII IUPAP Conference on Computational Physics, (CCP 2015), Guwahati.
2. Manashwi Tamuli, Shreyasee Debnath, **Ashok Kumar Ray** and Swanirbhar Majumder, "Implementation of Jacobi Iterative Solver in VHDL" , 2<sup>nd</sup> International Conference on Control, Instrumentation, energy and Communication, 2016, Dept of Applied Physics , Univ of Calcutta.

Publication list of Dr. Manish Kumar

1. **M. Kumar**, "Realization of Ultra Low Voltage Circuit Design for Internet of Things", Journal of Electron Devices, vol. 21, pp. 1801-1805, 2015.
2. R. K. Sah, I. Hussain, and **M. Kumar**, "Performance Analysis of a 6T SRAM Cell in 180nm CMOS Technology", IOSR Journal of VLSI and Signal Processing, vol 5, no. 2, pp. 20-22, 2015.
3. I. Hussain, R. K. Sah, and **M. Kumar**, "Performance Analysis Comparison of a Conventional Wallace Multiplier and a Reduced Complexity Wallace multiplier", IOSR Journal of VLSI and Signal Processing, vol 5, no. 2, pp. 23-27, 2015.

4. R. K. Sah, and **M. Kumar**, “Design of a Low Power 10T SRAM Cell”, International Journal of Innovative Research in Science, Engineering and Technology, vol. 4, no. 7, pp. 6334-6336, 2015.
5. S. Hussain, and **M. Kumar**, “Design of an efficient 8-bit Flash ADC for Optical Communication Receivers”, IEEE International Conference on Electrical, Electronics, and Optimization Techniques, March, 2016
6. A.Dutta, S. Gamihar, and **M.Kumar**, “Performancecomparison of 3 bit ECRL ADC with conventional logic style”, IEEE International Conference on Electrical, Electronics, and Optimization Techniques, March, 2016

#### **Other Publications of the Department:**

##### 13. Interaction of faculty/department with outside agencies

Dr. A. Dinamani Singh was invited as an external examiner to conduct practical examination in the department of Electronics & Communication Engineering, Rajiv Gandhi University, Arunachal Pradesh.

Dr. Swanirbhar Majumder was TECHNICAL COMMITTEE MEMBER, IEEE International Symposium on Advanced Computing and Communication 2015, 14-15 September, 2015 at Assam University, Silchar. He was a member State Level Technical Team of Cold Chain Development with the Arunachal Pradesh Horticulture Produce Marketing and Processing Board and Technical Committee member of 2nd International Conference on Control Instrumentation, Energy and Communication(CIEC 2016), 28-30 January 2016 with IEEE, Organized by Department of Applied Physics, University of Calcutta and IEEE Kolkata Section. He was also invited as a guest faculty in the Department of Electronics (PG Section), North Lakhimpur College, North Lakhimpur, He has published 1 International conference paper and one book chapter with faculty of University of Calcutta Dr. Saurabh Pal.

Mr. P. K Dutta was invited as a guest faculty in the department of Electronics (PG Section), North Lakhimpur College, North Lakhimpur, Assam. He was also invited as an external examiner to conduct practical examination in the Department of Electronics & Communication Engineering, Rajiv Gandhi University, Arunachal Pradesh.

##### **4.5.10 Consultancy projects undertaken : Nil**

##### **4.5.11 Achievements of Students**

Our graduates have been recruited by reputed companies. Moreover, few students have scored in GATE and pursuing higher studies in the reputed Institutes.

##### **4.5.12 Any other information**

The Department has revised its M.Tech (ECE) syllabi. The department also has faced NBA expert team for the accreditation of its UG program.

**Mr. Moirangthem Edison Singh** has joined as Assistant Professor in the department of Electronics and Communication Engineering, NERIST in year 2015.

## 4.6 DEPARTMENT OF ELECTRICAL ENGINEERING

### 4.6.1 A Brief profile of the Department

The Department of Electrical Engineering has been playing a pivotal role in producing scientists and technologists of highest calibre ever since the institute was established. The first batch of students graduated in 1992. The Department follows a two-year modular structure of the institute in undergraduate programmes namely, Base module, Diploma module and Degree module. The students in each module are admitted through NERIST Entrance Examination namely, NEE-I, NEE-II and NEE-III respectively. The Department is offering Postgraduate (M. Tech) programme with specialization in Power System Engineering and Ph. D programme in all fields of Electrical Engineering to cater to the ever increasing needs of highly skilled technical manpower in the country.

The Department has distinguished and qualified faculty members having Ph. D/M. Tech degrees from renowned institutes in India. The infrastructure and laboratory facilities are upgraded from time to time and provide adequate opportunities to students and researches to learn and innovate. The Department also undertakes many research projects sponsored both by the government and the industry.

The broad objectives of the undergraduate/postgraduate programmes in the Department are:

- Train the base module students in the art of troubleshooting, servicing and maintenance of electrical circuits and systems.
- Impart enough supervisory and guiding skills to the diploma module students.
- Provide sound knowledge to the degree module students so as to make them able to analyze, design and capable to lead with innovative ideas in the field of Electrical Engineering suitable for the current need of modern industries and public sectors.
- Train students at post graduate level for carrying out researches relevant to industrial needs.
- Research and development in Electrical Engineering.

### 4.6.2 Activities

The Department takes part in wide range of activities. In addition to regular academic activities, it also undertakes consultancy and other forms of collaborative ventures with various organizations. A number of sponsored research projects have been completed and others are ongoing as a part of the Department's continuing institute-industry interactive approach of education. The Department organizes workshops, seminars and symposia in various specialized fields with participations of persons from industry and academia from all over the country.

### 4.6.3 Facilities

The Department has over 12 well equipped laboratories and operates its own library offering facilities to work in all areas of Electrical Engineering. The laboratories are well equipped with number of high end PCs, servers and workstations hosting several software packages and linked through a local area network. Internet services are available for the students and faculty members.

### 4.6.4 Programs

The Department offers the following programmes:

Undergraduate Programmes

- Certificate courses
- Diploma in Electrical Engineering
- B. Tech in Electrical Engineering

a) Post Graduate Programs

- M. Tech in Power System Engineering

b) PhD programmes

- In all fields of Electrical Engineering

#### 4.6.5 Research

The Department of Electrical Engineering works under three main research groups namely, (i) Electrical Power and Energy Systems, (ii) Control and Instrumentation, and (iii) Electrical Machine, Drives and Power Electronics. The objectives are:

- Preparation and review of curriculum.
- Organizing seminars/workshops/conferences.
- Supervision of B. Tech/M. Tech/PhD Projects/Dissertations/Theses.
- Provide consultancy services.
- Facilitate Institute-Industry interaction.
- Publication in national and international journals/conferences.

#### 4.6.6 List of faculty members of the Department with Qualification and area (s) of specialization

Sl. No.	Name	Designation	Areas of specialization
1.	Dr. S. Chatterjee Ph. D (Jadavpur University)	Professor	High Voltage, Power System
2.	Dr. S. K. Bhagat Ph. D (IIT (BHU), Varanasi)	Professor	Control Systems
3.	Dr. R. K. Mehta Ph. D (Jadavpur University)	Professor	Control Systems
4.	Dr. O. P. Roy Ph. D (ISM, Dhanbad)	Professor	Microprocessor based Control & Instrumentation, Power System Reliability
5.	Dr. Sarsing Gao Ph. D (IIT, Delhi)	Professor	Electrical Machines, Energy, Distributed Power Generations & Power Quality
6.	Dr. A. K. Singh Ph. D (Tezpur University)	Associate Professor	Power System, Electrical Machines & Drives
7.	Mr. RadakBlange M. Tech (NERIST, Nirjuli)	Associate Professor	Control Systems, Energy, Electrical Machines & Drives
8.	Mr. T. V. P. Singh M. Tech (MNNIT, Allahabad)	Associate Professor	Control Systems, VLSI Design
9.	Mr. M. D. Singh M. Tech (Tezpur University)	Assistant Professor	Power Electronics, Digital Systems
10.	Mr. A. K. Parida M. Tech (MITS, Gwalior)	Assistant Professor	Industrial Drives, Power Electronics & Energy Audit
11.	Mr. Anu K. Das M. Tech (NIT, Silchar)	Assistant Professor	Power System Stability, FACTS & Renewable Energy
12.	Mr. N. L. Meitei M. Tech (Tezpur University)	Assistant Professor	Energy Management
13.	Ms. SomilaHashunao M. Tech (Jamia Milia Islamia, Delhi)	Assistant Professor	Electrical Power System Management
14.	Mr. Akhilesh Sharma M. Tech (MMMEC, Gorakhpur)	Assistant Professor	Power Electronics and Drives
15.	Ms. Piyali Das M. E (Jadavpur University)	Assistant Professor	Illumination Engineering, Control System
16.	Mr. P. Devachandra Singh M. Tech (NERIST, Nirjuli)	Assistant Professor	Power System Engineering



#### 4.6.7 Laboratories

The theoretical knowledge imparted to the students is further supplemented by the practical classes. The infrastructure of the Department includes well equipped Power System Lab, High Voltage Engineering Lab, Electrical Machine Lab, Power Electronics Lab, Digital and Microprocessor Lab, Maintenance Lab, Electrical Workshop, Circuits and Measurement Lab, Control and Instrumentation Lab, PC Lab with internet connectivity, Energy Systems Lab and Project and Research Lab. Some of the equipment and software available in the various laboratories are detailed as under:

##### **(a) Power System and Protection Lab**

Power System and Protection lab is equipped with Distribution Line Simulator, PC controlled Power Analyzer, Oil test set, Different types of Electromagnetic and Static Relays, Dielectric Purification Plant, Analog Oscilloscope, Digital Storage Oscilloscope, 3-phase Variable Inductor, 1-phase and 3-phase Loading Rheostats, Digital Clamp or Power meters, LCR-Q meter, 3-phase Capacitor Bank, Capacitance and Tan Delta Test Set, Circuit Breaker Analyzer, Liquid Dielectric Purification Plant.

##### **(b) High Voltage Engineering Lab**

This lab houses the latest 100 kV AC/145 kV DC Dielectric Test Set & 300 kV, 7.5 kJ, 1.2/50 microsecond Impulse Test Set, Measuring Sphere Gap MF-100, Electronic Sphere EZK, 2-Channel, 200MHz Digital Storage Oscilloscope with software for direct transfer of data from Oscilloscope to PC.

##### **(c) Electrical Machine Lab**

The lab has wide range of motors and generators including DC Compound Motor, DC Compound Generator, 3-phase Induction Motor, both Squirrel Cage and Slip Ring type, DC Shunt Motor, DC Series Motor, Universal Motor, AC Synchronous Generator, AC Synchronous Motor, Scan Drive System for DC and AC Drive Speed Control, Motor Fault Simulator, Logic Pulse Generator, Function Generator, Digital Storage Oscilloscope, 3-phase Fluke Power Analyzer, 1-phase Induction Motor and Thyristor Control Panel, DG set, Stepper Motor Training System, PWM based Induction Motor Drive, V/f Controlled AC Drive, d-Space Real Time Simulator software.

##### **(d) Power Electronics Lab**

This lab has EMMA Microcomputer, Fast AD/DA converter, DDC Motor Module, Command Potentiometer, LCR Q-tester, SCR Firing Unit, Industrial Electronics Trainer with Oscilloscope, Digital Storage Oscilloscope (4-channel), HP Computer (Pentium-IV), Motion Control Development Kit, MCK240 Development Package with Kit, Thyristor and Motor Control (Make: Feedback, UK), Power-scope, Oscilloscope (Make:Yokogawa), CASPOC Simulation Software, Bedford and Parallel Inverter Trainer kit, Micro Controller based Firing Circuit for Controlled Rectifier trainer kit, Speed Control of Universal Motor using SCR Trainer kit, 1-phase controlled Rectifier with cosine Firing Scheme Trainer kit, 1-phase Controlled Rectifier with Ramp comparator firing scheme Trainer kit, IGBT characteristics Trainer kit, 1-phase Cyclo-Converter Trainer kit, Speed Control of AC Motor using TRIAC Trainer kit.

### **(e) Digital Electronics & Microprocessor Lab**

This lab is equipped with Microprocessor Training Kits such as Dyna 8085 , STAR 85, VPL 8086/8088, Micro controller training Kit such as VMC-ICE31/51 and 80C196KC, Advance Handy Serial Programmer, Universal Programmer, Universal and Analog IC tester, Data Acquisition Software, Study Cards such as Memory Decoders, Usart, Programmer Timer, DMA,PPI with timer and Latch Cards, PC based Analog and Digital motor control teaching set, Robotics, Thermocouple, Load Cell, LVDT and DC motor speed control, 485 Protocol based Distributed Control System, Gain Measuring Instruments.

### **(f) Electrical Maintenance Lab**

This lab is mainly for the students of Base module who are expected to learn hands on training on repair and maintenance of electrical appliances. Number of appliances such as Domestic Refrigerator, Air conditioners, Geysers, Heat Convector, Table and Ceiling Fans, Vacuum Cleaner, UPS set, Water Cooler, Hot Plate, Immersion Heater, Different types of lamps with fittings, Oscilloscopes, Working Models for Electrical Circuits of Automobiles(in order) etc.

### **(g) Electrical Workshop**

This lab is also dedicated to the students of Base module who are expected to learn hands on training on electrical wiring and related activities. This laboratory is equipped with Mini Lathe Machine, Winding Machine, Drilling Machine, Cubical for different types of Wiring Practice, Necessary tools, Tools Display Boards, 1-phase and 3-phase Energy meters, Charts etc.

### **(h) Circuits and Measurement Lab**

Wave Analyser, Double Channel Recorder, Analog Oscilloscope, DC Power supply unit (0-300V), DC power supply (0-60V) and Storage adapter, Wheatstone Bridge, Kelvin Double Bridge, VTVM, Instrumentation Tutor, Digital Storage Oscilloscope (2-channel), HP Computer (Pentium-III), LCR-Q Meter, Meggar, etc. are some of the equipment available in this lab.

### **(i) Control and Instrumentation Lab**

This lab has DC Position ServoTrainer Unit, AC Servo Motor Speed/Torque Control Unit, DC Motor Speed Control Unit, Magnetic Amplifier, Synchro Transmitter and Receiver, Experimental PID Controller Unit, Digital ON-OFF Temperature Controller Unit, Analog and Digital Storage Oscilloscope (4-channel), Training and Development System for 8086, Data Acquisition of Control system, Direct Digital Control Training System, IBM Computer (Pentium-III), CA-06 Digital Motor, PC based Analog and Digital Motor Control, Distributed Control system DCS-5000, PC 45/ML programmable control teaching set, Digital Transducer and Instrumentation Trainer, Direct Digital Control System (CA-04), Rotary Servo 9 Plant(Servo 2).

### **(j) PC Lab**

The Department has a well-furnished PC lab for undergraduate students with more than 40 computers with internet connectivity. Softwares such as Matlab, Multisim, etc. are installed in all the computers.

### **k) Energy Lab**

In this lab energy related experiments are performed both by undergraduate and postgraduate students. The lab is equipped with advanced experimental setups such as Photo Voltaic Test Rig, Photo Voltaic Electric Generator,

anemometers, solarimeter, etc. Experiments are carried out to plot I-V characteristics of PV modules, determine efficiency of PV driven water pumping system, etc.

### (I) Project and Research Lab

Modeling and simulation works are carried out in this lab mainly by postgraduate students and research scholars. Twenty PCs with 4 GB RAM has been provided in the lab. Uninterrupted internet connectivity is made available so that the students can browse and download journal/conference papers from institutionally subscribed site such as IEEEExplore, ScienceDirect, Elsevier, etc. The lab houses softwares like COMSOL, Matlab, PSCAD, PSSE, etc.

#### 4.6.8 Theses/Dissertations/Projects completed by PhD/PG/UG students

##### (a) PhD Theses completed/submitted

Sl. No.	Name of student (s)	Title of Thesis	Supervisor (s)	Status
1.	Mr. K. C. Roy	Design, Development and Performance Evaluation of Frequency Shift Keying for Nakagami and Rician Fading channel in Communication System	Prof. O. P. Roy	Awarded
2.	Mr. Rajen Pudur	Harnessing hydroelectric power using Savonius rotor	Prof. S. Gao	Submitted

##### (b) M. Tech Dissertations completed

Sl. No.	Name of student (s)	Title of Dissertation	Supervisor (s)
1.	Ms. Panchita Saikia	Power Quality Improvement using Custom Power Devices	Prof. S. Gao
2.	Ms. Bandita Neog	Condition monitoring of 3-phase Induction Motor	Prof. S. Gao
3.	Ms. Oying Doso	Characterization of Cable Insulation under Impulse Test Voltage	Mr. A. K. Das Prof. S. Chatterjee
4.	Mr. Anupam Saikia	Power System State Estimation and Power Flow Analysis	Prof. R. K. Mehta
5.	Ms. Nilakshi Kakati	Robust Load Voltage Regulator Design using D-STATCOM	Prof. S. K. Bhagat

##### (c) B. Tech Projects completed

Sl. No.	Project Title	Student (s)	Faculty member (s)
1.	Microprocessor Based Power Frequency Monitoring System	DE/13/EE/107 DE/14/EE/018	Mr. M. D. Singh
2.	Study and Analysis of Speed control of DC Motor Using DC drivers" etc.	DE/14/EE/010 DE/14/EE/017	Dr. A. K. Singh
3.	Study, Analysis and Optimization of three Phase Induction Motor	DE/14/EE/019 DE/14/EE/028	Dr. A. K. Singh
4.	Speed Control PMSM drives using model reference adaptive control technique	DE/14/EE/004 DE/13/EE/105	Mr. A. Sharma
5.	Design and Analysis of Multilevel Inverter	DE/14/EE/014	Dr. S. Gao

		DE/14/EE/012	
6.	Stator Flux based online Computation of rotor Speed and position of Induction Machine	DE/14/EE/031 DE/13/EE/103	Mr. A. K.Parida
7.	Performance Analysis of MPPT Converter Topologies using a Matlab PV Mode	DE/13/EE/104 DE/13/EE/106	Mr. N. L. Meitei
8.	IMC Based PI/PID Controller Tuning for Unstable Time-Delay Systems	DE/14/EE/030 DE/14/EE/003	Dr. S. K. Bhagat
9.	Robust Controller Design for Integrating and Unstable Time-Delay Systems	DE/14/EE/005 DE/14/EE/007	Dr. S. K. Bhagat
10.	Study and Design of a Controller for Twin Rotor MIMO System Using Various Methods	DE/13/EE/101 DE/13/EE/102	Ms. Piyali Das
11.	Study and Development of PID Control System for Fractional-Order Time Delay Systems	DE/14/EE/022 DE/14/EE/020	Ms. Piyali Das
12.	12- Pulse Voltage Source Converter using ARDUINO	DE/14/EE/024 DE/14/EE/009	Ms. S. Hashunao
13.	Fuzzy control of micro hydro power plants	DE/14/EE/029 DE/14/EE/023	Mr. P. D. Singh
14.	Microprocessor based Load frequency controller design	DE/14/EE/002 DE/14/EE/003	Dr. O. P. Roy
15.	Complex system reliability evaluation	DE/14/EE/008 DE/14/EE/016	Dr. O. P. Roy
16.	PLC based Process control - case studies	DE/14/EE/032 DE/13/EE/051	Dr. O. P. Roy
17.	State Space Design of Missile Autopilot in Pitch Plane	DE/14/EE/015 DE/14/EE/021 DE/14/EE/011	Dr. R. K. Mehta
18.	Electric Field Simulation of OH Line Conductors	DE/14/EE/006 DE/14/EE/025	Mr. A. K. Das
19.	Design and Analysis of Space Vector PWM Inverter	DE/14/EE/026 DE/14/EE/013	Mr. T. V. P. Singh
20.	Design of Asynchronous Booth Multiplier	DE/14/EE/033 DE/14/EE/001	Mr. T. V. P. Singh

#### 4.6.9 Short term courses/seminars/workshops/conference attended by faculty members

Name of the Faculty: Prof.S. Gao

Month and Year	Title of the Workshop/FDP/STTP	Venue
February-2015	Recent Advances in Microprocessor, Microcontrollers and Their Applications	NERIST
November-2015	Recent Advancements of Electrical Machines and Industrial Applications	NERIST

Name of the Faculty: Prof. S. Chatterjee

Month and Year	Title of the Workshop/FDP/STTP	Venue
July-2015	Management Capacity Enhancement Programme for Administrators	IIM Lucknow (Noida Campus)
November-2015	MOS Capacitor and Micro and Nano Characterisation Techniques	IISc Bangalore

Name of the Faculty: Prof.S.K.Bhagat

Month and Year	Title of the Workshop/FDP/STTP	Venue
February-2015	Recent Advances in Microprocessor, Microcontrollers and Their Applications	NERIST
November-2015	Recent Advancements of Electrical Machines and Industrial Applications	NERIST

Name of the Faculty: Prof.O.P.Roy

Month and Year	Title of the Workshop/FDP/STTP	Venue
January-2015	ARM Workshop on Embedded Systems	IIT Guwahati
October-2015	4 <sup>th</sup> INDEST User Convention(E-Journal User Training Workshop)	NERIST

Name of the Faculty: Mr. M. D. Singh

Month and Year	Title of the Workshop/FDP/STTP	Venue
February-2015	Recent Advances in Microprocessor, Microcontrollers and Their Applications	NERIST
November-2015	Advancements of Electrical Machines and Industrial Applications	NERIST

Name of the Faculty: Mr. A.K.Das

Month and Year	Title of the Workshop/FDP/STTP	Venue
January-2015	Power, Dielectric and Energy Management	NERIST
May-2015	Introduction to Design of Algorithms	IIT Kharagpur
November-2015	MOS Capacitor and Micro and Nano Characterisation Techniques	IISc Bangalore

Name of the Faculty: Mr. N.L.Meitei

Month and Year	Title of the Workshop/FDP/STTP	Venue
April-2015	2 <sup>nd</sup> IEEE Workshop on Advanced MATLAB Applications	IIT Guwahati
May-2015	National Conference on Computing, Communication and Information Processing	NERIST
October-2015	4 <sup>th</sup> INDEST User Convention(E-Journal User Training Workshop)	NERIST
November-2015	Recent Advancements of Electrical Machines and Industrial Applications	NERIST

Name of the Faculty: Mr. A.Sharma

Month and Year	Title of the Workshop/FDP/STTP	Venue
September-2015	Induction Training	NITTTR Kolkata
November-2015	Recent Advancements of Electrical Machines and Industrial Applications	NERIST

Name of the Faculty: Mr. P.D.Singh

Month and Year	Title of the Workshop/FDP/STTP	Venue
April-2015	IEEE Workshop on Advanced MATLAB Applications	IIT Guwahati
August-2015	4 <sup>th</sup> INDEST User Convention(E-Journal User Training Workshop)	NERIST

September-2015	Induction Training	NITTTR Kolkata
November-2015	Recent Advancements of Electrical Machines and Industrial Applications	NERIST

#### 4.6.10 Short term courses/workshops/conferences conducted

- 1<sup>st</sup>IEEE Conference on Power, Dielectric and Energy Management at NERIST, 2015 (ICPDEN 2015) January 10<sup>th</sup>& 11<sup>th</sup> 2015 coordinated by Dr. S. Chatterjee.
- TEQIP sponsored FDP on Recent advances in microprocessor, microcontroller and their applications” during Feb 17-21, 2015 coordinated by Dr. O. P. Roy.
- TEQIP sponsored FDP on Recent Advancements of Electrical Machines and Industrial Applications during Nov. 4-8, 2015 coordinated by Dr.A. K. Singh.

#### 4.6.11 New Degrees/Professional Memberships obtained by Faculty members

- Prof. S. Gao is a Member of International Association of Engineers (IAENG), Hong Kong (Membership No. 170333).
- Mr. M. D. Singh is a Member of International Association of Engineers (IAENG), Hong Kong.

#### 4.6.12 Research Projects undertaken by faculty members

- FIST(Fund for Improvement of S&T) project to strengthen the PG Teaching and Research in Electrical Engineering Department – Funded by DST, Ministry of S&T, GOI. Amount: 75.6 lakh. PI: Prof.Saibal Chatterjee

#### 4.6.13 Recent Publications

##### (a) Journal

1. M. Deben Singh, R. K. Mehta, A. K. Singh, “Integrated fuzzy-PI controlled current source converter based D-STATCOM”, *Cogent Engineering, Taylor and Francis*, 2016. DOI 10.1080/23311916.2016.1138921
2. A. Choudhary, T. Tuithung, O. P. Roy and D. Maharaj, “Performance evaluation of improved reliable DSR protocol in case of node failure”, *Internet Technologies and Applications (ITA)*, 2015, Wrexham, 2015, pp. 329-334.doi: 10.1109/ITechA.2015.7317419
3. Kaveri Bhuyan and Saibal Chatterjee, "Simulation of overvoltage stresses on surge arrester Insulation", *International Transactions on Electrical Energy Systems* (Wiley) 349, 2015, DOI: 10.1002/etep.2130.
4. Kaveri Bhuyan, Saibal Chatterjee, Anwesa Yadav, Sarita Bansal and Sanat Kumar Paul, "Simulation and Analysis of Impulse Faults in Power Transformer", *Lecture Notes in Electrical Engineering*, Volume 349, 2015, pp 135-141 (Springer), DOI: 10.1007/978-3-662-47200-2\_1.
5. Akhilesh Sharma, Neeraj Kumar and Gunjan Gupta, “Open-loop voltage control voltage source inverter for a linear load & non-linear load”, *Journal of Electrical and Electronic Engineering*, 2015.
6. T. Vimal Prakash Singh, “Modelling and Simulation of a SAR ADC with Internally Generated Conversion Sigma”, *IOSR Journal of VLSI and Signal Processing (IOSR-JVSP)*, Jan 2015, DOI: 10.9790/4200-05113641
7. M. Deben Singh, R. K. Mehta, A. K. Singh, “Current source converter based D-STATCOM for voltage sag mitigation”, *Int. J. Simul. Multisci. Des. Optim.* Vol. 6, 2015. Article No. A5, DOI: 10.1051/smdo/2015005

8. Piyali Das, Somila Hashunao, Dr.SaswatiMazumdar, Development of Hand Driven BatteryCharger (HDBC) System, *IJRSET*, Vol 4, Dec 2015, DOI 10.15680/IJRSET.2015.0412076
9. M. Deben Singh and L. Khumanleima Chanu, “Power Electronics Technology for Power Quality Improvement”, April 2015, DOI. 10.15662/ijareeie.2015.0404031
10. Rajen Pudur and Sarsing Gao, “Savonius rotor based grid connected hydrokinetic power generation scheme”, *Sustainable Energy, Grids and Networks, Elsevier*, vol. 5, pp. 148-155, 2016. doi:10.1016/j.segan.2015.12.004
11. Rajen Pudur and Sarsing Gao, “Performance Analysis of Savonius Rotor Based Hydropower Generation Scheme with Electronic Load Controller,” *Journal of Renewable Energy, Hindawi*, vol. 2016, Article ID 4127619, 7 pages, 2016. doi:10.1155/2016/4127619.
12. Rinchin W. Mosobi, Toko Chichi and Sarsing Gao, “Power quality analysis of hybrid renewable energy system” *Cogent Engineering, Taylor and Francis*, vol. 2, no. 2, pp. 1-15, 2015.

#### (b) Conference

1. Rajen Pudur and Sarsing Gao, “Performance of Savonius rotor on different aspect ratio for hydropower generation”, *IEEE ICPDEN*, pp. 1-6, Jan. 2015.
2. A. Kumar and S. K. Bhagat, “Voltage stability analysis using Lyapunov energy function,” In Proc., *IEEE Conf., ICPDEN-2015*, NERIST, pp. 1-6, 2015. 10.1109/ICPDEN.2015.7084500
3. Shantanu Chatterjee and Saibal Chatterjee, “Simulation of Synchronous Reference Frame PLL based Grid Connected Inverter for Photovoltaic Application”, *Proceedings in IEEE conference ICPDEN 2015* at NERIST on 10th and 11th Jan 2015, DOI: 10.1109/ICPDEN.2015.7084493.
4. Kaveri Bhuyan and Saibal Chatterjee, “Simulations of Lightning Impulse Residual Voltage Test of Surge Arresters in Matlab-Simulink”, *Proceedings in IEEE conference ICPDEN 2015* at NERIST on 10th and 11th Jan 2015, DOI: 10.1109/ICPDEN.2015.7084494
5. Himadri Das, Kamaljyoti Gogoi and Saibal Chatterjee, “Analysis of the effect of Electric field due to High Voltage Transmission Lines on Humans”, *Proceedings in IEEE conference ICPDEN 2015* at NERIST on 10th and 11th Jan 2015, DOI: 10.1109/ICPDEN.2015.7084491.
6. R. K. Mehta, Likha Jully and Lod Tapin, “Extended State Estimator Based Two Area Load Frequency Control,” *IEEE ICPDEN*, pp. 1-6, Jan.2015.
7. Rajen Pudur and Sarsing Gao, “Single phase power for remote area using Savonius rotor based hydropower generation”, *IEEE ICEPE 2015*.
8. Rinchin W. Mososbi and Sarsing Gao, “Modeling and simulation of integrated renewable energy sources feeding three-phase load”, *IEEE ICEPE 2015*.
9. Kamal Jyoti Gogoi and Saibal Chatterjee, “Modelling and Study of Steady State Analysis and Fault Parameters in 400 kV and 220kV Buses of Indian North Eastern Regional Grid”, *IEEE ICEPE 2015*.
10. RadakBlange, “MPPT of Solar Photovoltaic Cell Using Perturb & Observe and Fuzzy Logic controller algorithm for Buck-Boost DC-DC Converter”, *IEEE ICEPE 2015*.
11. A. K. Parida, “An Improved Rotor Speed and Position Computation Scheme for Grid-Isolated Operation of DFIG”, *IEEE ICEPE 2015*.
12. A. K. Parida, “A Novel Control Scheme for Standalone DFIG Based WECS with Cogeneration Topology”, *IEEE ICEPE 2015*.
13. Toushik Maiti, Kamaljyoti Gogoi and Saibal Chatterjee, “Modelling and Study of Indian Eastern Regional Grid Analysis Using PSS®E”, *IEEE INDICON 2015*, Dec 2015, Delhi.
14. Kaveri Bhuyan, Mudang Taro and Saibal Chatterjee, “Simulation of Lightning Impulse Voltage Stresses in Underground Cables”, *IEEECATCON 2015*, Dec 2015, CPRI Bangalore.

15. Kamaljyoti Gogoi, Tousehik Maiti, Saibal Chatterjee and Brajagopal Datta, "Modeling and Study of Eastern and North-Eastern Regional Grid of India", C2E2 – 2016, SKFGI, Mankundu, Hooghly, West Bengal 712139, India, Jan 15-16, 2016, *Proceedings in Taylor and Francis Publications*.
16. Devnath Shah, Shantanu Chatterjee and Saibal Chatterjee, "Tuning of fractional order PID controller - a review", C2E2 – 2016, SKFGI, Mankundu, Hooghly, West Bengal 712139, India, Jan 15-16, 2016, *Proceedings in Taylor and Francis Publications*.
17. Brajagopal Datta, Saibal Chatterjee and Kamaljyoti Gogoi, "Effects of Close Proximity and Hybrid Operation of HVAC & HVDC Transmission Lines under Steady-State and Fault Conditions: A Literature Survey", C2E2 – 2016, SKFGI, Mankundu, Hooghly, West Bengal 712139, India, Jan 15-16, 2016, *Proceedings in Taylor and Francis Publications*.
18. K. Nath, A. Kumar, A. Roy and A. Sharma, "Speed Control of Neural Network Based Energy Efficient DC Drive," *Advances in Computing and Communication Engineering (ICACCE), 2015 Second International Conference on*, Dehradun, 2015, pp. 318-323. DOI: 10.1109/ICACCE.2015.71
19. S. K. Bhagat, Amresh Kumar and Binod Rai, "Voltage stability analysis using Lyapunov function obtained by Krasovskii's method", *IEEE Int. Conf. ICPACE-2015*, pp. 134-138, Bangalore, India, 2015. 10.1109/ICPACE.2015.7274931
20. A. Kumar and S. K. Bhagat, "A Comparative Study on Voltage Stability Analysis of Single Machine Infinite Bus System using Lyapunov Methods," *IEEE Int. Conf. MICROCOM 2016*, NIT Durgapur, India, 2016.

#### 4.6.14 Interaction of faculty member/department with outside agencies

Prof. S. Gao	<ul style="list-style-type: none"> <li>▪ Member, Curriculum Development, APEDA</li> <li>▪ Reviewer, IEEE Journals, Taylor and Francis journals, Wiley journals</li> <li>▪ Member, Selection Committee, NIT Arunachal</li> </ul>
Prof. S. Chatterjee	<ul style="list-style-type: none"> <li>▪ Member, National Advisory Committee, C2E2 2016</li> <li>▪ Reviewer, IET journals, Elsevier journals, Emerald journals</li> <li>▪ Member, Selection Committee, RGU</li> </ul>
Prof. R. K. Mehta	<ul style="list-style-type: none"> <li>▪ Member, Selection Committee, NIT Arunachal</li> </ul>
Mr. A. K. Das	<ul style="list-style-type: none"> <li>▪ Coordinator, Remote Centre, NMEICT, MHRD</li> </ul>

#### 4.6.15 Achievements of students

Winner in "Wiring Competition 2015"	<ol style="list-style-type: none"> <li>1. Mr. Tanmoy Dutta</li> <li>2. Mr. Saddam Hussain</li> </ol>
Winner in "Electrical Quiz Contest 2016"	<ol style="list-style-type: none"> <li>1. Mr. Ajay Upadhyay</li> <li>2. Mr. Pankaj Khatiwoda</li> </ol>
Ms. Athono Lhousa has been awarded best sportswoman of the year 2016.	
Mr. Ajay Mandal is Gold Medalist in 200m race, Athletic Meet 2016.	

#### 4.6.16 Any other relevant information

The Department has developed a well-equipped Smart Classroom.



## 4.7 DEPARTMENT OF MECHANICAL ENGINEERING

### 4.7.1 A Brief Profile about the Department

#### **About Institute**

Department of Mechanical Engineering is run by a mix of experienced as well as young motivated well-qualified (from reputed institutes like IISc, IITs, NITs, JU, IT-BHU, BESU etc.) faculty members and experienced support staff to generate human resources to cater the fast growing industrial and academic need of the country at various levels for about 200 students (from eight North Eastern States and other parts of India). It offers courses to train the students in the art.

#### **About ME Department**

Department of Mechanical Engineering is run by a mix of experienced as well as young motivated well-qualified (from reputed institutes like IISc, IITs, NITs, JU, IT-BHU, BESU etc.) faculty members and experienced support staff to generate human resources to cater the fast growing industrial and academic need of the country at various levels for about 200 students (from eight North Eastern States and other parts of India). It offers courses to train the students in the art of servicing, maintenance and troubleshooting aspects in certificate level, to impart supervisory skills to the diploma module students and to provide analytical skills in various subjects related to Mechanical Engineering and interdisciplinary areas to the degree module and Post-Graduation students.

The Department offers certificate course in three trades, namely, Refrigeration & Air- Conditioning, Craftsmanship & Automobile Servicing, Diploma in Mechanical Engineering, B.Tech. in Mechanical Engineering, M.Tech in Mechanical Engineering with specialization in Computer Integrated Manufacturing & Automation (CIMA) and Thermo-Fluid Engineering (TFE) and Ph. D. in Mechanical Engineering. The course curriculum for the degree module is at par with the other premier institutions of the country. At present the department offers about 115 courses and 20 projects every year for all the modules combined. Elective courses from specialized, advanced and emerging fields are offered to both the UG & PG students depending on availability of faculty members.

***The Department also provides short term tailor made training modules for the in service professionals at various levels.***

Fourteen laboratories and six workshops in the Department are equipped with advanced equipment and machines. A list along with the major equipment in respective laboratories is appended as Appendix-A. The Department possesses its own Audio-Visual lab Seminar Hall, computational facility with internet access and a fairly rich departmental library. Faculty-Student, Faculty-Staff & Staff-Student relationships are warm and friendly. The Department organizes periodical industrial visit to the nearby industries/power generating stations as per the need of the curriculum to provide exposure to the industrial and practical environment to the students. The departmental curriculum also includes compulsory vocational training for the students in certificate and degree modules. A series of quality U.G. projects and P.G projects/thesis have been completed. Passed out students of the department are placed in reputed organizations in India and abroad. In view of the worldwide economic recession, in the period under review the department achieved about 20% placement for the outgoing students. Some students have also qualified for higher studies in India. During this period, the Department of Mechanical Engineering had an all-round achievement in terms of several academic as well as developmental criteria and would like to look forward for higher laurels within the scope.

## **Vision and Mission of Department**

**Vision:** To create a niche in the field of Mechanical Engineering through education and research to develop a sound human resource by nurturing the young talents especially from North Eastern States and also from other states of India, matching the global standards and demands.

**Mission:** To create an environment for providing balanced education in Mechanical Engineering through teaching, learning and practice rendering equal weightage in all. To create a Centre of excellence in research that will provide the students necessary impetus for future development and life-long learning.

To create technical manpower in different levels for the North Eastern states in particular and for the country in general.

### **4.7.2 Academic Activities**

Apart from B.Tech programme, the department runs two PG programmes (i) M.Tech in Computer Integrated Manufacturing and Automation (CIMA) and (ii) M. Tech. in Thermo-Fluid Engineering. Besides conventional teaching methodology, the department provides facility of **audio-visual sessions** on selected areas conducted in the departmental seminar hall through e-learning CDs. Several proposals have been processed to streamline the course contents or credit distribution of a course. New and emerging elective courses are offered to the students.

**Curriculum review process** for all the modules have been completed and implemented. The curriculum has been approved by the Academic Council and the new curricula have been implemented since 2010-2011 academic session.

**Vocational Training** is included as a part of the curriculum for certificate and degree modules. Students of Certificate module are sent to the relevant reputed industries or repairing & maintenance shops, all over the India, for hands on training & experience on the principles they study. Job training is also a part of the curriculum for certificate module students where the repairing and maintenance of equipment are carried out by the students under the supervision of faculty members and technical staffs. Degree module students have undergone training in various reputed public sector and private organizations as a part of their curriculum requirement for the award of their degrees.

During the period under review base, diploma and degree module students were taken to nearby automobile repairing shops, cold storages and RAC plants and hydel plants for some hands on practice. All India **Industrial tour** has also been organized for the degree module students visiting industries to know the reality of the courses undergone during the degree programme.

**Mechanical Association of NERIST (MAN)**, jointly officiated by faculty, staff and students of the department, provides a platform to resolve academic issues solely related to the departments. MAN also organizes lecture series, mock interviews, technical competitions etc. for the students of NERIST in general and students of mechanical engineering department in particular. Students of the department take active role in organizing and participating in various **academic, cultural and sports** activities at the Institute level such as RACAF, SHRISHTI etc. Students are also encouraged to participate in technical events organized by various other Institutions of India.

## Department activities

### 4.7.3 International, National conferences, Short-term courses/ Seminars/ Workshops organized

1. **N. Teyi** and A. Taggu conducted two weeks Orientation Programme entitled “Orientation Course on Pedagogy” from 08-09-14 to 17-09-14 in NERIST.

#### **The faculty members participated in Short- term courses/workshops**

1. **P. Lingfa** has participated in the Faculty Development Programme on 'Recent Advancements of Electrical Machines and Industrial Applications', Sponsored by TEQIP(MHRD-World bank Project, Phase II) organized by Department of Electrical Engineering, NERIST during November 4-8, 2015.

2. **P. Lingfa** has participated in the "4th INDEST User Convention (E-Journals User Training Workshop)", Organized by the AICETE-INDEST User Committee, NERIST, Arunachal Pradesh held on 22-23th August, 2015 and 31st October, 2015.

3. **S. S. Gautam** has participated in the one week short term course on “Recent Advancements of Electrical Machines and Industrial Applications”, at Elect. Engg., NERIST from 4 – 8 Nov. 2015.

4. **S. K. Tamang** attended STTP on Design of Experiment-AN Optimization Tool held at NIT Rourkela, 21-24 December, 2015.

5. **Md. S. M. Khan** has participated in the Faculty Development Programme on 'Recent Advancements of Electrical Machines and Industrial Applications', Sponsored by TEQIP(MHRD-World bank Project, Phase II) organized by Department of Electrical Engineering, NERIST during November 4-8, 2015.

6. **N. Yadaiah** has participated in the Faculty Development Programme on 'Recent Advancements of Electrical Machines and Industrial Applications', Sponsored by TEQIP(MHRD-World bank Project, Phase II) organized by Department of Electrical Engineering, NERIST during November 4-8, 2015.

7. **S. Samanta** has participated in the one week short term course on “Recent Advancements of Electrical Machines and Industrial Applications”, at Elect. Engg., NERIST from 4 – 8 Nov. 2015.

8. **D. Maji** participated in AICTE sponsored NEQIP (North East Quality Improvement Programme) Staff Development Programme on “Web Page Designing” organized by Computer Science and Engineering Department, NERIST, Nirjuli, Arunachal Pradesh during March 10-13, 2015.

9. **S. Samanta**, Associate Professor, participated in a quality improvement programme on “Micro manufacturing for Biomedical Application” at IIT Guwahati, Guwahati, Assam during 23.02.2015 to 27.02.2015.

10. **S. Samanta**, Associate Professor, participated in a short term course on “Microprocessors, Microcontrollers and their Applications,” at NERIST, Nirjuli, Arunachal Pradesh during 17.02.2015 to 21.02.2015.

11. **S. S. Gautam**, Associate Professor, participated in a quality improvement programme on “Micro manufacturing for Biomedical Application” at IIT Guwahati, Guwahati, Assam during 23.02.2015 to 27.02.2015.

12. **S. S. Gautam**, Associate Professor, participated in a short term course on “Microprocessors, Microcontrollers and their Applications,” at NERIST, Nirjuli, Arunachal Pradesh during 17.02.2015 to 21.02.2015.

13. **S. Mahto**, Associate Professor has participated in the one week short term course on “Recent Advancements of Electrical Machines and Industrial Applications”, at Elect. Engg., NERIST from 4-8th Nov'15.

14. **S. Mahto**, Associate Professor has participated in the one week short term course on “Advances in vibration”, Mech. Engg. Deptt., IIT Guwahati, Guwahati from 13-15th Dec'15.

### 4.7.4 Research Projects in the Department

o *Institute of Excellence for Education, Research and Training in Mechanical Engineering* (Investigator from NERIST)

(Principal Investigator : Prof. U. S. Dixit, Mechanical Engineering Department, IIT, Guwahati)

Sponsoring Agency : AICTE Amount : Rs. 25.0 Lakhs STATUS : **Completed**

o *Establishment and Demonstration of 250 Litre Capacity Integrated Biodiesel Reactor System at NERIST.* Sponsored by DST,(GOI) Amount: Rs.50.0 lacs: STATUS: **Completed**

## 4.7.5 Research activities in the Department

The Department is actively involved in the current scenario of research in major fields of Mechanical Engineering. The faculty members along with their Research Scholars have also published their work in several reputed International Journals and conference proceedings as listed in the following section. At present more than 15 research scholars are working in the department. The below table give the details of Ph.D. Research Scholars.

### UG, PG and Ph.D Students Projects (Completed in May, 2015)

As a part of their academic curriculum, the final year PG and UG students carried out their projects on emerging topics of mechanical engineering under the supervision of respective faculty members. The below given lists provide the details of projects undertaken by students.

#### LIST OF M.TECH (CIMA) PROJECTS

Sl No.	Roll No	Name of the Student	Project Titles	Supervisor (s)
1)	MT/13/CIMA/01	RINCHIN T.TSUMKHAPA	Stability Analysis of Journal Bearing for Turbulent Couple Stress	Dr. S. S. Gautam
2)	MT/13/CIMA/02	CHAU W.MANPOONG	Preparation, Microstructure and Mechanical Properties of Strontium Bismuth Titanate (SrBi)TiO <sub>3</sub> Borosilicate Glass Ceramics Doped with CeO <sub>2</sub>	Dr. S. S. Gautam.
3)	MT/13/CIMA/03	TOBINGBAPUR	Construction Project Management: Site Survey and risk factor analysis	Dr. M. P. Thaddeus.
4)	MT/13/CIMA/04	JEES	Experimental Investigation, Dr. M. GEORGE Modelling and Optimization of Wire-cut EDM of INCONEL-825 Aerospace Alloy	M. Chandrasekaran.
5	MT/13/CIMA/05	PRIYANKAR P. DEKA	Fabrication and Characterization of Epoxy Based Hybrid Composite	Dr. S. S. Gautam.
6	MT/13/CIMA/06	SWEETY MAHANTA	Processing and Characterization of Basalt-Epoxy Composites	Dr. S. S. Gautam
7	MT/13/CIMA/07	DEPJYOTI BARUAH	Applications of Cloud Computing for Machining Optimization	Dr. M. Chandrasekaran
8	MT/13/CIMA/8	MATIN TAMUK	Synthesis and Mechanized Properties of Hydroxyapatite Bioceramics	Dr. S. S. Gautam.

#### LIST OF M.TECH (TFE) PROJECTS

SN	Roll No	Name	Project Titles	Supervisor (s)
1	MT/13/TFE//02	ABHIJIT BORAH	Effect of Surface Tension and Oscillations Flow Over a Single Fuel Droplet on Evaporation	Dr. Asis Giri
2	MT/13/TFE/03	SANTOSH KR. DASH	Study of Performance and Emission Characteristics of Single Cylinder Diesel Engine Run by Bio-Diesel Obtained from Mesua Ferrea Oil	Dr. Pradip Lingfa
3	MT/13/TFE/04	SIDHARTHA DAS	Performance Enhancement of Heat Transfer in Thermosyphon using Nanofluids	Dr. Asis Giri
4	MT/13/TFE/05	JURI SONOWAL	Thermal Analysis for Fin	Dr. Biplab Das
5	MT/13/TFE/06	DEBAYAN DASGUPTA	Computational Study of Natural Convection for Variable and Fixed Fin Height	Dr. Asis Giri
6	MT/13/TFE/07	MAIBAM ROMIO	Electronic Cooling with Phase Change Materials with Variable and Fixed Pin Fin	Dr. Asis Giri

- 7 MT/13/TFE/08 OJING TATIK Use of Different Alcohol Blended with Jatropha Methyl Ester as A Fuel For Diesel Engine Dr. Pradip Lingfa
- 8 MT/13/TFE/10 NABAMHINAPAPU Study of Performance and Emission Characteristics of a Diesel Engine Run by Blend of Nahar and Waste Cooking oil Methyl Ester Dr. Pradip Lingfa

### List of B. TECH. PROJECTS

Sl  
No.

#### Name of the Students Guide Title of the project

- 1 Dhanjit Gogoi (DE/12/ME/107)Dr. PradipLingfaPerformance characteristics of diesel engine using biodiesel derived from non-ediblevegetable oils Upayan Debnath (DE/12/ME/104) Suman Kumar (DE/12/ME/105)
2. Hage Tabin (DE/13/ME/13)Dr. PradipLingfa Fabrication of waste heat utilization Lamlunlala Thomte(DE/13/ME/22) Krishanu Debbarma(DE/13/ME/25)
3. Mainik Chowdhury(DE/13/ME/12) Dr. Asis Giri Study of heat pipe Imran Ahmed(DE/13/ME/15)
4. Subham Singh(DE/13/ME/19) Dr. Asis Giri Cooling of electronic equipment using phase Hage Tama(DE/13/ME/21) change material
5. Surya Gurung (DE/13/ME/11)Mr. Maryom Dabi Study of 200 litre capacity biogas digester Jiteender Bhandari(DE/13/ME/17) Lahawang Sherpa(DE/12/ME/103)
6. Sansam Santosh kr Singh (DE/13/ME/14)Dr. Biplab Das Earth tube heat exchanger for natural air Conditioning Sapam Ningthemba Singh (DE/13/ME/26) Sukham Michel (DE/13/ME/09) Lengingmang Singson (DE/12/ME/108)
7. Debtanay Das(DE/13/ME/04)Dr. M.ChandrasekaranModelling and optimization of multiple performance characteristics on machining hybrid MMCs Parikshit Bhowmik(DE/13/ME/05) Nitish Kumar Jha (DE/13/ME/20)
8. Saurin Dey (DE/13/ME/01) Dr. Sutanu Samanta Experimental study on Aluminium Titanium Arnab Sarmah (DE/13/ME/02) Carbide MMCs Avik Bal (DE/13/ME/07)
9. Raj Kishore Thaku r(DE/13/ME/06) Dr. Sutanu Samanta Parametric machining optimization of wire EDM process using Mg-SiC Srinja Kumari(DE/13/ME/08) Javed Tapadar (DE/13/ME/10)
10. N. Tanweer Alee (DE/12/ME/51) Dr. M. P. Thaddeus Graphic user interface application for finite Gyati Tai (DE/12/ME/52) element analysis in JAVA Isaac Vanlalfela (DE/12/ME/106)
11. Yogender (DE/13/ME/03) Dr. M. P. Thaddeus Development of 3-D finite element analysis Sunny Purkayastha solver (DE/13/ME/24) Heechu Wanth (DE/13/ME/)
12. Diwoshjyoti Gogoi (DE/13/ME/16) Mr. Nabam Teyi Design and fabrication of automatic guided vehicle Purnendu K.S. Sharma (DE/13/ME/18) Sourav Dasgupta (DE/13/ME/23)

#### 4.7.6 LIST OF Ph.D. obtained by the Faculty (2015-2016)

- o [N. Yadaiah, Assistant Professor](#), obtained his Ph.D. from IIT Guwahati in December 2015.
  - Thesis title: “Experimental Investigation and Numerical Modeling of Deep Penetration Laser and GTA Welding Processes”.
- o [S. Mahto, Associate Professor](#), obtained his Ph.D. from IIT Guwahati in March 2016.
  - Thesis title: “Optimal Design of Revolute-Jointed Flexible Manipulator”.

#### 4.7.7 Interaction of faculty members/department with outside agencies

□□Faculty members are engaged in joint research with faculty members from IIT Delhi (P.Lingfa), Jadavpur University (A. Giri), IIT Guwahati (M. Chandrasekaran, S. Mahto, S. Singh, M. Dabi, N. Yadaiah), Jadavpur University (K.K.Mandal), Bengal Engineering and Science University, NIST, Orissa, NIT AP (S. Samanta), IIT BHU (S. S. Gautam).

#### 4.7.8 Participation of Department Faculty/Staff members in the Institute Administration

- Dr. Asis Giri is serving as Jt. coordinator for NEQIP AICTE project of Rs 7 crores.
- Prof. M. Muralidhar is working as a Member of Board of Management, Academic Council, Building and Works sub Committee, IQAC, and Chairman (NBA), Coordinator (TEQIP).
- Dr. P. Lingfa, Professor, Head of the Department is working as Liaison Officer (SC/ST) and Chairman (EVC).
- Dr. M. Chandrasekaran, Professor is functioning as Chairman TPT.
- Dr. S. Samanta, Associate Professor is functioning as Advisor T&P, Program officer (NSS UNIT, NERIST), Member (NEE).
- Dr. A. Giri, Associate Professor is functioning as Coordinator NEQIP, Member (State Level Technical Team for Coal Chain Development), Itanagar, Arunachal Pradesh.
- Dr. S. S. Gautam, Associate Professor, Adviser for Annual sports Athletic Meet, 2015, NERIST.
- Dr. S. S. Gautam, Associate Professor, Chief Warden and Chairman (HMC), 2015, NERIST.
- Mr. Y. T. Camdir, is functioning as Transport Officer for NERIST.

#### 4.7.9 Other Information

- o The following softwares are procured in CAD lab for the use B.Tech and M.Tech students as well as for students' projects/ research activities.
  - i) ANSYS (V-15): 5 users License
  - ii) Creo Parametric software (Pro-Engineer)-50 user License.
- o Renovation of various laboratories and workshop is underway. Mr. T. Chakraborty acting as Workshop coordinator and Mr. D. Maji is acting as Laboratory coordinator of the department for this purpose.
- o Smart class room facility.

#### 4.7.10 Publications

##### Books and Book Chapters

1. N. Yadaiah, S. Bag, C. P. Paul and L. M. Kukreja: Fiber laser welding in a controlled inert gas atmosphere: an experimental & numerical investigation, in Laser based manufacturing, Springer Publication, pp. 399-419, 9th April, 2015. DOI: 10.1007/978-81-322-2352-8\_20

##### International Journals

1. P. Lingfa and B. Das: Energy analysis of Karanja oil as a supplementary fuel for compression ignition engine, *Journal of Urban and Environmental Engineering*, Vol. 9 (2), 2015, pp. 97-101. ISSN 1982-3932, DOI: 10.4090/juee.2015.v9n2.097101.
2. A. Giri, Dipanka Bhuyan, B. Das: A study of mixed convection heat transfer with condensation from a parallel plate channel, *International Journal of Thermal Sciences*, Vol. 98, 2015, pp. 165-178.
3. A. Giri, K. K. Pathak, B. Das: A computational study of mixed convective heat and mass transfer from a shrouded vertical non-isothermal fin array during dehumidification process, *International Journal of Heat and Mass Transfer*, Vol. 91, 2015, pp. 264–281.
4. S. Samanta, M. Muralidhar, Thingujam Jackson Singh and S. Sarkar: Characterization of mechanical properties of hybrid bamboo / GFRP and Jute/GFRP composites, *Materialstoday: Proceedings*, Elsevier, Vol. 2, 2015, pp. 1398-1405.
5. Thingujam Jackson Singh and Sutanu Samanta: Characterization of Kevlar Fiber and Its Composites: A Review, *Materials Today: Proceedings*, Elsevier, Vol. 2, 2015, pp. 1381-1387.

6. Priyankar Pratim Deka and Sutanu Samanta: Experimental Investigation on Mechanical Properties of Rice Husk Filled Jute Reinforced Composites, *International Journal of Chemical, Molecular, Nuclear, Materials and Metallurgical Engineering*, Vol. 9, No. 12, 2015.
7. C. W. Manpoong, M. Tamuk, S. S. Gautam, C. R. Gautam, A. K. Singh and A. Madheshiya: Synthesis, Microstructure and Dielectric Properties of (Sr,Bi)TiO<sub>3</sub> Borosilicate Glass Ceramics, *Journal of Ceramic Science and Technology*, Vol. 6, No.4, 2015, Accepted. DOI: 10.4416/JCST2015-00035.
8. N. Yadaiah, S. Bag, C. P. Paul and L. M. Kukreja: Influence of self-protective atmosphere in fiber laser welding of austenitic stainless steel, *International Journal of Advanced Manufacturing Technology*, 2015, in press.
9. Nadeem Hasan, S. Mujaheed Khan, Faisal Shameem: A new flux-based scheme for compressible flows, *Computers & Fluids*, Vol. 119, 2015, pp. 58–86.
10. Santosh Kumar and M. Muralidhar: Analysis for prevalence of carpal tunnel syndrome in shocker manufacturing workers, *Advances in Production Engineering & Management*, 2016, Accepted.
11. Kumar Santosh, Kumar Manoj, M. Muralidhar: Carpal Tunnel Syndrome Symptoms and Associated Risk Factors for Assembly Line Workers Engaged in Shocker Manufacturing Industries: A study, *publication in Global Journal of Researches in Engineering: Industrial Engineering*, Vol. 15 (3), 2015, pp. 1-8.
12. S. K. Tamang and M. Chandrasekaran: Modeling and optimization of parameters for minimizing surface roughness and tool wear in turning Al/SiCp MMC using conventional and soft computing techniques, *Advances in Production Engineering & Management*, Vol. 10(2), 2015, pp. 59–72.
13. M. Chandrasekaran, Shiv Sharma and R.Thirumalai: Experimental investigation and shop floor need based multi- characteristics optimization for machining GFRP composites using PCD tool, *International Journal of Frontiers in Technology*, Vol. 2, No. 2, 2015, pp. 10-17.
14. M. Chandrasekaran and S.K.Tamang: ANN–PSO Integrated Optimization Methodology for Intelligent Control of MMC Machining, *Journal of The Institute of Engineers (India): Series C*, in press.
15. Deepjothi Baruah and M. Chandrasekaran: Development of cloud based machining optimization system, *Manufacturing Technology Today (MTT)*, 2015, pp. 9-15.
16. Biplab Das and A. Giri: Mixed convection heat transfer from a vertical fin array in the presence of vortex generator, *International Journal of Heat and Mass Transfer*, Vol. 82, 2015, pp. 26–41.
17. D. Maji: 'Sustainable Rural Livelihood' An Approach, in *Recent Trends in Post-Harvest Technology and management*, Ed. Kumari Aloka, Mangalam Publication India: Pvt. Ltd., New Delhi, ISBN : 978-93-82983-53-8, 2015, pp. 126-140.

#### 4.7.11 Conference Proceedings

1. P. Lingfa: Study of engine performance and exhaust emissions on multi-cylinder turbocharged diesel engine operated with Tung biodiesel blend, *International Conference on Advances in Mechanical Engineering (ICAME-2015)* held at University College of Engineering, Villupuram, Tamil Nadu (India) during 15th - 16th October 2015.
2. Sweety Mahanta and Sutanu Samanta: Study on Mechanical performance of Rice –husk filled basalt epoxy composites, *Proceedings of the International conference on emerging trends in mechanical engineering (ICETME'15)*, held at Cochin university of Science and technology, Kochi, India, during December 16-17, 2015, pp. 293-298.
3. N. K. Rana, S. S. Gautam, S. Verma: Performances of 6 – Pocket compensated conical hydrostatic journal bearing under micropolar lubrication, *WCECS*, USA, 2015, pp. 366-371.
4. N. K. Rana, S. S. Gautam, S. Verma: An analysis on the performance of conical hydrostatic journal bearing with variations of aspect ratio under micro-polar lubrication, *ICME*, IIT Delhi, 2015.
5. N. K. Rana, S. S. Gautam, S. Verma, F. Rahmani: On the stiffness and damping coefficients of constant flow valve compensated conical hydrostatic journal bearing with micropolar lubricant, *ICIAME*, Feb. 2016, Accepted.

6. Sohini Chowdhury, N. Yadaiah, M. Chandrasekaran, G. Rinu, P. Kalita and M. Muralidhar: Finite element based heat transfer analysis of laser assisted additive manufacturing process, "24th DAE BRNS National Laser Symposium (NLS-24), at RRCAT, Indore, from 2<sup>nd</sup> - 5th December 2015, Doc. ID: 6.40.
7. K. Pranjali, N. Yadaiah, G. Rinu, Sohini Chowdhury, S. M. Khan and M. Muralidhar: Thermal analysis of laser hybrid welding process and challenges in modeling, "24th DAE BRNS National Laser Symposium (NLS-24), at RRCAT, Indore, from 2<sup>nd</sup> - 5th December 2015, Doc ID: 8.10.
8. M. Muralidhar and G. L. Datta: Analysis of energy consumption and conservation of a cast iron automobile foundry: A study, presented and published in the proceedings of *WFO 2015 Moulding materials and casting technologies*, Changsha, China, pp. 139-143, October 25-28, 2015.
9. Jeet George and M. Chandrasekaran: Optimization for sustainable machining in trade-off between surface roughness and MRR in wire cut EDM of Inconel 825, published in the *proceedings of the 30th National Convention of Production Engineers' on the theme "Sustainable Manufacturing"* July 18-19, 2015, Agartala, Tripura.
10. S. K. Tamang, N. Natarajan, M. Chandrasekaran and R. Thirumalai: Taguchi multiobjective optimization for improving hole quality in  $\mu$ -EDM process, published in the *International Conference on PRECISION, MESO, MICRO, AND NANO ENGINEERING (COPEN-9: 2015)* held in IIT Mumbai, India, 10-12, December, 2015.
11. M. Chandrasekaran, Shubhajit Das and D. Devarasiddappa: Determining the Effect of Cutting Parameters on Surface Roughness in End Milling of Al-356/SiCp MMC using Fuzzy Logic, Published in the *International Conference on PRECISION, MESO, MICRO, AND NANO ENGINEERING (COPEN-9: 2015)* held in IIT Mumbai, India, 10-12, December, 2015.
12. M. Chandrasekaran and Jeet George: A Response Surface Methodology for Modeling and analysis of Wire cut EDM process of Inconel 825 Aerospace alloys, Published in the *International Conference on PRECISION, MESO, MICRO, AND NANO ENGINEERING (COPEN-9: 2015)* held in IIT Mumbai, India, 10-12, December, 2015.
13. S. Kumar and M. Muralidhar: Carpal tunnel syndrome symptoms and associated risk factors for assembly line workers engaged in manufacturing industries: A Study, 2015, communicated.
14. Rinchin Tashi, S. S. Gautam and S. Samanta: Stability analysis of journal bearings in couple stress lubrication considering turbulent flow, National Conference on Advancements in Simulation & Experimental Techniques in Mechanical Engineering (NCASEme 2015), held at Chandigarh University during 23<sup>rd</sup> & 24<sup>th</sup> March 2015, pp. 1 - 6.
15. N. K. Rana, S. S. Gautam and Suresh Verma: Performance of conical hybrid bearing with micropolar lubricant considering aspect ratio variations, National Conference on Advancements in Simulation & Experimental Techniques in Mechanical Engineering (NCASEme 2015), held at Chandigarh University during 23<sup>rd</sup> & 24<sup>th</sup> March 2015, pp. 84-92.
16. S. Samanta and T. J. Singh: Characterization of Kevlar fibre and its composites: A Review" in 4th International Conference on Materials processing and characterization (ICMPC-2015) held at Hyderabad during 14-15<sup>th</sup> March'2015.
17. S. Samanta, M. Muralidhar, T. J. Singh and S. Das: Characterization of mechanical Properties of hybrid bamboo/GFRP and Jute/GFRP composites, in 4th International Conference on Materials processing and characterization (ICMPC-2015) held at Hyderabad during 14-15<sup>th</sup> March'2015.
18. S. Mahto, A.K. Gogoi and U.S. Dixit: Comparative Improved Dynamics of Single Link Flexible Revolute-Jointed Robotic Manipulator, 12th International Conference on Vibration Problems (ICOVP'15), IIT Guwahati, Guwahati, 12-17<sup>th</sup> Dec'15.
19. S. Mahto: Effects of system parameters and controlled torque on the dynamics of rigidflexible robotic manipulator, International Conference on Artificial-Life and Robotics (ICAROB'16), 29<sup>th</sup> -31<sup>st</sup> Jan'16, Okinawa Convention Centre, Ginowan, Japan.

Figure: Overview of list of publications 2015-2016.



#### 4.7.12 Honour and awards

o Prof. P. Lingfa has received an **INSPIRING PERSONALITY** award from East Kameng Social Welfare and Cultural Organization (EKSWCO) during *37<sup>th</sup> Foundation Day Celebration* held at Bameng, District East Kameng, Seppa, Arunachal Pradesh on 23- 25th October 2015.

o Dr S. Samanta acted as a chairman of a technical session in the 17th International Conference on Materials Science and Mechanical Engineering held during December 17-18, 2015 at Bangkok, Thailand, Organised by World Academy of Science Engineering and Technology.

o Dr S. Samanta presented one technical in the 17th International Conference on Materials Science and Mechanical Engineering held during December 17-18, 2015 at Bangkok, Thailand, Organised by World academy of science engineering and technology.

o Dr S. Samanta presented two technical paper in the in 4th International Conference on Materials processing and characterization (ICMPC-2015) held at Hyderabad during 14-15th March'2015.

0 5 10 15 20

Book chapter published

Internation Journal

International conference

National Conference

International, national conference and

Workshop organized

#### Publications 2014-15

#### 4.7.13 Achievements of Students

Some of UG students achieved good score in GATE 2015 and got admission in many reputed institutions like IITs, NITs and other institutions. Moreover, the department provides campus placements and in the last year 2015, six students' got placed in various organizations. Students are involved in design and development of proto type models such as a bio-gas plant, solar heaters in the part of their project work. Students have also been sending to other primer institutions such as IITs for summer internship training and for conducting experiments for their project work. M.Tech students and Research Scholars had a visit to IIT Guwahati for lab visit/practice for FMS system. IC engine run by Compressed air was designed and manufactured under projects by the students.

#### 4.7.14 The list of campus selected students (2015--2016)

1 Mr. Sourav Paul DE/14/ME/21 Oil India Ltd., Duliajan and Datazen Engineering, USA.

2 Mr. Hiranya Kr. Dutta DE/14/ME/19 Oil India Ltd., Duliajan

3 Mr. Ratnadeep Das DE/14/ME/04 Oil India Ltd., Duliajan

4 Mr. Indrajeet Paul DE/14/ME/01 Tech Mahindra

**MAN** (Mechanical Association of NERIST) works with the broad objective of promoting technology through excellence. All the students, technical staff and faculty members of the department are members of the MAN.

#### 4.7.15 Workshops and Laboratory Development

Internal Combustion Engine being the important area for the Mechanical Engineering student. IC Engine Laboratory is equipped with two strokes and four strokes petrol and diesel engine,5-gas analyzer and smoke meter etc. A separate Biodiesel lab has been installed and developed under the supervision of Dr. P. Lingfa. The Biodiesel lab is well equipped with Integrated Biodiesel Reactor System consisting of mechanical oil expeller, decorticator, baby bath boiler and oil filtering unit. The other laboratories equipment such as magnetic oil stirrer, 1-litre capacity biodiesel reactor, Gas chromatograph (GC), bomb calorimeter, Centrifuge, Viscometer, flash and

fire point apparatus, cloud, pour point apparatus, and Setavis viscometer etc. are available. The students of UG/PG/PhD scholars avail the facilities for their projects and other research and development work.

An Audio-Visual lab (Seminar Hall) is under development and the equipment were indented on priority basis during the year. Now Mr.N.Teyi is in-charge of seminar hall. Presently, seminar hall is equipped with LCD projector, P-IV Computer. The procurement of new PA system is under process. Computational Fluid Dynamics lab was developed, since the engineering analysis of thermal fluid systems CFD techniques plays an important and major role now-a-days. Now, Mr. Biplab Das has taken the charge of computer lab. The lab can be used for UG/PG/PhD scholar works in the Mechanical Engineering Department. The Computer and CFD lab are well equipped with good number of pentium-IVs, peripherals, printers and software's.

CADD laboratory is undergoing development with the initiative of Mr. S. Mahto. Two new software, one being PRO-E and another being ANSYS, are procured to provide huge boost to the CADD/CAM laboratory during this year. Dr. M. Chandrasekaran as in-charge of fluid power control laboratory initiated the procurement of PLC system for demonstration of Traffic lighting, Lift control, Water level control, linear and rotary actuator. It was successfully installed and used for practicals for M.Tech scholars. Other laboratory facilities of the department is listed in **Appendix-A**.

## 4.8 DEPARTMENT OF CHEMISTRY

### 4.8.1 : A Brief Profile of the Department of Chemistry

The Department undertakes teaching of chemistry in Under-Graduate and Post-graduate level courses of Engineering & Technology streams, i.e. Base/ Diploma/ Degree modules, and that in Degree module of Forestry stream. Post-Graduate courses in M.Sc (Chemistry), with organic chemistry as specialization, have been started from the session 2009-2010. Admission process for fresh batch in M. Sc (Chemistry), i.e., 7<sup>th</sup> batch for M.Sc (previous year) was conducted in July, 2015 through the Written Test conducted by the Department. 85 (Eighty five) applications were received and 82 (Eighty two) candidates were issued admit cards. Out of that, 67 (Sixty seven) candidates had appeared for the admission Test. 10 (Ten) candidates were put in the selected list, and 11 candidates were included in the wait-list. Finally, 10 candidates took their admission in M.Sc Chemistry for the session 2015-2016. Moreover, admission test (written) and interview were conducted for Ph.D admission also. All the 06 applicants who applied for admission were called for written test & interview. 03 candidates were selected and they are continuing their research after completion of course works in July-Dec'16 semester.

Committees approved for M.Sc & Ph.D Admission for 2015-16 session:

1. Prof. N.Deb (HoD) : Chairman
2. Prof. H.S.Yadav : Member
3. Prof. P.K.Tripathy : Member
4. Prof. M.F.Hussain : Member
5. Dr.A.K.Gupta : Member
6. Dr. J.Bhuyan : Member
7. Dr.(Mrs.) Meera Yadav : Member
8. Dr. Ms. S.L.Bharati : Member

Contributions of the faculty members in the Institute administration were appreciable.

1. Prof. M. Husain, being the senior-most faculty of the Department has acted as Chairman / Member over a number of committees constituted by the Director, NERIST.
2. Prof. H. S. Yadav had acted Chairman / Members of several committees constituted by the Director.
3. Prof. P. K. Tripathy has acted as Dean (Academics) since August 2014, and had acted Chairman/ Members of various committees made by the Director.
4. Prof. M. F. Hussain had acted as Dean (Administration) for the period and still continuing.
5. Prof. K. D. Ram was looking after the Central Research Facility (CRF) and given the charge to Dr. J. Bhuyan in this period.

Participation of the Faculty members in the Departmental administration were as follows

1. Prof.N. Deb acted as Director Nominee to the Board of Postgraduate Studies (BPGS),
2. Dr. K. T. Kamal was Laboratory in-charge of Chemistry Lab-I
3. Dr. Meera Yadav was Laboratory in-charge of Chemistry Lab-II
4. Dr. J. Bhuyan was the Laboratory in-charge of PG Lab-I & Instrumentation Lab.
5. Dr. A. K. Gupta was Laboratory in-charge of PG Lab-II
6. Mr. N..Singh was Laboratory in-charge of PG Lab-II
7. Dr. S.L. Bharati was Library Incharge of the department, and acted as representative to the Central Library

#### 4.8.2 Academic activities

The 3<sup>rd</sup> Board of Studies (BoS) meeting of Chemistry Department was held on 12/01/2016 to revise the syllabi of various UG and PG courses. The newly designed Ph.D courses were also placed in the meeting. The board approved all the courses and subsequently approved by 29<sup>th</sup> BPGS on 02/02/2016 and AC on 27/02/2016. All the revised courses of UG and PG, along with Ph.D courses will be implemented from July-Dec'2016 semester. The following members were present in the BoS meeting.

1. Prof. N. Deb, HoD & Chairman
2. Prof. M. Husain, Member
3. Prof. H.S. Yadav, Member
4. Prof. P.K. Tripathy, Member
5. Prof. M.F. Hussain, Member
6. Prof. K.D. Ram, Member
7. Dr. A.K. Gupta, Member
8. Dr. J. Bhuyan, Member
9. Dr. Meera Yadav, Invitee
10. Dr. S.L. Bharati, Invitee
11. Prof. P.K. Iyer, IIT, Guwahati, External Member.

The DPGC of the department looked after the various activities of the students of M.Sc and Ph.D courses. The various DC committees' were active to look after the progress of the work of the Ph.D students.

To meet the faculty requirement of teaching loads with 12 (Twelve) regular faculty members for effective teaching in both undergraduate and postgraduate levels, the department had engaged Dr. Prasenjit Saha as Lecturer on contract basis during July-Dec'2015 & Jan-May' 2016 semester.

Systematic approach has been made to engage theory and practice classes regularly. All the courses were fully covered in time. Tests and practical examinations were conducted successfully. Results of Semester examinations, supplementary examinations, make up tests and quizzes of all the courses were prepared in time and submitted to the Controller of examination. The mapping of marks with the COs of required courses in regard to NBA were done and submitted to the concerned departments in time. Preparation for the NBA in regards to making of Profile of the department, laboratory manuals etc. have done in time.

#### 4.8.3 Laboratories and Laboratory Development

In the Laboratories, instrumentation facilities that are in working conditions are

- i) Digital Conductivity meters
- ii) Polarimeters,
- iii) Digital pH meters,
- iv) Differential Scanning Calorimeter (DSC),
- v) FT-IR,
- vi) Rotary evaporator,
- vii) Melting Point apparatus, etc.

The following few equipments recently been received and installed in the laboratories.

- i) Digital Magnetic Stirrer with hot plate,
- ii) Quartz Bi-Distillation,
- iii) Variable volume micropipette and
- iv) Analytical balance

#### 4.8.4 Projects completed by the UG/PG/Ph.D students

The presentation of following projects report are done on 07.05.2015 by the M.Sc Final year(PG) students in presence of committee members including Dr. A.Atta as an external expert

Sl. No.	Title of the Project	Name of the student	Roll Number/Registration Nos.	Name& Designation of the supervisor
1.	Applications of IR spectroscopy to examine the purity of some organic compounds.	Ajoy Borgohain	MS/13/CH/01 (413/091)	<b>Prof. M. Husain, Professor</b>
2.	Isolation of Anthocyanin from Red Rose petals and its identification	Hemi Borgohain	MS/13/CH/03 (413/093)	<b>Dr.(Mrs) K.T. Kamal Associate Professor</b>
3.	Synthesis of 5(4H)-Imidazolones by using 5(4H)-Oxazolones as Synthons.	Bedanta Barhoi	MS/13/CH/06	<b>Prof. P. K. Tripathy, Professor</b>
4.	Novel Regioselective Synthesis of Isomeric Isoxazoles from $\alpha$ -Oxoketenedithioacetals.	Kumud Sharma	MS/13/CH/07	<b>Dr. A. K. Gupta, Associate Professor</b>

#### 4.8.5 Short-term courses/seminars/workshops organized at NERIST: Nil

#### 4.8.6 Short-term courses/seminars/workshops/conferences attended by the faculty

##### **Prof. H.S. Yadav attended the following Conference**

1. "Mountain Futures" held at World Agroforestry Centre, Kunming, China, March 1-4, 2016.

##### **Dr. J. Bhuyan attended the following courses/seminars.**

1. Invited lecture delivered and attended the UGC-SAP National Seminar "Emerging Trends in chemical Sciences 2015" at Department of Chemistry, Gauhati University, Guwahati, Assam on 6th November, 2015.
2. 'Induction Training for Teachers' at NERIST, Nirjuli, A. P organized by NITTTR, Kolkata and NERIST, Nirjuli, A. P. from 11.09.2015 to 20.09.2015.
3. E-Journals User Training Workshop at NERIST organized by AICTE-INDEST User Committee, NERIST on 22-23<sup>rd</sup> August and 31<sup>st</sup> October 2015.

**Dr. Meera Yadav attended the following courses/seminars.**

1. Short term programme on Induction Training. NERIST, Nirjuli, Itanagar. NITTTR-Kolkata, Sept 11-20, 2015
2. 4<sup>th</sup> INDEST User Convention (E-journals User Training Workshop) NERIST, Nirjuli, Itanagar. AICTE-INDEST User Committee, Aug 22-23, 2015 and Oct 31, 2015.

**Dr. S.L. Bharati attended the following courses/seminars.**

1. 4<sup>th</sup> INDEST USER CONVENTION ( E-Journals User Training Workshop) 22-23<sup>rd</sup> August,2015 & 31<sup>st</sup> October, 2015.
2. Short-term / In-house Training Programme on Induction Training, 11<sup>th</sup> September,2015 to 20<sup>th</sup> September, 2015

**Dr.K.T.Kamal attended the following courses/seminars.**

1. Short term /In house programme on Induction training organized by National Institute of Technical Teacher's Training and research, Kolkata from 11.09.2015 to 20.09.2015 (2 weeks duration)

**Mr. N.G. Singh attended the following courses/seminars.**

1. 4<sup>th</sup> INDEST USER CONVENTION, E-Journal User Training Workshop, 22-23<sup>rd</sup> August, 2015 & 31<sup>st</sup> Oct. 2015. At NERIST, Organised by AICTE- INDEST User committee, NERIST.
2. Induction Training' organized by NERIST, 11.09.2015 to 20.09.2015 (02 Weeks) Under NITTTR, Kolkata.

**4.8.7 New degrees/ Professional Memberships obtained by the faculty:**

**Dr. Meera Yadav** become the Member of American Chemical Society ( Regular member no. 3100796)

**Mr. N.G.Singh** become the 'Life Member' of The Association of chemistry Teachers, Membership No. 1727, w.e.f. 15.09.2015, Regd No. Maharashtra Govt. Mumbai 922, 2010 G.B.B.S.D. dated 08-04-2010, C/o, Homi Bhaba Centre for Science Education TIFR, Mumbai.

**4.8.8 Achievements/awards/recognition earned by the faculty:**

**Prof N. Deb** reviewed the following research papers of international journals as expert reviewer

1. "Use of TG as Analytical Tool for Study of Solid State Reaction between Calcium Oxalate and Uranyl Oxalate", Charu Arora Chugh, Asmita Sharma, G.A. ramarao & Y.P. Naik, **Journal of Thermal Analysis and Calorimetry (Springer)**, Ms No.JTAC-D-15-00353R1 (13.04.2015)

**4.8.9 Projects sanctioned by outside agencies to the faculty of the department:**

1. Title: Metallo-isoporphyrin: A biomimetic catalyst and a promising photosensitizer in photodynamic therapy Funding Agency: SERB, DST, Govt. of India, New Delhi. **PI: Dr. Jagannath Bhuyan.** Date of Sanction: YSS/2015/000394 dated 5/11/201. Total amount: 24,88,000/- . Fund received during the year: 14,42,666/-
2. Ongoing Project: DST-Woman Scientist (WOS-A) Ref no. SR/WOS-A/CS-138/2012. **PI: Meera Yadav.** Title: Mn-peroxidase from Musa paradisiaca stem juice. Funding agency: DST, New Delhi. Date of sanction: Oct, 2013. Total amount: Rs. 20,60,000/-

#### 4.8.10. Publications:

##### (a) In journals

1. **Bhuyan, Jagannath**, "Nucleophilic ring-opening of iron(III)-hydroxyisoporphyrin", *Dalton Trans.*, 2016,45, 2694-2699.
2. **Bhuyan, Jagannath**, "Metalloisoporphyrins: from synthesis to applications", *Dalton Transactions*, 2015, 44, 15742-15756.
3. Tripathi, K.M., Sonker, A.K., Bhati, A., **Bhuyan, J.**, Singh, A., Singh, A., Sarkar, S and. Sonkar, S.K., "Large-scale synthesis of soluble tunable-photoluminescence graphitic hollow carbon nano-rods for selective fluorescent detection of DNA", *New J. Chem.*, 2016, 40, 1571-1579.
4. **Yadav, M. and Yadav, H. S.** "Applications of ligninolytic enzymes to pollutant wastewater, dyes, soil, coal, paper and polymers." *Environ Chem Letts.* 13, 309-318, (2015).
5. **Yadav, M., Yadav, H.S.** and Rai, N. " Enzymatic Characterisation of Lignin peroxidase from *Luffa aegyptiaca* fruit juice." *Am J of Plant Sciences.* 7, 649-656, (2016).
6. Fungal Laccases and their Biotechnological Significances in the Current Perspective: A Review, P.K. Chaurasia, **Shashi L. Bharati**, Manisha Sharma, S.K. Singh, R.S.S.Yadav and Sudha Yadava, *Current Organic Chemistry*, **2015,19, 1916-1934.**
7. Some Novel Organometallic Mn<sup>III</sup> Complexes with Porphine and 1,6-diaminohexane, **Shashi Lata Bharati**, Pankaj Kumar Chaurasia and Sudha Yadava, *Russian Journal of Inorganic Chemistry*, **2016, 61, 232-238.**
8. Oxovanadium(IV) Complexes with 15-Membered Macrocyclic Ligands Using 1,2-Diacetylbenzene as Precursor. Vijai Singh, Probin Bora and **Hardeo Singh Yadav** *Journal of Science*, Vol. 6 , 1, 1-5 ( **2016** ).
9. Oxovanadium(IV) Complexes with Tetraaza Macrocyclic Ligands Derived by Condensation of 1,2-Diacetylbenzene with o-Phenylenediamine. Vijai Singh, Probin Bora and **Hardeo S. Yadav**, *Der Pharma Chemica*, Vol-7, 12, 205-209 ( **2015** ).
10. Synthesis and Spectral Studies of Oxovanadium(IV) Schiff Base Complexes Derived from 1,1'-Oxalyldiimidazole and Aromatic Amines. A. K. Yadava, **Hardeo S. Yadav** , R. Saxena and Devendra Pratap Rao *Eur. Chem. Bull.*, 4 (7), 356 – 359, **2015.**
11. New Insights into the Chemistry of Oxovanadium(IV) Schiff Base Complexes with Nitrogen Donor. Ashok Kumar Yadava, **Hardeo Singh Yadav** and Devendra Pratap Ra *Journal of Science*, 5( 11 ), 1086 – 1090, **2015.**
12. Natural Dye and its application on wool in different medium, **Khalida Tasneem** & Raju Chetry, *International Journal of Education & Applied Sciences Research*, Vol.3, issue 02, Feb-March, 2016, pp 23-27
13. Isolation of Natural Dye from *Codiaeum Variegatum*, **Khalida Tasneem**, Rajiv Khatioda, *International Journal of Education & Applied Sciences Research*, Vol.3, issue 02, Feb-March, 2016, pp 28-32

14. Isolation of Natural dye from Beet Root and its application on wool & thread with different mordants at different temperatures, International Journal of Advances in Engineering & Scientific Research, **Khalida Tasneem** & Hage Maria, Vol.3, Issue 1, Jan-March'2016, pp 52-62.
15. Novel synthesis of Benzo[c]quinolozinium and their condensed benzologs using - Oxoketene-S, S-acetals, **Gupta Akhilesh Kumar**, Ind.J.Chem.54B, (8), 972-978.

**(b) Conference Papers**

1. **Yadav, M., Yadav, H.S.** and Rai, N. Ecofriendly care of Mountains Future for better Anthropocene: Manganese peroxidase activity from Luffa acutangula fruit juice. The mountain futures conference, World Agro-forestry centre, Kumin, China, March 1-4, **2016**.

**(C) Books**

**Yadav, M.,** Singh, S.K., Yadava, S. and Yadav, K.D.S “Biofuel Production by Lignolytic enzymes” in a book series entitled “Energy Science and Technology”. Edited by Prof. U C Sharma, Shiva Kumar and Ram Prasad volume 3. Studium Press LLC, USA, Pp 475-494. (2015).

**4.8.11 Interaction of faculty / department with outside agencies:** Nil

**4.8.12 Consultancy Projects undertaken :** Nil

**4.8.13 Achievements of students:** N/A

**4.8.14 Any other relevant information:** Nil



## 4.9 DEPARTMENT OF PHYSICS

### 4.9.1 : A Brief Profile of the Department of Physics

The Department of Physics has **Two** Professors, **Three** Associate Professors, and **Four Assistant Professors**. In addition to teaching, the faculty members are actively involved in research activities and have been publishing research papers in both national and international journals. The field of specialization of physics faculty cover a wide spectrum of theoretical and experimental physics viz x-ray diffraction, polymer physics, plasma physics, experimental and theoretical nuclear physics, liquid crystals, solid state ionics, mathematical physics, semiconductor physics, superconductivity and laser Raman spectroscopy. Also, some of the faculty members have acted as reviewers of DST and CSIR projects by other scientists for possible funding and one Ph.D. thesis adjudicators.

**Eleven** sponsored research projects funded by DST/SERB, CSIR, MHRD and Third World Academy of science (TWAS), Italy have been completed in the field of liquid crystals and solid state ionics. **One** in-House mini Research project has been completed. Currently, **One** research projects funded by Science and Engineering Research Board (SERB), New Delhi is in progress. One project under **FIST** sponsored by DST is underway.

**Two BOYSCAST** fellowships of DST, New Delhi and **three** bilateral exchange fellowships of INSA, New Delhi-RSL & INSA-JSPS have been awarded to the faculty members of the department to pursue their collaborative research with scientists abroad.

**Ten Ph.D degrees** (Four in liquid crystals, four in solid state ionics, one in dye sensitized solar cells and one in Raman spectroscopy) have been awarded to the research students worked in the department. Out of which three Ph.D. degrees were awarded by NEHU and one by Tezpur University. **Five** Ph.D. degrees have been awarded by NERIST. Currently **Twelve** more students are working for their Ph.D. degrees in the department.

### 4.9.2 Academic activities:

(A) The Department of Physics offers **eight core courses** for the undergraduate students at different levels (Base, Diploma, and Degree modules) of Engineering and Applied Science Streams. Details of these courses are:

(B) Department of Physics has started offering M.Sc. (Physics) program from July' 2009. The details of courses offered at PG level is as follows:

### 4.9.3 Laboratories & Laboratory Development:

#### (a) Teaching Laboratories:

The Department conducts the practical classes of all the courses offered in two laboratories.

**Physics laboratory 1:** Practical classes of the following courses are conducted in this laboratory:

Base Module (Technology/Applied Science) : PH 1101 and PH 1201

Diploma Module (Technology) : PH 310 1

Degree Module (Applied Science) : PH3203

New experiments have been introduced in the Diploma module.

**Physics laboratory 2:** Practical classes of the following courses are conducted in this laboratory:

Diploma Module (Technology) : PH 3201

Diploma Module (Technology) : PH 3202

Degree Module (Technology) : PH 4301 and PH 5101

**Physics laboratory 3:** Post graduate General Physics practical classes is being conducted (since, July-Dec.-09) in this laboratory.

Five more laboratories are there for M.Sc. Physics students. There are Electronics laboratory, Solid state Physics laboratory, Nuclear Physics laboratory, Optics laboratory and Computer laboratory.

**(b) Computer Facility:** The Department of Physics has five computers coupled with printers (LASERJET and a dot matrix printer), one scanner and one CD writer. One PC is connected via LAN for the e-mail and internet browsing.

**(c) Research Laboratories:**

**(i) FIST Research Laboratory:**

This laboratory was established in 2015 by the grant received from DST, New Delhi under **FIST** programme. The following major instruments have been setup in the Physics Department:

- XRD Ultima IV
- LASER Raman Spectroscopy
- Impedance Analyzer (Wynn Kerr) with high temperature attachment
- Differential Scanning Calorimeter (This instrument was procured from NEQUIP grant)

The above mentioned instruments are being utilized by different Research Scholars & Post Graduate Students from the Institute and others such as RGU, Allahabad University, Nagaland University, NIT Arunachal Pradesh.

**(ii) Liquid Crystal Research Laboratory:** Having sanctioned a first research project by D. S. T., New Delhi in 1993, Dr. P. R. Alapati had started a research laboratory for liquid crystals work in Jan. ' 1995 in an independent building provided by NERIST and over the years established the facilities for synthesis of liquid crystal materials, their characterization for liquid crystallinity and measurements of physical properties. The experimental facilities established include:

- Hot stage polarizing microscope
- Density measurement set up (bicapillary pycnometer technique --INDEGENEOUS )
- Ultrasonic velocity measurement set up
- Impedance analyzer (H-P 4192 A)
- Accessories (heating) for X-ray diffraction studies on liquid crystals using XRD facility available at

Central Research facility of NERIST

- Facilities for synthesis of liquid crystal materials

(iii) **Solid State Ionics Research Laboratory:** A solid state ionics research laboratory for batteries sensors and super capacitors has been established in 1995 by Dr. S. A. Hashmi in a building space provided by NERIST to carry out his research work on a project funded by Department of Science & Technology, New Delhi. Over the years, following facilities have been developed in the laboratory:

- Medium Frequency (40Hz-100Hz) LCR Hi Tester (HIOKI, Japan).
- Low frequency ( 1mHz-100 KHz) computer controlled impedance analyzer (HIOKI, Japan).
- Computer controlled Analytical Work Station for Cyclic voltammetry, etc. (Sycopel, UK).
- Indigenous techniques to prepare ion! electron conducting polymers and for their basic characterization.
- X- Y-t Recorder (Graphtec, Japan)

(iv) **Solid State Electronic Materials and Devices Laboratory:** Dr. H. M. Upadhyaya established a Research laboratory in the year 1999 to carry out his research on a project funded by the Department of Science and Technology, New Delhi. Some of the experimental fabrication/ measurement facilities created within the research laboratory are as follows:

- Vacuum Coating Unit ( Hind Hi-Vac., Bangalore, India -Model 12A 4D) with facility of IEEE 488 interface and software.
- Source - Measure Unit (Keithley Instruments, USA - Model 236) with facility of IEEE 488 INTERFACE and software.
- Chemical Bath Deposition / electro deposition set up for the preparation of semiconducting thin films and conducting polymers.
- Solar Cell Performance measurement set up with the W-Halogen lamp with varying intensity.
- Suryamapi, a device to measure the intensity of the light.

(v) **Material Science Laboratory** : This laboratory was set up by Dr. Arvind Pandey & Dr. Sanjay to carry out research on a project funded by MHRD. The major equipments which have been procured are:

- Keithley Electrometer
- Weighing Balance
- Hydraulic Press
- Rotary Vacuum pump
- Ball milling machine
- Microprocessor based furnace

(vi) **High Temperature Furnace Facility** : Under the in-House mini Research Project Scheme and MHRD project Dr. Sanjay & Dr. Arvind Pandey have established a high temperature furnace room for preparation of ceramic/composite compounds. They have fabricated a furnace indogeneously at NERIST which can operate upto 1200°C. One imported microprocessor based furnace which could be operated up to 1200°C is operational. One more furnace which can be operated upto 1000°C is also operational.

#### 4.9.4 Projects completed by the UG/PH/Ph.D. students. Please specify the title of the project and name of the guide.

One Ph. D degree was Awarded Under the Guidance of Prof. P. R. Alapati to Mr. Keisham Nanao Singh during January, 2016.

Thesis Title: Study of Electrical properties of the silver Nano particles dispersed liquid Crystals.

#### M. Sc., Physics Projects

- (a) One Project was completed by Ms. Nani Munya under the guidance of Prof P. R. Alapati. “Dielectric properties of a Liquid crystal compound”
- (a) Project completed by PG student (May-2015) : under supervision of Dr. Kunal Borah, Assistant Professor, Department of Physics on “ Microstrip patch antenna on structurally modified substrate for X and K band Applications” .
- (b) Project completed by the PG students ( May-2015) under supervision of Dr. Akbari Jahan, Assistant Professor, Department of Physics on “ A study of Fractal and its Applications and Fractal Structures and Dimensions”.
- (c) Project completed by PG (M.Sc.) student (May-2015) : under supervision of Dr. S. Dhiren Meetei, Assistant Professor, Department of Physics on “Crystal Structure Analysis of ZrO<sub>2</sub> Powder XRD Data”.

#### 4.9.5 Short-term courses/seminars/workshops/conferences organized at NERIST:NIL

#### 4.9.6 Short-term courses/seminars/workshops/conferences attended by the faculty:

Prof. P. R. Alapati, Department of Physics had delivered an Invited talk on “Dielectric studies of liquid crystal - nanoparticle composites” at 22<sup>nd</sup> National Conference on Liquid Crystals during 21-23 December, 2015 at DIT University, Dehradun

- a) Prof. P.R. Alapati, Department of Physics had delivered an Invited talk on “Raman Studies of two liquid crystal dimers” at International Conference on Condensed matter and Mesoscopic Physics during 21-24, June, 2015 at Boston, USA
- b) Dr. Tado Karlo, Professor, Department of Physics had participated on “ Gaussian 09; Theory and Practice Workshop” held at Novotel, Chennai from 29<sup>th</sup> February to 4<sup>th</sup> March 2016.
- c) Dr.(Mrs) Th. Gomti Devi , Associate Professor, Department of Physics participated a STP an Inductions Training organized by NERIST & NITTR Kolkata from 11.09.2015 to 20.9. 2015 at NERIST, Nirjuli Arunachal Pradesh.
- d) Dr. Kunal Borah, Assistant Professor, Department of Physics had attendant Short-term Programme an Induction Training organized by NERIST & NITTR, Kolkata September 11-20,2015” at NERIST Nirjuli Arunachal Pradesh.

- e) Dr. Kunal Borah, Assistant Professor, Department of Physics had attended 4<sup>th</sup> INDEST User Convention(E-Journal User Training Workshop), organized by AICTE-INDEST User committee, NERIST, 22 August-01 October-2015 at NERIST, Nirjuli Arunachal Pradesh.
- f) Dr. Kunal Borah, Assistant Professor, Department of Physics had attended Faculty Development Programme on “ Recent trends in microprocessors, Micro controller and their applications” organized by TEQIP NERIST, 17-21 February 2015 at NERIST, Nirjuli, Arunachal Pradesh.
- g) Dr. Akbari Jahan, Assistant Professor, Department of Physics had attended Short-Term Programme on “Induction Training” organized by NERIST & NITTTR, Kolkata, September 11-20,2015 at NERIST, Nirjuli Arunachal Pradesh.
- h) Dr. Akbari Jahan, Assistant Professor, Department of Physics had attended 4<sup>th</sup> INDEST User Convention ( E-Journal User Training Workshop) organized by AICTE-INDEST User committee, NERIST from August,22-23-15 & Oct, 31,2015.
- i) Dr. Akbari Jahan, Assistant Professor, Department of Physics had attended Faculty Development Programme, on : Recent Advances in Microprocessors, Microcontroller and their Applications “ organized by TEQIP, NERIST from 17-21,February,2015 at NERIST, Nirjuli Arunachal Pradesh.
- j) Dr. S.Dhiren Meetei, Assistant Professor, Department of Physics had attended Short Term Programme on “ Induction Training “ organized by NERIST & NITTTR, Kolkata, Septemer11-20-2015 at NERIST, Nirjuli, Arunachal Pradesh.
- k) Dr. S. Dhiren Meetei, Assistant Professor, Department of Physics had attended “Orientation Programme” from 1<sup>st</sup>-30<sup>th</sup> December,2015 conducted by UGC-HRDC, Manipur University, Imphal
- l) Dr. S. Dhiren Meetei, Assistant Professor, Department of Physics had attended. ( E-Journal User Training Workshop) organized by AICTE-INDEST User committee, NERIST from August,22-23-15 & Oct, 31,2015
- m) Dr. Sanoujam Dhiren Meetei, Assistant Professor, Department of Physics had attended National Seminar on 100 Years of Relativity, from 21<sup>st</sup>- 22<sup>nd</sup> December,2015 at Manipur University, Imphal.

#### **4.9.7 New Degrees/Professional Memberships obtained by the faculty:**

Prof. P. R. Alapati Continued as (i) Vice President of Physics Academy of North East (ii) Continued as Member of American Chemical Society and (iii) Became the Member of International Liquid Crystal Society

Dr. S. Dhiren Meetei, Assistant Professor, Department of Physics as Life time Member of Indian Physical Society (IPS).

Dr. S. Dhiren Meetei, Assistant Professor, Department of Physics as Life time Member of “ Materials Research Society of India ( MRSI) No. LMB2549.

#### 4.9.8. Achievements/awards/recognition earned by the faculty:

Dr. P.R. Alapati continued as Vice-President of Physics Academy of North East( PANE).

Dr. Tado Karlo continued Executive council member of PANE.

Dr. Th. Gomti Devi, Associate Professor, Department of Physics is awarded International Travel support scheme under SERB, DST India for attending an International conference held in Beijing China during 28<sup>th</sup> Feb-1<sup>st</sup> March,2016.

Dr. Th. Gomti Devi, Associate Professor, Department of Physics is awarded Travel Fellowship under centre for International co-operation in Science (CICS) for attending an International conference held on Beijing, China during 28<sup>th</sup> Feb-1<sup>st</sup> March,2016.

#### 4.9.9 Projects sanctioned by outside agencies to the faculty of the department (April, 1<sup>st</sup> 2015 to 31<sup>st</sup> March, 2016): NIL

#### 4.9.10 Publications:

01. Dielectric Relaxation Studies of Silver Nanoparticles dispersed Liquid Crystals.

KEISHAMNANAO SINGH, N MONORANJAN SINGH, H BASANTAKUMAR SHARMA and **P R ALAPATI**,

*Journal of Advance in Physics*, **8(3)**,2176 (2015)

02. Comparative low frequency dielectric study of Hexyloxybenzylidenehexylaniline and Heptyloxybenzylidenehexylaniline.

K. N. SINGH, BINODGOGOI, N. M. SINGH, H. B. SHARMA AD and **P. R. ALAPATI**.

*INDIAN JOURNAL OF PHYSICS*; **Online version published in Nov., 2015**

03. On the Dipole – Dipole correlation and Dielectric anisotropy of some N(4-n-alkyloxy benzylidene)-4'-alkylaniline compounds doped with Silver Nanoparticles.

K. N. SINGH, BINODGOGOI, N. M. SINGH, RAGINIDUBEY, L. R. SINGH, H. B. SHARMA and **P. R. ALAPATI** *MOL. CRYST. LIQ. CRYST.*, **625**, 106-116 (2016) ;ISSN No.:1542-1406

04. Dielectric properties of highly polar liquid crystalline material showing various types of layered structures

**RAGINI DUBEY**, A. MISHRA, K. N. SINGH, R. DHAR and **P. R. ALAPATI**  
*LIQUID CRYSTALS*, **43**,(2016); *ISSN No.:* 0267-8292

05. Dielectric study on the alignment or orientation of N(4-n-heptyloxy benzylidene)-4'-n-butyl aniline and the anomalous dielectric behaviour in the Smectic G phase.

K. N. SINGH, BINODGOGOI, RAGINIDUBEY, N. M. SINGH, H. B. SARMA and **P. R. ALAPATI**

*MOL. CRYST. LIQ. CRYST.*, **626**, 130-140 (2016) ; *ISSN No.:*1542-1406

06. Phukan A, Borah K. Bhattacharyya N.S, “ Compact Patch Antenna on Structurally Modified Magneto dielectric Substrate “, Progress In Electromagnetic Research C, vol. 64.11-20,2016.
07. Dr. (Mrs) Th. Gomti Devi, Associate Professor, Department of Physics had published Vibrational studies of polar aprotic molecule in aromatic chemical & isotropic solvents : Experimental & quantum chemical investigations, J. Raman Spectroscopy, **46**,1291-1302 (2015)
08. Vibrational relaxation study of polar aprotic molecule : experimental & theoretical approach by T. Gomti Devi, Materials today proceedings, **2**,899-903 ( 2015)
- 09 Dr. S. Dhiren Meetei, Assistant Professor, Department of Physics had published “ Synthesis and photoluminescence study of  $Gd_2O_3 : Dy^{3+}$  nanophosphors for white light applications: Inter.J. Lumin, April.5(4) (2015) 380-383.
10. Dr. S. Dhiren Meetei, Assistant Professor, Department of Physics , published “ Enhancement of luminescence in  $In_2O_3:Eu^{2+}$  nanophosphor, Inter.J.Lumin. April.5 (4) (2015) 388-392
11. Dr. S. dhiren Meetei, Assistant Professor, Department of Physics , published “ Synthesis and characterization of white light-emitting  $Dy^{3+}$ -doped  $Gd_2O_3$  nanophosphors; Indian J. Phys.90 (3) (2016) 365-371.
12. Dr. S. Dhren Meetei, Assistant Professor, Department of Physics, published, on Role of  $Eu^{2+}$  on the blue-green photoluminescence of  $In_2O_3:Eu^{2+}$  nanocrystals ; Mater, Charac.114 (2016) 197-203.

#### **Paper Published in Conference**

1. Dr. (Mrs.) Th. Gomti Devi, Associate Professor, Department of Physics had published “ Vibrational studies of serotonin using ab-initio calculation method” CCP 2-15, dec 2-5,IIT Guwahati.
2. Dr. (Mrs.) Th. Gomti Devi, Associate Professor, Department of Physics had published Raman study of C=O, C-N & C-H stretching vibrations of N N, dibutyl for formaldehyd. a comparison with quantum chemical calculations , CCP 2015, Dec 2-5, IIT Guwahati.
3. Dr. (Mrs. ) Th. Gomti Devi Devi, Associate Professor, Department of Physics had published On Symmetry reduction using the method of end point variation, at NCETMMS 2015, Dec 17-19, Kolkata,
4. Dr. (Mrs.) Th. Gomti Devi, Associate Professor, Department of Physics had published Vibrational studies of Thyroid Hormone, SSA2016, 28<sup>th</sup> Feb0 1<sup>st</sup> March 2016 . Beijing China,
5. Efficient L-cysteine capped nanoscale Zero Valent Iron nanoparticles for the removable of lead [Pb (II)] from waste water, Yana Bagbi, **Arvind Pandey**, Pratima R. Solanki, 3<sup>rd</sup> International Conference on Nanostructured materials and Nanocomposite (ICNM 2015), Hindustan College of Science & Technology Farah, Mathura-281122 (U.P) India.
6. *Efficient Nanoscale Zero Valent Iron* for the removable of lead [Pb (II)] from aqueous solutions, Bagbi, Ankur Sarswat, Dinesh Mohan, **Arvind Pandey**, Pratima R. Solanki, International Conference on Materials Science & Technology, Conference Centre, University of Delhi, India (01st - 04th March, 2016).

**11. Interaction of faculty/department with outside agencies:**

Dr. S. Dhiren Meetei, Assistant Professor, Department of Physics, Interacted with BARC scientists on 3<sup>rd</sup> Feb,2016 regarding ‘ career opportunities in the Department of of Atomic Energy; at Seminar room of ET cell NERIST, Nirjuli, Arunachal Pradesh.

**12. Consultancy projects undertaken:**

NIL

**13. Achievements of students:**

NIL

**14. Any other Achievements/relevant information:**

1. Prof. P. R. Alapati, Department of Physics, continued as Member of American Chemical Society
2. Prof. P. R. Alapati, Department of Physics, continued as Life member of Indian Liquid Crystal Society and Indian Science Congress Association
3. Prof. P. R. Alapati, Department of Physics, continued as Chairman, Library Advisory Committee (NERIST)

**Name of HOD and other faculty members with Degree and area(s) of specialization**

S/N	Name & Designation	Qualification & University	Specialization
1.	Dr. P. R. Alapati Professor	<b>Ph.D. (1988)</b> Nagarjuna	Condensed Matter Physics (Liquid Crystals)
2.	Dr. Tado Karlo, Professor & (HOD)	<b>Ph.D. (1997)</b> Delhi University	Mathematical Physics
3.	Dr. Manan Sengupta Associate Professor	Ph.D. (1986) Calcutta University	Theoretical Physics
4.	Dr. Arvind Pandey Associate Professor	Ph.D. (2000) Univ. of Rajasthan	Condensed Matter Superconductivity, Solid state Ionics
5.	Dr. Th. Gomti Devi Associate Professor	Ph.D. (2005) NEHU, Shillong	Condensed matter Physics (laser Physics)
6.	Dr. Kamal Saharia Assistant Professor	Ph.D,2009 Gauhati University.	Theoretical Plasma Physics
7.	Dr.Kunal Borah Assistant Professor	Ph.D,2014 Tezpur University	Electronics , Microwave Electronics, Antenna
8.	Dr. S. Dhiren Meetei Assistant Professor	Ph.D,2014 Manipur University	Condensed Matter Physics
9.	Dr.Akbari Jahan Assistant Professor	Ph.D, 2014 Gauhati University	Theoretical Physics, High energy Physics, Phenomenology



## 4.10 DEPARTMENT OF MATHEMATICS

### 4.10.1 : A Brief Profile of the Department of Mathematics

The Department of Mathematics came into existence as a full-fledged department in 1993. Earlier, it was a part of the Physical Science Group since the inception of the Institute in 1986. The Department has highly qualified faculty members with a wide variety of specializations with a mix of both Pure & Applied Mathematics. In addition to teaching, the faculty members are actively involved in research. Also, some of the faculty members have acted as reviewers of Defence Science journal, Mathematical Review and examined several Ph.D. theses of different Universities. The department is a member of NBHM, Department of Atomic Energy, Govt. of India, which provides new books and journals free of cost regularly. The Department is running M.Sc. and Ph.D. programmes successfully. Department has started Ph.D. programme since 2007. At present there are fifteen research scholars registered for Ph.D. degree under the supervision of faculty members of the department. Eight students have been awarded Ph.D. degree and another two students have completed their research work and may submit their thesis anytime. At present, there are Four Professors, one Associate Professor and Five Assistant Professors.

**4.10.2 Academic Activities:** UG and PG Syllabus have been revised. PG syllabus have been submitted to DR(Acad.) for the approval through BPGS

**4.10.3 Laboratories and Laboratory Development:** Lab work sheet have been designed for both UG & PG courses, Computation Laboratory has been established.

**4.10.4 Projects completed by the UG/PG/Ph.D. students. Please specify the title of the project and name of the guide**

**(i) Project Guide: Dr.L.K. Arora**

M.Sc Project: Salam Nirupama Devi

Roll No.MS/14/MA/03

Project Title: The Hypergeometric Functions

Of one and Two Variables with Applications.

**(ii) Project Guide: Mr. Jayanta Borah**

M.Sc. Project: PlatonGao

Roll No.MS/14/MA/02

Project Title: A Study of Some Classes of Fractional Differential Equations

**(iii) Project Guide: Dr.Kh.H. Singh**

M.Sc. Project: Md. Imran

Roll No.MS/14/MA/01

Project Title: "A Survey on Reduced Rings and Modules".

**4.10.5 Short-term courses/seminars/workshops/conferences organized at NERIST. (Please specify the areas, title, coordinator, duration, and funding agencies/sponsors, no. of participants).**

1) **Mr. Jayanta Borah, Dr. K.H. Singh and Dr. P. Debnath** has conducted the following Workshop/Training Programme at NERIST as joint Coordinator.

- (i) “Two days Workshop on Teaching Methodology of Mathematics”, (sponsored by TEQIP-II), 21-22 November, 2015 (ii) “Two Days, Training programme on National Mathematics Olympiad” held ( on 27-28 February 2016

#### 4.10.6 Short-term courses/seminar/workshop/conferences attended by the faculty

(1) **Dr. B.K. Singh:** Attended the International Conference on Mathematical Sciences and Statistics, 26-28<sup>th</sup> January 2016. Kuala Lumpur Malaysia.

(2) (i) **Dr. M.M. Dixit:** Attended the International conference on Wavelets and Applications, Euler International Mathematical Institute St.Petersburg, Russia, June 18 – 23, 2015.

(ii) **Dr. M.M. Dixit:** Attended International conference on Recent Trained in Mathematics, University of Allahabad, July 10-12, 2015.

iii) **Dr.M.M. Dixit :** Attended Conference on Recent Trained in Mathematics and its Applications (RTMA-2015), Rajiv Gandhi University, Nov 6-7, 2015.

(3) **Dr. K.H. Singh:** Attended the Conference on Recent Trained in Mathematics and its Applications (RTMA-2015), Rajiv Gandhi University Nov. 6-7, 2015. (

(4) (i) **Dr. M. Hassan:** Attended the International conference on Recent Trend in Mathematics (ICRTM-2015) held at University of Allahabad during July 10-12, 2015.

(ii) **Dr. M. Hassan:** Attended conference on Recent Trend in Mathematics and its applications (RTMA-2015) held at RGU, Arunachal Pradesh during November 6-7, 2015.

(iii) **Dr. M Hassan :** Attended the 60<sup>th</sup> Congress of ISTAM-2015 held at MNI Jaipur during December 16-19, 2015.

4.10.7 New Degrees/Professional Memberships obtained by the faculty.: **L.K. Arora:** The Indian Science Congress Association. **J.Borah:** Member of Indian Mathematical Society **P. Debnath:** Member of Tripura Mathematical Society.

4.10.8 Achievements/awards/recognition earned by the faculty: Nil

4.10.9 Projects sanctioned by outside agencies to the faculty of the department (April, 2010 to March, 2011) (Names(s) of PI and co-investigator, if any, title of the project, funding agency, date of sanction, total amount, fund received during the year under review): **Research Project**

Title- Analytical modeling for estimating wave loads on cylindrical structure, Principal Investigator: **Dr. M. Hassan** Funding agency: DST.(Govt. of India) Duration- 3 years( Dec, 2015 – Dec., 2018)

4.10.10 Publications:

<p>10.</p>	<p>(a) Referred journal</p> <p>(b) Conference papers</p> <p>(Please give details about, authors, title of the paper, name of the journal/conference, volume, year, month, page nos. Also include only those papers, which were published/presented during the year under reference and do not include papers are under preparation/communicated accepted/and in press.)</p> <p>(c) Books: (Please give the author, title of the book, publisher, and year of publication.)</p>	<p>(1)W.W.Chanu and <b>B.K.Singh</b> (2015), “<i>Improved Exponential Ratio cum Exponential Dual to Ratio Estimator of Finite Population Mean in Presence of Non-Response</i>” An International Journal of Statistics Applications &amp; Probability, vol. 4 Issue No. 1, pp. 103-111. <a href="http://dx.doi.org/10.12785/jsap/040110">http:// dx.doi.org/10.12785/jsap/040110</a></p> <p>(2)<b>B.K.Singh</b>, W.W.Chanu and Manoj Kumar (2015), “<i>Exponential Chain Ratio cum Dual toRatio Estimator of Finite Population Mean under Double Sampling Scheme</i>” An International Journal of Statistics Applications &amp; Probability, vol. 4 Issue No. 1, pp. 37-51.<a href="http://dx.doi.org/10.12785/jsap/040105">http:// dx.doi.org/10.12785/jsap/040105</a></p> <p>(3)SanjibChoudhury and <b>B.K. Singh</b> (2015), “<i>Study of Dual to Ratio-cum-Product Estimator of Finite Population Mean under Double Sampling in Sample Surveys</i>” <i>Journal of Statistical Theory and Applications</i>, Vol.14, No.2 (June 2015), 214-221.</p> <p>(4)YaterTato and <b>B.K.Singh</b>(2015), “<i>Generalized Class of Exponential Chain Ratio-cum-Chain Product Type Estimator for Finite Population Mean under Double Sampling Scheme in Presence of Non-Response</i>” <i>Global Journal of Science Frontier Research Mathematics and Decision Sciences</i>,Volume 15, Issue 7, Version 1.0, pp:22-35.Online ISSN: 2249-4626 &amp; Print ISSN: 0975-5896.</p> <p>(5)YaterTato, <b>B. K. Singh</b> and W.W. Chanu (2016), “<i>A Class of Exponential Dual to Ratio cum Dual to Product Estimator for Finite Population Mean in Presence of Non-Response</i>” <i>International Journal of Statistics and Economics</i>, Volume 17, Issue 2, ISSN 0975-556X.</p> <p>(6) <b>P. Debnath</b>, Results on lacunary difference ideal convergence in intuitionistic fuzzy normed linear spaces, <i>Jurnal of intelligent and Fuzzy Systems</i>, 28(3),2015 1299-1306.</p> <p>(7) D. Eshi, P.K. Das and <b>P.Debnath</b>, coupled coincidence and coupled common fixed point theorems on a metric space with graph, <i>Fixed Point Theory and Applications</i> (Springer), 2016, 37, DOI: 10.1186/s13663-016-0530-7.</p> <p>(8)<b>P. Debnath</b>, A generalized statistical convergence in intuitionistic fuzzy n-normed linear spaces, <i>Annals of Fuzzy Mathematical and Informatics</i>, 2016 (Published on line.)</p>
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11.	International of faculty/department with outside agencies (Give details regarding membership of out committees, executive committees of professional bodies etc.	<b>Nil</b>
12.	Consultancy Projects undertaken, (Agencies, title of the consultancy project, amount, faculty and staff associated	<b>Nil</b>
13.	Achievements of students.	<b>Nil</b>
14.	Any other relevant information.	<b>Nil</b>

## 4.11 DEPARTMENT OF HUMANITIES AND SOCIAL SCIENCES

### 4.11.1 A brief Profile of HSS Department

Engineering and technologies have become one of the predominant forces in shaping our vision of reality in the Contemporary world. And the domain of humanistic learning enables a future technocrat to sustain the resilience of human spirit in all spheres of life. The department of Humanities and Social Science (HSS) of NERIST fulfills this vision of projecting a human content and consciousness required for the expansion of technological and scientific knowledge by synthesizing the sciences and technologies with social sciences and humanities. Coupled with Forestry, the Humanities and Social Sciences were initially tagged with the Applied Sciences group of NERIST. However, since 1993, it has been functioning as an independent department offering courses in English, Economics, Sociology, Psychology and Management.

The department has earned a distinctive name for itself, primarily due to the wide-ranging experience of the members of its faculty and the application of innovative teaching methods, keeping in tune with the emerging developments in their respective fields of expertise. With the introduction of the research programmed in the year 2006, leading to the degree of Ph.D, in various disciplines of Humanities and Social Sciences and Management, the department of HSS has taken a giant leap in fulfilling the institutional vision of “nurturing talent and giving wings to imagination.” The prescribed courses apart, the department is well set to provide consultancy services to various small and medium scale industries of the North Eastern region. This is coupled with a successful hosting of various short-term and need-based training programmes, seminars and special lecture series for executives, teachers and the students alike. Most of the faculty members of the department have the distinction of successfully completing research projects sponsored by such agencies as ICSSR, ICAR, McArthur Foundation, Ministry of Social Justice and Empowerment of the Government of India, AICTE, Ministry of Human Resource Development, etc. Further, the faculty members are engaged in supervising research scholars on such subjects as Economics, Human Resource Management, Marketing Management, Financial Management, and Organization Behavior, etc. leading to Ph.D degrees. A developing technical mind must also acquire sensitivity of socio-cultural needs of human beings. With the experience of the old and the energy of the youth, the department of HSS strives to ensure that the budding technocrats and entrepreneurs are armed with the quality of vision and personality which will enable them to use their skills in bridging the socio-technical gap and establish a strong interface between science, technology and society.

4.11.2	<b>Academic Activities</b>	
	Laboratories and Laboratory Development	
	(b)	Communication Skills Development Laboratory: Department of HSS has developed Language and communication Skills Development Laboratory recently under MHRD MODROB Scheme under the leadership of Prof. B.D.Nayak (P.I.) and Shri Ranendra Prasad,(Co-P.I.). This laboratory is equipped with modern and latest equipment and audio system LCD TV, LCD Projector and Computer facility. This laboratory has the capacity of accommodation for 45 students.
	(c)	Department of HSS has also developed a Seminar Hall under AICTE MODROB Scheme under the leadership of Prof. B.D.Nayak (P.I.) and Shri Raju Barthakur, (Co-P.I.). This laboratory is equipped with modern and latest equipment and audio system LCD TV,LCD Projector and Computer facility. This laboratory has the capacity of accommodation for 56 students.
4.11.3	<b>Projects completed by the PG students. Specify the title of the projects and name of the guide) : Nil</b>	

4.11.4	Short term courses/seminars/workshops/conferences organized at NERIST.(Please specify the areas, title Coordinator, duration and funding agencies/sponsors, no. of participants) Nil.
4.11.5	Short term courses /seminars/workshops/conferences attended by the faculty: <u>Prof. B.D.Nayak</u> Attended a Short-term Course on “Appropriate Technology for Rural Development” organized by the Department of Mechanical Engineering, NERIST during 25-29 August 2014
4.11.6	New Degrees/Professional Memberships obtained by the faculty:
(a)	Life membership awarded to Prof. B.D.Nayak.
	All Orissa Economic Association
	Indian Society of Agricultural Economics
	Indian Society of Technical Education (ISTE).
	North East Indian Council of Social Science Research, (NEICSSR)
	Social Science Research Institute of Arunchal Pradesh, ITANAGAR
4.11.7	Achievements/awards/recognition earned by the faculty: Nil
4.11.8	Project sanctioned by outside agencies to the faculty of the department(April,2010 to March, 2011) Name (s) of PI and jco-investigator, if any, title of the project, funding agency, date of sanction, total amount, fund received during the year under review. : Nil
4.11.9 Consultancy Project:	
	Publications:
(a)	Referred Journal:
(b)	Conference papers (Please give details about, authors, title of the paper, name of the journal/conference, volume, year, month, pages nos. Also include only those papers, which were published/preparation/communicated/accepted/and in press.) <b><u>Prof. B.D.Nayak</u></b> A paper on “An Impact Study of SHG and Financial Inclusion for Rural Development: A case study of Lakhimpur District of Assam” was presented in an International Conference on ‘Frontier of Infrastructure Finance’ organized by Vinod Gupta School of Management, IIT Kharagpur during 13-15 November, 2014 and published in its proceedings volume.
(c)	Books: (Please give the author, title of the book, publisher, and year of publication) Nil
4.11.10 Interaction of faculty/department with outside agencies(give details regarding Membership of outside committees of Professional bodies etc.) Nil	
	<b><u>Prof. B.D.Nayak</u></b> Arunchal State Co-operative union, Naharlagun, Itanagar, A.P. and NABARD, Itanagar, A.P.
4.11.11 Consultancy Projects undetaken.(Agencies, title of the consultancy project, amount faculty and staff associated) : Nil	
4.11.12 Achievement of Students: N.A.	
4.11.13 Any other relevant information:	
	Ph.D. Degree Awarded under the Supervision of Prof. B.D.Nayak
i)	To Mrs. Mrinmmoyee Bhattacharyya for the thesis on “ Socio-economic Condition of Hira Community of Assam. A case study of Kamrup District” in February, 2015
ii)	To Mr. Bijaya Kumar Nayak for the thesis on :A study on Indian Made Foreign Liquor Market in Assam and it future Prospect” in March 2015
iii)	iii) To Mr. Sarat Hazarika for the thesis on “Impact of National Rural Employment Guarantee Scheme on Socio economic Development of Assam: A case study of the northern district of Upper Assam in February 2015.

	<p><b><u>Prof. B.D.Nayak</u></b> Key Note Address Delivered. On "Importance of Thrift and Small Savings in Arunachal Pradesh" in the awareness programme on Small Savings by the Directorate of and small Savings, Govt. of Arunachal Pradesh of 30<sup>th</sup> October 2014.</p>
	<p><b><u>Prof. B.D.Nayak</u></b> Chaired the Technical Session in International Conference on "Frontiers of Infrastructure Finance-ICFIF-14" organized by Vinod Gupta School of Management, IIT Kharagpur November 13-15, 2014</p> <p><b><u>Mr. Ranendra Prasad,</u></b> Chaired the Technical Session in International Conference on "Media's Role in Facilitating Peace in Conflict situation in North East India and Neighbouring Countries" organized by Department of Mass Communication, Rajiv Gandhi University, Arunachal Pradesh 9-10<sup>th</sup> October, 2014</p>

Additional responsibilities taken up by the Faculty Members of the Department:

<b><u>Prof. B.D.Nayak</u></b>	In-charge Seminar Hall
<b><u>Dr. P.Parida</u></b>	Head of the Department Controller of Examination
<b><u>Mr. Ronendra Prasad</u></b>	Incharge Computer Lab. In-charge Communication skills Lab.
<b><u>Dr. Shamalee Sinha</u></b>	Chairperson of NERIST K.G. School.
<b><u>Mr. Raju Borthakur</u></b>	In-charge Interface..., The NERIST News letter. Member of Library Advisory Committee. Advisor, Training and Placement.

## 4.12 CENTRE FOR MANAGEMENT STUDIES

### 4.12.1 A Brief Profile of the Centre

CMS came on 4<sup>th</sup> November,2009 as an independent centre to offer Management Programmes. Soon after acquiring Deemed University status in the year 2005, one of the cherished dreams of starting MBA program came closer to reality. Finally, in July,2006, NERIST earned the distinction of being the first institute in Arunachal Pradesh to start MBA program under the Department of Humanities and Social Sciences. The Objectives of the Centre for Management Studies is to impart management education to the future managers and policy makers of the region. CMS aims to pursue global vision without losing local priorities and train future managers to develop a synergy between global and local value systems.

Centre for Management Studies became an independent centre to meet the growing aspirations of the region to develop quality managerial talents. Centre offers MBA program in various specialization areas ie/ Human Resource Management, Marketing Management, System Management, Finance and Entrepreneurship. Besides a full time MBA programmes, other activities of the centre are as follows:

- PhD program in Management,
- Management Development Program (MDPs) for Executive, government officers,
- Personality Development Programs (PSPs) for different target groups.
- Motivational workshops.
- Consultancy in diverse areas of Management.

To promote intellectual and professional activities in Centre. The Management Forum of NERIST (MaFoN), a body comprising of student and teachers, has been very actively organizing professional activities like conducting expert talks by eminent speakers, seminars, GDS and outdoor Management Development Activities.

Some of the eminent speakers who delivered lectures in the centre during 2015-16

. Dr. K. Sotechland, Assistant Professor Department of Management, RGU, Doimukh

. Mr. A. Chakraborty, Assistant Professor Department of Management, RGU.Doimukh

. Mr. S.K. Sharma, Associate Professor, D.N. College, Itanagar. The approach to develop managers with all round personality is paying the dividend and so far, 5(five) batches of students passed out from the centre have been well received by the industry.

### 4.12.2. Academic activities of the Centre

### 4.12.3 Department administrative responsibilities details:

. Dr. M. Mall as the Head of the Centre.

. Mr. S. Choudhury , Computer Lab In charge T&P Councillor of CMS Mr. S. Choudhury is Member, of Academic Council, EBI & Central Library.

### **Administrative Responsibilities: By Prof R.M. Pant**

. Member Core Committee, National Rural Livelihood Mission, Arunachal Pradesh



. Acted as Director In Charge from time to time in the absence of regular Director

**Dissertation report completed by PG students: MBA 2013-15**

Sl. No	Name of the students	Roll No.	Topic
1.	Ms. Deepshika Sharma Barua	MBA/13/01	Delinquency Mitigation Strategy of Private Bank of Arunachal Pradesh
2	Mr. Rakesh Kumar Mahato	MBA/13/02	Investors perception towards equity market in capital Complex of Arunachal Pradesh.
3.	Mr. Japorsingh Lyngdoh Mawphlang	MBA/13/03	Production, Distribution and Consumption of Kiwis from Arunachal across India.
4.	Mr. Diplyoti Roy	MBA/13/05	Supply chain management of Pharmaceutical industry/company in Lower Assam.
5.	Mr. Rubu Duyu	MBA/13/07	Customer satisfaction with the delivery system of online shopping sites in Arunachal Pradesh.
6.	Ms. Rohita Singh	MBA/13/08	Employees engagement level: A comparative study in private and public banks
7.	Mr. Sharanga Kumar nath	MBA/13/09	A study on work culture of Regional Rural Banks in Assam.
8.	Mr. Don Gao	MBA/13/10	Space selling strategy of Arunachal Times.
9.	MR. Jiban Chandra Singh	MBA//13/12	Role of CSR in balancing people and profit in Arunachal Pradesh.
10.	Ms. P. Chandani Devi	MBA//13/13	Organisational Stress of an employee: A comparative study of private and public sector bank.
11.	Ms. Dipa Sarkar	MBA/13/14	Induction of technology in student evaluation system in NERIST.
12.	Ms. Hage Onu	MBA/13/15	Marketing Strategy Of Nissan Motors, Naharlagun: A case study
13.	Mr. Hunwang Nokbi	MBA/13/17	Accounting ethics and circulars in the code of professional conduct.

**Summary of Industrial Training of MBA from 1<sup>st</sup> June to 15<sup>th</sup> July, 2014 :**

19 students went for summer training to various PSUS, Banks and other reputed Concerned organizations

Joined as Director, NIRD, Guwahati, Conducted Training Programmes at NIRDPR, Guwahati

(a) As Course Co-ordinator:	07	05
(b) As Joint Course Co-ordinator:	05	06
(c) Sessions in other Programmes	NA	11

**4.12.4 Details of Research Projects:**

1. Success Story of Cleanest Village of Asia: A Study of Mawlynnong Village in Meghalaya

2. A Case Study of District Planning Under Autonomous District Councils (ADCs) (with Dr. M.K. Shrivastava)
3. Integration and Function of Institutions of Self-governance under Panchayati Raj System: A case of Lachen and Lachung village in North Sikkim.

**(Details of Article/Books/Chapters in Books published)**

**Article/Papers:**

Title	Name of the Journal/Newspaper/Book
*Ishwar ke bagiche Mawlynnong me' (Hindi)	Published in Opinion Post, Nov 1-15,2015,New Delhi

**Books:**

Title	Co-author, if any	Name of the Publisher
"Development Perspectives in North East India: A Holistic Overview"	Dr. M.K. Shrivastava	Akansha Publishing House New Delhi (ISBN-978-81-8370-461-8)

**Chapters In Books:**

Title	Co-author, if any	Name of the Publisher
'Dreams of Act East Policy through privatization of developmental activities in Arunachal Pradesh'	Asha Nanding & S Choudhury	Papers published in the Book, ' Look East Policy-Perspectives from South East Asian architecture' edited by A Bhattacharjee., published by Excel India Publication, New Delhi(2015)
'Marketing of Rural Development Schemes for development of North Eastern Region of India'	-	Papers presented as 'Key note lecture' and published in the proceedings of UGC-SAP National Seminar on achieving Sustainable
		Rural Livelihood ' Financial Intervention and Skilling India with special reference to the NER', published by Department of Management, Tezpur University. (March 4-5,2016)
'Assam: New Opportunities'	-	Paper presented as 'Key note speech' and published in the book ' Turn mirrors in to windows:Rhetoric of Act East Policy & beyond', edited by Amit Choudhury
'Woman entrepreneurship in Arunachal: Sunshine in the clouds' in "Development Perspectives in North East India; a Holistic Overview" edited by Dr. R.M.Pant & Dr. M.K. Shrivastava		Published by Akansha Publishing House New Delhi (ISBN-978-81-8370-461-8)
'Growth of Public-Private Sectors through Infusion of Technical Manpower: A	S. Choudhury and Sandeepa Dutta	Published in "Development Perspectives in North East India: a Holistic Overview"

Stretegic Approach to Arunachal Pradesh.’		edited Published by Akansha Publishing House New Delhi (ISBN-978-81-8370-461- by Dr. R.M.Pant & Dr. M.k. Shrivastava
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**(a) Any other achievement deserving special mention relating to quality in research training, publications etc.**

**Ph.D Guidance/Evaluation/Editorial Boards:**

- . Two Scholar under supervision of the undersigned were awarded Ph. D degree during 2015-16
- . Five scholars are presently working under the undersigned.
- . Editor in Chief, journal of Advance Management Science (JOAMS)
- . Member Scientific Board of Economics, Management and Humanities, ICEHM
- . Three numbers of Ph D thesis evaluated with details as under:

- 1, ' Financing of Micro Enterprises In Mizoram: An analytical study', on Government Schemes', Department of Business Management, Mizoram University, Aizawl.
2. Consumer spartial behavior approach to retail location: An Empirical Study', Department of Management, BHU, Varanasi
3. 'Effectiveness of Community Health workers (ASHA) in facilitating Health Care Services in three Districts of Assam', Department of Business Studies Tezpur University, Tezpur

**Guest Speaker in out side organization other than NIRD off-campus programmes**

Date	Organisation	Programme	Topic	No. of Session taken
May 15, 2015	Department of IT and Communication, Govt. of Nagaland	E-Naga Summit	Role of Quality Technical Institute's and Building Solid Foundation for the growth of IT in NE Region	Panelist and Resource Person
August 18, 2015	University of Science and Technology, Meghalaya	Progress Review of Ph.D Scholar	Employee Retention	As external expert
October 5, 2015	G.B. Pant Institute of Himalayan Environment & Development, Kosi-Katarmal, Almora	Multi Stake-Holders Himalayan Sustainable Development Forum (HSDF) : National Consultation, at NIRDPR-NERC, Guwahati	Sustainable Development	Delivered lecture / Panellist
November 6, 2015	Tezpur University Department of Business Administration, NAPAAM, Assam	Evaluation of Summer Internship Project (SIP) Report	The Viva Voce Examination	External Examiner

November 19, 2015	Brahmaputra Board, River Development and Ganga Rejuvenation, Ministry of Water Resources, Govt. of India, Basistha, Guwahati	Departmental Promotion Committee Meeting	Post of Assistant Executive Engineer	As a Member
November 19, 2015	Department of Environment and Forest, Govt. of Assam	Launching of Assam State Action Plan on Environment		Member Consultative Group
December 29-30, 2015	G.B. Pant Institute of Himalayan Environment & Development, Kosi-Katarmal, Almora	Multi Stake-Holders Himalayan Sustainable Development Forum (HSDF) : National Consultation, at India Habitat Centre, New Delhi	Sustainable Development	Resource Person and Guest of Honour
January 20-21, 2016	Indira Gandhi Vishwavidyalaya, Raipur	Prospects & Future of Higher Education	Key Note speech & Panellist	Delivered lecture & Chaired one session
February 26-27, 2016	University of Science and Technology, Meghalaya	International Conference on "Raise with East"	Commerce and Connectivity	Panellist and Chaired the session

**Mr. S. Choudhury**

**Journals**

1. Adikanda Parida, Shibabrata Choudhury, Saibal Chatterje, Debashis Chatterjee, A rule based electrical energy distribution model for energy efficiency in technical institutions: A case study, Energy and Building. Elsevier, volume 126, 15 August 2016, Pages 508-516. <http://dx.doi.org/10.1016/j.enbuild.2016.05.069>.
2. Adikanda Parida, Shibabrata Choudhury, Saibal Chatterje, Debashis Chatterjee, A Cost effective trade-off based renewal power augmented energy efficient load model for manufacturing industries for demand side management, Cogent Engineering, Volume 3, 2016-Issue 1, <https://www.cogentia.com/article/10.1080/23311916.2016.1239299>

**Books Chapters**

1. Shibabrata Choudhury, Rajive Mohan Pant, Saibal Chatterjee, Asha Nanding Destination of Branding of Ziro Through Potentiality of Bio-tourism, Book Title: Bio prospecting of Indigenous Bio resources of North-East India, DOI:10.1007/978-981-10-0620-3-21, Springer Singapore.
2. Aditya Borborah, Madhulekha Gogoi Borborah, Shibabrata Choudhury, Prospects of Ecotourism in Majuli, Book Title : Bio prospecting Indigenous Bio resources of North East India, DOI:10.1007/978-981-10-0620-3-20 Springer Singapore.

**Invited Talks**

1. How can entrepreneurship be promoted in IT sector on 29<sup>th</sup> November, 2016 at e-Naga Summit at Kohima, Nagaland

**Certification**

1. Empanelment Financial Education Resource Person for Securities Exchange Board of India (SEBI)
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**Dr. Manmohan Mall**

**Papers Published in 2015-16**

1. Attributes affecting production and productivity in open cast mines: A review, International Journal of Advanced Operation Management, Inderscience Publishers ( In Press)
2. Who are hindering shop floor productive hours - An exploratory finding from discrete manufacturing industries of India. International Journal of Productivity and Quality Management (In Press)
3. Link between insurance and economic growth Case of India, Australian Journal of Business and Management Research, (Accepted)
4. A study on challenges faced by progressive fish farmers in the Cachar district of Assam (2015), International journal of Engineering Technology, Management and Applied Sciences, Vol-3, Issue-3, pp 27-33.
5. Determinants for entrepreneurship development. An empirical study on fish farmers in Cachar district of Assam, (2015) Journal Global of Economics, Management and Business Research, Vol-3, Issue-2, pp 49-56.

**4.12.5 PhD Submitted under his/ her guidance:** NIL

**4.12.6 Paper presented**

1. **Fostering Tourism for peace in India: Economic development Perspective**, Paper presented in the International Symposium on "Fostering Tourism for Global peace Opportunities and Challenges" during 1-3 February 2016 held at Faculty of Hospitality & Tourism Management Sikha 'O'Anusandhan University, Bhubaneswar in collaboration with International Institute for Peace through Tourism. (India Chapter) & Indian Tourism and Hospitality Congress.

**4.12.7 Short term courses organized/attended** NIL

**4.12.8 Any other information deemed fit** NA

**PAPER PUBLISHED**

**Bijoylaxmi Sarmah**

Sarmah B. and Rahman Z, (2018)' Transforming Jewelry Designing: Empowering customers through crowd sourcing in India'. Global Business Review (Scopus) Sage Publication (Copy right submitted)
--

Sarmah B. UI Islam. J. Rahman Z, (2016) " Mangaldeep: spreading fragrance in India", South Asian Journal of Management Cases, Vol.5,No.,ISSN2277-9779, Sage Publication
---

Sarmah B. Rahman Z, (2015)" Sustainability, Social Responsibility and Value Co- creation. A case Study Based Approach", Procedia- Social and Behavioral Sciences, 189 314-319 (Scopus) Elsevier Publication
---

## **B. AWARD/RECOGNITION RECEIVED**

Received the Ministry of Micro, Small and Medium Enterprises' Fellowship for Ph.D Research Scholar for the year 2016 and currently undertaking a project work from the MSME for development of industries in SIDCUL, Haridwar, Uttarakhand

### **4.12.9 Short term course/workshop attended by the faculty:**

Mr. S. Choudhury

### **4.12.10 New degrees/professional membership obtained by the faculty:**

#### **Ph.D Thesis evaluated/external expert By Prof R.M. Pant**

- \* Manipur University
- \* Anna University, Chennai
- \* Dibrugarh University
- \* Jayati Vidyapeeth, Jaipur (2 Nos.)

- **Ph D Guidance :** Guiding 08 Ph.D Scholars, Four scholars were awarded Ph.D degree .
- **PhD Proposals evaluations :**
- RGU,Rono Hills, A.P.
- Dibrugarh University, Dibrugarh

### **4.12.11 Papers presented in Conference,Seminars, Workshops, Symposia:**

## SECTION -5

### CENTRAL FACILITIES, SERVICES AND ACTIVITIES

#### 5.1 CENTRAL LIBRARY

1.	<b>Staff structures</b>	a) Librarian	-	02
		b) Asstt. Librarian	-	01
		c) Sorter	-	01
		d) Ministerial	-	01
		f) Xerox Operator	-	02
		g) Helper	-	02
		h) Peon	-	<u>03</u>
				12

2.	<b>Books &amp; Journal</b>	a) Books as on 31.3.15 =	63265
		b) Journals as on 31.3.15	
		Indian	- 95

#### 3. **E-Resources/Journals**

(a) Being a core member of ESS (formerly INDEST) consortium, the faculty members & students of NERIST is entitled to receive the following E-resources:

1. ACM Digital Library- 1139 titles
2. ASCE Journals online -35 titles
3. ASME Journals online -28 titles
4. ASTM standard
5. Nature
6. ASPP
7. Economic & Political weekly
8. JSTOR
9. Oxford Univ. Press

(b)NERIST library has subscribed the following e resources.(Under process for the year 2016)

- i) IEL/IEEE- 464 titles
- ii) Science Direct- 579 titles
- iii) Springer- 1400 titles
- iv) SCOPUS

4. **Book Bank:** In addition to above a Book Bank has been established in the Central library. It was initially funded by the NEC. Later NERIST has provided the required funds for upgrading the collection with new editions and as per new syllabus. The students get a set of text books for the courses of the semester covering all courses of that semester.

No. of Text books available module- wise, are as under.

- 1. Base Module : 10522 vols.-- 154 titles
- 2. Diploma Module : 12142 vols.– 208 titles
- 3. Degree Module : 12324 vols.– 270 titles
- 4. Degree Forestry : 2650 vols. – 100 titles

Total=**37638 vols.**

5. **Departmental Library:** Departmental library has been set up for all 11 deptt. Books have been procured by the library for the departments. No. of books purchased department wise are as under:

- i) Physics = 29    ii) Chemistry = 86    iii) Mathematics =632
- iv) Humanities = 252    v) Agri. Engg. = 275    vi) Civil = 111
- vii) Electrical = 118    viii) Electronics = 434    ix) Comp.Sci = 234
- x) Mechanical = 190    xi) Forestry = 71

6. **Library Automation:** Uses OPAC. Online public access is available.

7. **Indian Standards:** Library posses full set of Indian Standard published by BIS on CD ROM.

8. **Current Awareness Service:** The library provides the new addition list, contentsof periodical services, paper clippings etc to various deptt. of the Institute.

9. **A-V Materials:** 139 nos. DVD “Video Training Programme” is available for different departments.

10. **Institutional member:** 1.Indian Liquid Crystal Society, Bangalore, 2. Kaziranga Wild Life, society, Assam, 3. Association of Indian University, N.Delhi

- 1. Library Timings : 9 a.m. to 8 p.m. (Mon-Fri), Saturday 9.00-5.00 pm
- 2. Membership : All employees, Students



Number of library cards allotted to each members of the institute is as follows:

Employees

- a) Faculty member's                      15 cards to each member
- b) Technical staff                              5 cards to each member
- c) Officers                                      3 cards to each member

Students

- a) Base module                              3 cards each
- b) Diploma Module                              4 cards each
- c) Degree Module                              5 cards each
- d) M. Tech.                                      6 cards each
- e) MBA    6 cards each

**11. Average circulation Issue/Return**

200 – 300 books per day at the beginning of the semester. Approx. 100 books per day Renewal& Issuing.

**12. Newspapers                              7 daily**

**Library Advisory Committee Members**

Sl	Name	Deptt	Member
1	Prof. P.R.Alapati,	Physics	Chairman
2	Dr.Mrs. S.L.Bharati,	Chemistry	Member
3	Dr. K.Saharia,	Physics	Member
4	Dr. S.K.Bhagat,	Electrical	Member
5	Mr. S.M. Khan	Mechanical	Member
6	Dr. P.Debnath,	Mathematics	Member
7	Mr. Raju Barthakur,	HSS	Member
8	Mr.S.Choudhury,	CMS	Member
9	Dr. P.K.Pandey,	Agriculture	Member
10	Dr. Awadesh Kumar,	Forestry	Member

11	Dr. Manish Kumar	Electronics	Member
12	Mr. M.Marjit Singh	Computer Sc	Member

### INDEST COMMITTEE MEMBERS

Sl	Name	Department	Member
1	Prof. P.R.Alapati	Physics	Chairman
2	Dr.Mrs. S.L.Bharati	Chemistry	Member
3	Dr.Saibal Chatterjee	Electrical	Member
4	Dr.P.Debnath	Mathematics	Member
5	Dr. P.K.Pandey	Agriculture	Member
6	Mr.Raju Barthakur	HSS	Member
7	Mr. Amar Taggu	Computer	Member
8	Mr. S.Majumder	Electronics	Member
9	Mr. M.Chandrasekharan	Mechanical	Member
10	Dr. M. M.Mall	CMS	Member
11	Dr. Akbari Jahan	Physics	Member
12	Mr. Asim Kr. Gupta	Librarian	Member
13	Dr. Suresh Kr. Singh	Forestry	Member, Secretary

## 5.2 TRAINING AND PLACEMENT CELL

### 5.2.1 Profile of the Section

Since its inception in 1991, T & P Cell is instrumental in counseling the final year students in securing jobs in consonance with their knowledge and skills by organizing campus interviews, while simultaneously exploring various avenues for their placement. Workshops are also being organized by the Cell for the pre final and final year students to provide them with substantial exposure in the areas pertaining to their recruitment and facilitate their entry into leading and highly professional organizations.

## 5.2.2 Status report regarding activities:

### Training:

The cell organized Industrial Training or field training for a minimum period of four weeks for Agricultural, Civil, Computer Science, Electrical, Electronics & Communication, Mechanical Engineering, and MBA students, at the end of the pre-final year during Summer vacation, which is a compulsory requirement in partial fulfillment of the requirements of B.Tech./ MBA curricula. Some of the organizations where NERIST students undertook their training during 2015 are: IITs, Airport Authority, Variable Energy Cyclotron, Meghalaya Energy Corporation Ltd., Door Darshan Kendra, Prasar Bharti, T. K. Engineering, BSNL, NEEPCO, PGCIL, ONGC, IOC, OIL India Ltd., Mother Dairy, ICAR, Ishan Vikash (Govt. of India Project), NRFMTTI, FMTTI, State Bank of India, etc.

### Placement:

This Cell arranged On-Campus and Pool Campus drives for the final year B.Sc./ M.Sc. (Forestry), B. Tech./M.Tech. and MBA students. All facilities are provided to officials of companies to conduct campus interview at NERIST. Arrangements are also made for conducting Pool campus interviews at NIT Shillong, Tezpur University, SIT Siliguri, and AEC Guwahati. The organizations which recently came to conduct campus interviews/pool campus at Guwahati, Shillong, and Siliguri include: Tech Mahindra, Wipro, Axis Bank, TNS, DataZen, Zaloni, Tata Projects, OIL India, HUAWEI Technologies, SAP Laboratories, Shriram Transport, and BHEA Technologies Bangalore Etc.

M/s Power Grid Corporation, shall conduct a pool-campus interview during the 2<sup>nd</sup> week of June '16.

### Highlights:

Considering the lack of preparedness and proper sensitization of our students for appearing screening tests during campus interviews and in order to facilitate screening and interface with major companies, T&P Cell organized mock online screening tests for the B.Tech. final year students which was conducted by M/s CoCubes, Bangalore. Around 73 students from different disciplines participated on the different types of 'On-line Tests' conducted by M/s CoCubes on 26<sup>th</sup>, 27<sup>th</sup> September, 2<sup>nd</sup> October, and 9<sup>th</sup> December '15. Based on their performances based on these Pre-Assessment tests, some students were called for interviews by different companies at various places. However, lack of an online test facility at NERIST was a hindrance in conducting these online tests and had to be arranged using students' own laptop with power connection and wifi connectivity issues.

## 5.3 SPONSORED RESEARCH AND INDUSTRIAL CONSULTANCY (SRIC)

### 5.3.1 Profile of the Section

The NERIST Board of Management in its 51<sup>st</sup> meeting held on 28.08.2001 had approved the Sponsored Research and Industrial Consultancy (SRIC) Cell in NERIST to look after the smooth running of various sponsored research projects in the Institute. Presently the Cell is headed by a Associate Professor as Coordinator. One PA and one Peon are attached with this Cell to help the day to day works of the Coordinator SRIC. The financial matters & other relevant records of all the projects of various departments like Forestry, Agriculture Engineering, Civil Engineering, Mechanical Engineering etc. are being dealt by the Finance Section.

### 5.3.2 Status Report regarding activities.

Presently about 32 Nos. of projects in various departments of NERIST is going on. Each project is being run by a P.I and other office functionaries as per guidelines of the sponsoring agency.

## 5.4 CONTINUING EDUCATION PROGRAMME CELL (CEP)

### 5.4.1 A Brief Profile of the Section

- a. To provide information to the bright meritorious students about Early Faculty Induction Programme (EEIP) sponsored by AICTE and other agencies
- b. To provide information to faculty members regarding financial assistance from Government/Sponsoring agencies so that faculty members can get grant from these agencies for book writing/material preparation etc.
- c. To provide timely information and proforma to faculty members for applying AICTE or other sponsored Short Term Training Programme etc.
- d. To encourage and coordinate faculty members/departments for specially formulated self financing/sponsored short term courses for Industry, R&D personal.

### 5.4.2 Status report regarding activities:

- a. A number of faculty members have attended Seminar/Workshops/Shorttermcourses/Conferences during this period.
- b. Various departments of NERIST have also organized some short term programme in NERIST during this period.

## 5.5 KENDRIYA VIDYALAYA, NERIST

### 5.5.1 A Brief Profile

Kendriya Vidyalaya NERIST which was established in the year 1995 has at present strength of 475 students this Vidyalaya is run under KENDRIYA VIDYALAYA SANGATHAN, an autonomous body under MHRD, Government of India. This Vidyalaya imparts education with activity oriented teaching and aims at the holistic development of the students. In order to achieve the holistic development of the students various programmes are organised in the school which are prescribed by the Kendriya Vidyalaya Sangathan.

- Vidyalaya has conducted Co Curricular Activities for primary classes on Friday and for secondary classes on Saturday in the school as prescribed by the KVS.
- Vidyalaya has celebrated annual sports meet in the month of December under the guidance of chairman VMC.
- Vidyalaya has celebrated the Hindi Trimasik and Vigilance week, Ganit Saptah, National Unity Day etc.,
- Vidyalaya has participated in the regional as well as the National sports meet conducted by KVS in different sports.
- Vidyalaya has participated in the social science exhibition in the cluster as well as regional level.
- Vidyalaya has participated in the JNMO, Green Olympiad, JNNSMME, TECHNOTRON etc.,

- Vidyalayas result in AISSE 2016 is 100% with two students securing 10 CGPA and in class XII one student Master. Kumar Ashutosh secured 97.6% and got selection in IIT, One student Miss. Debika Babu got selection in Medical college.
- Vidyalaya celebrated Annual Day in the year 2016.
- Vidyalaya conducted field trip for the primary section
- A medical check up is done for the students twice in an academic session by the NERIST Health Unit.
- Four girls secured Rastrapathi Award in Bharat Scout and Guide.
- Smt. Madhulika Madhu received the National Award for Teachers from the Honorable President of India.

## 5.6 NERIST KG SCHOOL

### 5.6.1 A Brief Profile:

NERIST KG School was established in the year 1992. It has been started with a mission to provide pre-school education and to promote healthy peer group activity among children of the institution's employees. The school is self-financed for its recurring expenditure and is running on no profit no loss basis. Presently, the school is running three classes: Play class, Lower Kindergarten (LKG) and Upper Kindergarten (UKG).

Organization structure:

1. Mrs. Meenaxi Arora - Principal–cum-Teacher
2. Mrs. Mithu Sarkar - Assistant Teacher
3. Mrs. Jyoti Deomali - Assistant Teacher
4. Mrs. Adam Bage - Assistant Teacher
5. Mrs. Rupa Khargharia - Assistant Teacher
6. Ms. Mamoni Chetri - Assistant Teacher
7. Mrs. Radhe Jailyang - Non-Teaching Staff
8. Mrs. Geeta Mili - Non-Teaching Staff
9. Mrs. Renu Swargairy - Non-Teaching Staff

### 5.6.2 Status report regarding activities

During the academic session (April 2015 - March 2016), various activities, competitions and celebrations were organized in addition to Kindergarten level teaching in a view to children grow and develop all round. National festivals were celebrated to grow patriotic feelings right from early age. Various other activities were conducted to develop competitive skill in the wards of school which includes:

- Drawing competition,
- Handwriting completion,
- Fancy dress competition,
- Rhyme reciting competition,
- Story telling competition etc.

The School celebrated its Annual day on 14<sup>th</sup> of November, 2015 i. e. on Children's day. The School organized sports on Republic day (26<sup>th</sup> January 2016) for physical development of the children. A school picnic was also organized for entertainment. At times, parent's-teacher's meetings were organized for free interactions and conversations between parents/guardians and teachers.

### 5.6.3 Highlights

The basic infrastructure like space & building for school have been provided and maintained by the NERIST authority. School is well equipped with all kinds of teaching & learning aids, outdoor & indoor games and facilities to develop extracurricular abilities in small children. It includes a big play ground and children's park within the school premises with the facilities such as two safe plastic plane slides, a tunnel slide, Swings, Marry-go-round, See-saw etc. For class room learning, toys, tricycles, slide, charts, audio-video systems, computer, indoor play items etc. are available.

### 5.6.4 List of Committee Members, if any

The school management committee is responsible for running the school. The committee is headed by the chairperson/chairman, who is nominated by the director, NERIST and has one representative member each from NFA, NTSU & the principal-cum-teacher of the school as member secretary.

Structure of School Management Committee

1. Dr. A. Bhadra – Chairperson
2. Dr. Deepika Devi – NFA representative
3. Mr. T. Debnath – NTSU representative
4. Mr. Nabam Hari – NTSU representative
6. Mrs. Meenaxi Arora – Principal, KG School

### 5.6.5 Any other relevant information/data : Nil

## 5.7 TRANSPORT SECTION

### 5.7.1 A Brief Profile of the Section

Transport section of NERIST was established in 1987 under the administrative control to fulfil the need of in- campus and off – campus transport requirements of the Institute. The Transport Section was initially developed and it was kept under the control of Chairman (TPT) and under supervisor of Transport Officer. The Transport Section provides better service round the clock for all activities of the institute as required for the students, staff, departmental works and other official works.

### 5.7.2 The Various service offered by the transport section at present are as follows :-

- a) Providing the vehicles for in campus and off – campus official duty as and when required including odd hours.
- b) Providing the Bus service to NERIST students for their attending classes to degree block as per their schedule every day.
- c) Providing School Bus service to the ward of NERIST employees for Kendriya Vidyalaya , NERIST FROM Type - I Campus and VKV School at Bage Tinali Nirjuli.
- d) Providing the vehicle to the employees and students under staff welfare and students Scheme for religious and social functions on payment basis as and when vehicles are available.
- e) Providing the vehicle for campus interview of students at NERIST Campus, Guwahati and other places. Seminars, Conferences, Short term course Short Term Training Programs. Students Study Tour, and workshops organized by the faculty of various department of NERIST.
- f) Providing the vehicles to various departments for conducting of practical training to different module students including field visits. Industrial visits in campus and off campus for students developments.
- g) Providing the vehicle to NCC/ NSS of NERIST for attending campus and awareness camping etc.
- h) Providing the ambulance service for students and employees of NERIST as and when required with capital and up to Guwahati or emergency medical treatment.
- i) Providing vehicles to Physically handicapped students duty for attending their classes and other purposes like practical classes etc.

### 5.7.2 Status report regarding activities :-

The Transport Section is one of the most important supporting departments of the Institute. This section runs fleet of vehicles for official purposes. The section has 3 heavy motor vehicles (Bus) of which two are engaged for various activities such as departmental purchase (local and outside), student duty for their attending to classes (7.45am to 5.05pm) school duty for NERIST employee wards, Educational tour. Students industrial visits and official duties. It has 01 WINGER (13+1 Seater) which is used for physically handicapped students and other official duty when required by the department and office. The department has 08 light vehicles and are detailed under 2nos of light vehicle (Optra –LT and Scorpio) used by the Director, NERIST, Chairman BOM and other dignitaries visiting the Institute, guest/Director In-Charge, 01 (AVEO-LT) used by the Registrar, NERIST, 01 (AVEO-LT) used by the all Deans, 01 (Maruti Versa) used for the departmental seminar, Director's Cell, Registrar's Cell, Finance Section, S&P Section, T&P Cell for campus Interviews, Academic Section. Exam Cell and other official/departmental works like meeting seminar etc. 01 Maruti Gypsy is detailed to EE (Civil), AE (Civil) Horticulture in – charge and sanitary in-charge etc. 01 (Tata Mobile) Transportation of material for laboratory, EE (Civil) office AE (Civil) office, EO office, Store & Purchase, Hostel, HMC, Library duties. 01 (Tavera) is used as an ambulance service for students and employees and their family members of NERIST as and when required for emergency medical treatment around the clock.

The institute had auctioned 4 Nos old vehicles. The Institute has Purchased 2 Nos of new vehicles, viz., they are i)Innova Vehicle for VIP duty and ii) Star Bus (36+1) seater for NERIST Students and for industrial tour and field visit for Agriculture and Forestry Departments. The Transport Section has water servicing/washing equipment for vehicle servicing and maintenance of Institute Vehicle from time to time.

### **5.7.3 Highlights:**

Transport Section has helped the Institute in a big way to speed up the administrative activities by best utilization of the vehicles. The section has provided for 24X7 ambulance service for NERIST Students and employee and their family member apart from provided vehicle to NERIST Students for attending their classes to degree block (7:45 am to 5:30 Pm. ), departmental seminar study tour, practical class as per their requirement and also to all students and employees of NERIST at subsidized rates to their best satisfaction are some of the other highlights of this section.

## **5.9 NERIST HEALTH UNIT**

### **5.9.1 A Brief Profile of the Unit:**

The NERIST Health Unit (NHU) is dedicated to the service of the students and staffs. The students and staff members can get free medical consultancy for any medical problems. NHU also provides 24x7 ambulance facility for emergency patients. In addition, NHU also provides OPD service to the needy patients from nearby areas. There are currently three doctors, a pharmacist, nurse, ANM, dresser, lab assistant and lab-technician, apart from the regular ministerial staff and ward helpers.

There is a 24x7 pharmacy, which provides free medicine to all the authorized employees of the Institute.

NHU consists of 6-bedded ward to cater to any minor medical emergencies. NHU also has a dressing room for minor OT purpose.

### **5.9.2 Activities:**

During April 2015- March 2016:

- a) Approximately 3500 students and 25000 OPD patients were examined. Approximately 240 patients were referred to nearby hospitals for further treatment.
- b) NHU conducted two blood donation camps with the help of the campus NSS wing and AIDS control department, Naharlagun.
- c) NHU actively participated in Pulse Polio Immunization programme, Measles Vaccination Campaigns as per the GoI schedule.
- d) NHU also acts as a DOT center for the treatment of patients suffering from TB.
- e) Some of the pharmaceutical companies conducted free Hemoglobin Estimation, BMD, Hepatitis screening and Liver Scan camps in NHU.

### **5.9.3 Laboratories and Laboratory Development:**



NHU provides facilities like normal routine examinations which includes Hb, Blood Sugar, Blood Grouping, Widal, RMT, Dengue, Malaria etc.

5.9.4 Projects completed by the UG/PG/Ph.D. students. Please specify the title of the project and name of the guide: **NA**

5.9.5 Short-term courses/seminars/workshops/conferences organized at NERIST. (Please specify the areas, title, coordinator, duration, and funding agencies/sponsors, no. of participants): **NIL**

5.9.6 Short-term courses/seminars/workshops/conferences attended by the faculty:

- In February 2016, Dr. Sushmita P. Taggu and Dr. Popi Camdir Tok attended a CME on Malaria (New Treatments and Diagnosis), which was organized by the IMA, Arunachal Pradesh.

5.9.7 New Degrees/Professional Memberships obtained by the faculty: **NIL**

5.9.8 Achievements/awards/recognition earned by the faculty: **NIL**

5.9.9 Projects sanctioned by outside agencies to the faculty of the department (April, 2015 to March, 2016) (Name(s) of PI and co-investigator, if any, title of the project, funding agency, date of sanction, total amount, fund received during the year under review): **NA**

5.9.10 Publications: **NIL**

(a) Referred Journal

(b) Conference papers

(Please give details about, authors, title of the paper, name of the journal/ conference, volume, year, month, pages nos. Also include only those papers, which were published/presented during the year under reference and do not include papers are under preparation/communicated/accepted/and in press.)

c) Books: (Please give the author, title of the book, publisher, and year of publication.

5.9.11 Interaction of faculty/department with outside agencies (Give details regarding membership of outside committees, executive committees of professional bodies etc.)

The two regular doctors have periodic interactions with the IMA and other professional bodies in the state.

## 5.10 CENTRES FOR APPROPRIATE TECHNOLOGY & RURAL DEVELOPMENT (CATRD)

### 5.10.1 A Brief Profile of the Department

The Board of Management of NERIST in its 62<sup>nd</sup> meeting held on August 11, 2007 had resolved to establish the Centre for Appropriate Technology & Rural Development (CATRD) at NERIST. It is a multifunctional and multi disciplinary Centre to meet the needs of NE Region. Centre for Appropriate Technology and Rural Development started its activities from August 2007 at NERIST. It is an independent Centre of NERIST with the under mentioned objectives:

- To cater to the technical needs of the people living in Arunachal Pradesh and neighboring states of the North Eastern Region.
- To support in Technical and Vocational Educational activities of the people of the NE Region.
- To assist the development of social welfare and economic growth of the people in NE Region.
- To establish a consortium of scientific and technical talents to undertake activities that will help to promote and provide Technical Manpower base to cater to Non-formal Sector for Technical and Vocational Education and Training (TVET) for Rural Stakeholders
- To encourage Appropriate Technology adaptation and transfer through conducting pilot studies on specific projects.
- To develop documentary films on the lives of the people of the region by use and application of science and technology in socio-economic growth and development.
- To preserve rural and indigenous technologies of the NE Region and assist in technical documentation and dissemination of knowledge.
- To conduct Certificate, Diploma, Degree, Post Graduate Diploma/Degree and Research Degrees in Appropriate Technology and Rural Development for regular or sponsored candidates for State/Central Govt., UN sponsored organizations, SAARC Countries through Multilateral & bilateral agreements under UNDP, UNEP, UNRSCO, WHO, UNIDO, NEC, ADB etc.
- To organize and support Research, Colloquium, Seminar, Workshops, Conference on various Scientific and Technological advancements leading to the social and economic growth and progress of the region.
- To use the concept of Remote Sensing (RS) to Sector Professionals and academic community for forecasting Disaster and ensure remedial measures.
- To solicit, receive and accept grant from Central and State Govt. and other recognized agencies and also materials in the shape of equipments, technical knowledge, documents etc. and also from recognized international funding agencies.
- To develop necessary infrastructure to conduct various programmes in future.

### 5.10.2 List of Committee Members

Dr. S.K.Shrivastava	Head of the Centre
Dr. P.R. Gajurel	Assoc.Prof. (Forestry)
Dr. P. Anand Kumar	A.P. (Agril. Engg.) on Leave
Ms. B.L. Sarmah	A.P. (CMS) on QIP Leave
Ms. Mudo Pumming	A.P. (Civil Engg.)

**SECTION -6**  
**MANPOWER**

**I Teaching (Faculty)**

Department wise break-up of faculty as on 31.03.2016 is given below:

1.	Forestry	11
2.	Agriculture Engineering	14
3.	Civil Engineering	16
4.	Computer Science & Engineering	09
5.	Electrical Engineering	16
6.	Electronics & Communication Engineering	13
7.	Mechanical Engineering	16
8.	Physics	09
9.	Chemistry	12
10.	Mathematics	12
11.	Humanities & Social Sciences	05
12.	Centre for Management Studies	04

**Total (I) = 137**

**II Non-Teaching (Officers and Staff)**

The break- up of Officers, Technical, Ministerial and Group-C staff in position as on 31.03.2016 is given below:

(i) Officers

a	Group 'A'	13
b	Group 'B'	08
<b>Total</b>		<b>21</b>

(ii) Technical/Vocational Staff (Non-teaching)

a	Group 'A'	-
b	Group 'B'	12
c	Group 'C'	68
<b>Total</b>		<b>80</b>

(iii) Ministerial Staff

a	Group 'B'	13
b.	Group 'C'	58
<b>Total</b>		<b>71</b>

(iv) Non Ministerial Staff-Group -C

a	Lab Attendants/Helpers/Pump Attendants	38
b	Security Guards	09
c	Malis, Labourers & Sweepers	27
d	Peons	35
e	Cook & Cook Helpers	69
<b>Total</b>		<b>178</b>

**Total (II) = 350**

**GRAND TOTAL (I+II) = 487**

## SECTION - 7

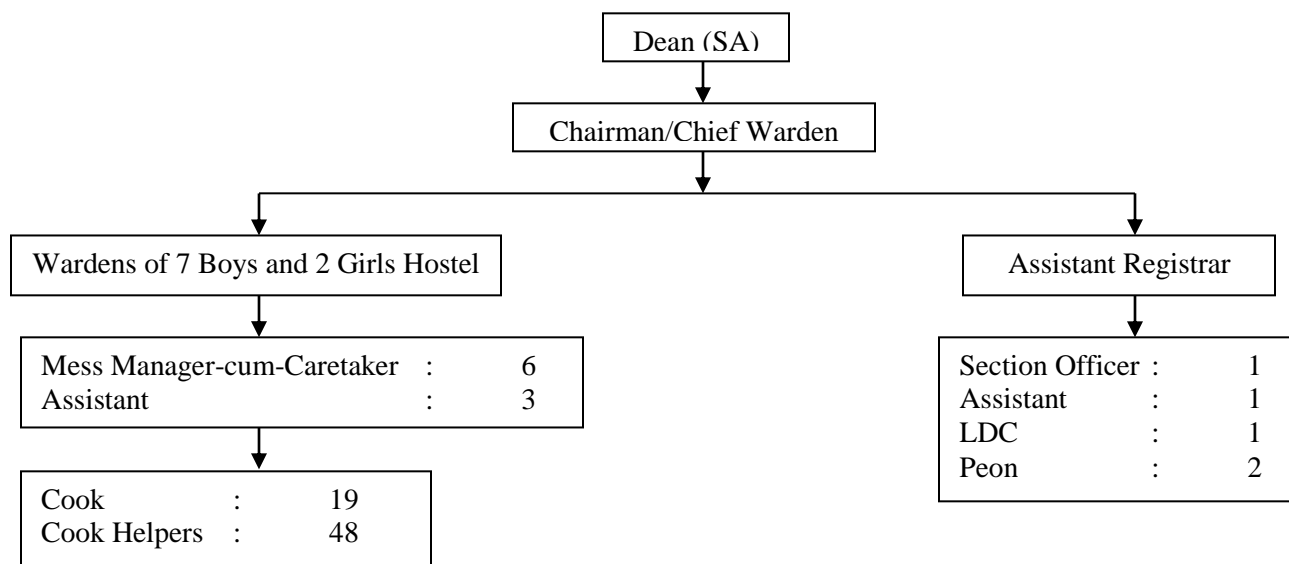
### CAMPUS LIFE AND EXTRA CURRICULAR ACTIVITIES

#### 7.1 HOSTEL MANAGEMENT COUNCIL (HMC)

##### 7.1.1 A brief profile of the Section:

NERIST is a residential technical Institute and declared as Deemed University by Ministry of Human Resource Development, Govt. of India in the year 2005. Students (both boys and girls) are required to stay in the Hostels situated in the Campus. This helps in the development of an integrated personality and enables the students to receive training in corporate living and continuous communication with fellow students and teachers. The Hostel Management Council (HMCV) is an autonomous body for the management of hostel accommodation and mess facilities of seven boys' hostel and two girls' hostel. One new boys hostel of 400 intake is under construction in 54.5 acres area, opposite to PG Boys Hostel and likely to be completed by March 2017.

##### Organizational structure of Office of HMC



##### Status Report

During the year 2015-16, the Chairman/Chief Warden of the Hostel Management Council was Dr. S. S. Gautam, Associate Professor, Department of Mechanical Engineering (up to July, 2016) and later on from August, 2016, Dr. Sandeep Singh, Associate Professor, Department of Mechanical Engineering took over the charge and till continuing.

A brief detail of the Hostels is given below:

Sl. No.	Hostel Block	Hostel Capacity	Mess Caretakers/ Assistants	Manager-cum-	Wardens
1	A	124	Mr. E. N. V. Nair		Dr. Kh. Hera Ch. Singh
2	B	124	Mr. Dorjee Shongmu		Dr. M. Hassan
3	C	124	Mr. P. C. Das/Mr. B. Patir		Mr. A. K. Chowdhury
4	D	124	Mr. P. Barman		Mr. S. Tamang
5	E	250	Mr. A. Gogoi		Mr. A. K. Gautam and Dr. K. Borah
6	F	250	Mr. E. N. V. Nair		Mr. Akhilesh Sharma
7	G	250	Mrs. M. Roy Choudhury		Mrs. Y. Bidya Laxmi Devi
8	H	250	Mr. T. Mathew		Dr.M.Mall
9	Subansiri	250	Mrs. N. Siyum		

### **Highlights**

Like previous years, a Hostel level Anti-Ragging Squad was constituted to visit hostels between 8 p.m. and 12 a.m. for three weeks after admission of new students, to add confidence in the minds of new entrants. The squad consisted of Faculty members including the Hostel Wardens. The Institute constituted an Anti-Ragging Committee as per the guidelines of UGC.

The Independence and Republic Days were celebrated in all the Hostels by hoisting the National Flag by the respective Wardens/Chief Warden/Dean (SA) in the front of the respective Hostel Blocks.

The Boarders of Hostels have celebrated Block Day separately in each Hostel Block. The Director, Deans, Registrar, Chief Warden, Hostel Wardens and other Faculty members were invited in the said function.

## **7.2 NATIONAL CADET CORPS (NCC)**

### **7.2.1 A Brief Profile of the Section**

NERIST is having two NCC wings one is SD (Boys), which is fully funded by Non-plan of NERIST, and another one is SW (Girls), which is centrally funded by Tezpur NCC unit directly. For the academic year 2015-16 total students enrolled is given below:

Cadets Enrolled	SD ( Boys )	SW ( Girls )
1 <sup>st</sup> Year	73	10
2 <sup>nd</sup> year	39	8
3 <sup>rd</sup> Year	86	19
Extension	19	8
<b>Total</b>	<b>217</b>	<b>45</b>

**i) Manpower status**

	<b>Present</b>	<b>Requirement</b>	<b>Deficiency</b>
ANO/CTO	02	02	NIL
Supporting staff	02	04	02

**ii) Infrastructure**

	<b>Present</b>	<b>Requirement</b>	<b>Deficiency</b>
Office	01	01	NIL
Store room (Big )	01(Small)	02	01

**iii) Budget allocation**

During the session 2015-2016 a total of ₹.1,44,413.00 (Rupees One Lakh Forty Four Thousand Four Hundred Thirteen only) was spent, towards the Independence parade (₹19,098/-), Republic day parade (₹ 15,000/-), washing and refreshment allowance distribution for the students (₹ 110315.00/-) were incurred .

**7.2.2 STATUS REPORT REGARDING ACTIVITIES**

**i) Parades Conducted**

Total 37 parades

**ii) Ceremonial Drill participated**

a) Independence Day (15-08-2015): 48 SD & 24 SW Cadets

b) Republic Day (26-01-2016) : 54 SD & 24 SW Cadets

**iii) Camps Attended by the NCC cadets**

Total 2 camps

a) NIC Camp at AVC COLLEGE, MAYILADUTHURAI, TN

W.E.F. 14/10/2015 to 25/10/2015

b) CATC Camp at RGGP, ITANAGAR, AR

W.E.F. 03/09/2015 to 12/09/2015

**iv) ED Grades**

The following numbers of cadets were evaluated for the ED courses:

<b>Course</b>	<b>SD (Boys)</b>	<b>SW (Girls)</b>	<b>Total</b>
ED-2288	<b>25</b>	<b>4</b>	<b>29</b>
ED-4288	<b>27</b>	<b>7</b>	<b>34</b>
ED-6288	<b>15</b>	<b>1</b>	<b>16</b>
<b>Total</b>	<b>67</b>	<b>12</b>	<b>79</b>

**7.2.3 HIGHLIGHTS**

- i) 'B' Certificate Exam Passed - 32 Cadets (**27SD + 5 SW**)

List of SD CADETS 'B' Certificate Exam Passed



Sl.No	Regt. No	Name of Cadet	Date of Enrolment
1	APSD/13/120220	PUSPAL MANNA	<b>JULY 2013</b>
2	APSD/13/120204	SUBHAJIT PAUL	<b>JULY 2013</b>
3	APSD/13/120207	BIJIT SUTRADHAR	<b>JULY 2013</b>
4	APSD/13/120242	UJJAL SARKAR	<b>JULY 2013</b>
5	APSD/13/120180	LRYNDAH	<b>JULY 2013</b>
6	APSD/13/120160	PANKAJ KUMAR	<b>JULY 2013</b>
7	APSD/13/120193	KUMAR GAURAV	<b>JULY 2013</b>
8	APSD/13/120203	HEISHNAM JIMBROWN	<b>JULY 2013</b>
9	APSD/13/120170	ATOM UTTAM KUMAR	<b>JULY 2013</b>
10	APSD/13/120176	ANIMESH DEB	<b>JULY 2013</b>
11	APSD/13/120198	HIMANSHU BURMAN	<b>JULY 2013</b>
12	APSD/13/120221	Y ROBERT SINGH	<b>JULY 2013</b>
13	APSD/13/120234	S THANGKHANLEN HAOKIP	<b>JULY 2013</b>
14	APSD/13/120201	SIDHARTH KUMAR RANA	<b>JULY 2013</b>
15	APSD/13/120224	ASHISH KUMAR JHA	<b>JULY 2013</b>
16	APSD/13/120196	ANGRUSH KUMAR SHARMA	<b>JULY 2013</b>
17	APSD/13/120175	VIKASH PANDEY	<b>JULY 2013</b>
18	APSD/13/120236	DIGBIJAY PRASAD	<b>JULY 2013</b>
19	APSD/13/120161	W CISHWANATH SINGH	<b>JULY 2013</b>
20	APSD/13/120243	DEEPIYOTI MAJUMDAR	<b>JULY 2013</b>
21	APSD/13/120214	SUDHANSHU KUMAR	<b>JULY 2013</b>
22	APSD/13/120188	ABHISHEK BABA	<b>JULY 2013</b>

<b>23</b>	APSD/13/120229	SAMUR ISLAM	<b>JULY 2013</b>
<b>24</b>	APSD/13/120228	BAPPA DAS	<b>JULY 2013</b>
<b>25</b>	APSD/13/120189	SHIVAM PARASHAR	<b>JULY 2013</b>
<b>26</b>	APSD/13/120208	ROHIT DEB	<b>JULY 2013</b>
<b>27</b>	APSD/13/120202	MALLEMNGANBA SANSAM	<b>JULY 2013</b>
Sl.No	Regt. No	Name of Cadet	Date ofEnrolment
<b>1</b>	APSD/13/120220	PUSPAL MANNA	<b>JULY 2013</b>
<b>2</b>	APSD/13/120204	SUBHAJIT PAUL	<b>JULY 2013</b>
<b>3</b>	APSD/13/120207	BIJIT SUTRADHAR	<b>JULY 2013</b>
<b>4</b>	APSD/13/120242	UJJAL SARKAR	<b>JULY 2013</b>
<b>5</b>	APSD/13/120180	LRYNJAH	<b>JULY 2013</b>
<b>6</b>	APSD/13/120160	PANKAJ KUMAR	<b>JULY 2013</b>
<b>7</b>	APSD/13/120193	KUMAR GAURAV	<b>JULY 2013</b>
<b>8</b>	APSD/13/120203	HEISHNAM JIMBROWN	<b>JULY 2013</b>
<b>9</b>	APSD/13/120170	ATOM UTTAM KUMAR	<b>JULY 2013</b>
<b>10</b>	APSD/13/120176	ANIMESH DEB	<b>JULY 2013</b>
<b>11</b>	APSD/13/120198	HIMANSHU BURMAN	<b>JULY 2013</b>
<b>12</b>	APSD/13/120221	Y ROBERT SINGH	<b>JULY 2013</b>
<b>13</b>	APSD/13/120234	S THANGKHANLEN HAOKIP	<b>JULY 2013</b>
<b>14</b>	APSD/13/120201	SIDHARTH KUMAR RANA	<b>JULY 2013</b>
<b>15</b>	APSD/13/120224	ASHISH KUMAT JHA	<b>JULY 2013</b>
<b>16</b>	APSD/13/120196	ANGRUSH KUMAR SHARMA	<b>JULY 2013</b>
<b>17</b>	APSD/13/120175	VIKASH PANDEY	<b>JULY 2013</b>

<b>18</b>	APSD/13/120236	DIGBIJAY PRASAD	<b>JULY 2013</b>
<b>19</b>	APSD/13/120161	W CISHWANATH SINGH	<b>JULY 2013</b>
<b>20</b>	APSD/13/120243	DEEPIYOTI MAJUMDAR	<b>JULY 2013</b>
<b>21</b>	APSD/13/120214	SUDHANSHU KUMAR	<b>JULY 2013</b>
<b>22</b>	APSD/13/120188	ABHISHEK BABA	<b>JULY 2013</b>
<b>23</b>	APSD/13/120229	SAMUR ISLAM	<b>JULY 2013</b>
<b>24</b>	APSD/13/120228	BAPPA DAS	<b>JULY 2013</b>
<b>25</b>	APSD/13/120189	SHIVAM PARASHAR	<b>JULY 2013</b>
<b>26</b>	APSD/13/120208	ROHIT DEB	<b>JULY 2013</b>
<b>27</b>	APSD/13/120202	MALLEMNGANBA SANSAM	<b>JULY 2013</b>

List of SW CADETS 'B' Certificate Exam Passed

SINo	Regt. No	Name of Cadet	Date ofEnrolment
<b>1</b>	AP/GP/SW/13/13091	ROMI KINO	<b>JULY 2013</b>
<b>2</b>	AP/GP/SW/13/13092	LAVINA TAMANG	<b>JULY 2013</b>
<b>3</b>	AP/GP/SW/13/13095	NIKITA PAUL	<b>JULY 2013</b>
<b>4</b>	AP/GP/SW/13/13097	KOJ SUMPI	<b>JULY 2013</b>
<b>5</b>	AP/GP/SW/13/13096	JUNESH KUMARI	<b>JULY 2013</b>

- i) 'C' Certificate Exam Passed - NIL
- ii) 'B' certificate appeared and result waiting 6(3SD+ 3SW)

Sl. No	Regimental No.	Name	Date of Enrolment
1	APSD/14/120279	NISHI KANTA DAS	JULY 2014
2	APSD/14/120281	DOROLI MONGZAR	JULY 2014
3	APSD/14/120292	JAYANTA KALAI	JULY 2014
4	AP/GP/SW/13115	SAVITA KUMARI	JULY 2014

5	AP/GP/SW/13110	LARIKYNTI MASSAR	JULY 2014
6	AP/GP/SW/13112	REBECCA LALPARMAWII	JULY 2014

iii) 'C' Certificate appeared / result waiting 16(12 SD +4 SW)

Sl. No	Regimental No.	Name	Date of Enrolment
1	APSD/13/120176	ANIMESH DEB	JULY 2013
2	APSD/13/120208	ROHIT DEB	JULY 2013
3	APSD/12/120144	RAVINDRA RAJ BM	JULY 2012
4	APSD/12/120124	C LALHRUAITLUANGA	JULY 2012
5	APSD/13/120193	KUMAR GAURAV	JULY 2013
6	APSD/13/120188	ABHISHEK BABA	JULY 2013
7	APSD/13/120203	HEISNAN JIMBROWN SINGH	JULY 2013
8	APSD/13/120170	A. UTTAMKUMAR SINGH	JULY 2013
9	APSD/13/120198	HIMANGSHU BARMAN	JULY 2013
10	APSD/13/120242	UJJAL SARKAR	JULY 2013
11	APSD/13/120243	DEEPLYOTI MAZUMDER	JULY 2013
12	APSD/13/120214	SUDHANSHU KUMAR	JULY 2013
13	AP/GP/SW/12/13059	LIZA DEY	JULY 2012
14	AP/GP/SW/12/13058	PALLAVI KUMARI	JULY 2012
15	AP/GP/SW/12/13057	MERLIN MARIA SALON	JULY 2012
16	AP/GP/SW/13/13091	ROMI KINO	JULY 2013

**7.2.4 LIST OF COMMITTEE MEMBERS, IF ANY: NIL**

**7.2.5 ANY OTHER RELEVANT INFORMATION/DATA: NIL**

## 7.3 NATIONAL SERVICE SCHEME (NSS)

### 7.3.1 A Brief Profile of the Section

Dr.A.Dinamani Singh,Coordinator, NSS Unit NERIST, participated actively in various NSS programmes to guide and motivate NSS volunteers. Other Programme Officers and Group Leaders also extended very good support and cooperation leading to the success of the NSS programmes. One Group 'C' and One Group 'D' employees are in the NSS Cell to look after the office works and also to assist the Coordinator, Programme Officers and Group Leaders for smooth conducting of the NSS programmes and camps.

1. Total No. of Volunteers enrolled :971 Nos.
2. Male : 750 Nos.
3. Female : 221 Nos.
4. No. of Male Volunteers (APST) : 163 Nos.
5. No. of Female Volunteer (APST) :40 Nos
6. Name of NSS Programme  
Co-Ordinator :Dr.A.Dinamani Singh
7. No. of trees planted during  
year 2014-15 : 210 Nos.

### 7.3.2 Status Regarding Activities

NSS activities for the Academic Session 2015-16 commenced with an orientation programme with the newly joined volunteers on 15.8.2015. Prof.P.K.Das, Director, NERIST participated in the orientation programme, who highlighted in his address about the importance of NSS and its role played for the development of a person. Dr.A.Dinamani Singh, Coordinator, NSS also addressed the newly joined volunteers and enlightened about the aims and objectives of NSS, significance of its motto, badge, about the role expected from an NSS volunteers etc. A lecture was also delivered by Prof.Binay Singh, Dean(SA) about the aims and objectives of NSS.

The National Service Scheme Cell of NERIST observed the NSS day on 24.09.2015. The occasion was marked by a function followed by plantation of tree and awareness campaign on Environment. The ceremony was attended by Program Officers and Volunteers. Speaking on the occasion, the Co-ordinator of the NSS Cell, NERIST emphasized the role of the NSS for the welfare of the society. He also stated that keeping the all-round developments and changes taking place around us the horizon of NSS needs to be enlarged.

Regular activity was organized on 15.8.2015 22.8.2015, 02.10.2015, 23.1.2016 at NERIST main campus and Degree block. Approximately 500 number of volunteers participated in it. The campus cleaning along with plantation of 250 saplings were carried out at Degree block.

A Massive Blood donation camp was organized by NSS cell, NERIST, Nirjuli (A.P) in coordination with Naharlagun General Hospital and Medical Health Unit, NERIST on 29.8.2015, 5.3.2016. 250 Nos of NSS Volunteers, Programme Officer, donated blood out of which 50 were girls. The Blood donation camp was followed by a lunch party at NERIST Guest house for Doctors, Technician, Medical Staff and Programme officers.

### 7.3.3 SPECIAL CAMP REPORT

A special NSS camp was organized from 27.2.2015 to 28.2.2015 by the NSS volunteers of NERIST at the Dikrong river area. The camp was attended by Dean (SA), Coordinator, around 250 student volunteers and Program officers of NERIST along with some Doimukh villagers. The cleaning of river side was taken up by the NSS volunteers on war foot and cleaned the area of the river. The programme was successfully completed by the NSS volunteers in two days very actively. The waste and other dust, which was dumped around the river area was completely removed and cleaned by the NSS volunteers. This programme was followed by a special lunch to the NSS volunteers and participated villagers.

#### List of NSS Committee

1. Ms. Margret Kathing	Programme Officer
2. Dr.Awadhesh Kumar	Programme Officer
3. Dr. Ajanta Kalita	Programme Officer
4. Dr.K.Herachendra Sing	Programme Officer
5. Dr.S.DhirenMeeti	Programme Officer
6. Dr.Akbari Jahan	Programme Officer
7. Mr.R.K.Mangang	Programme Officer
8. Dr.J.Bhuyan	Programme Officer
9. Ms.Piyali Das	Programme Officer
10. Mr.Govind Panging	Programme Officer
11. Mr.Arun Kr. Choudhury	Programme Officer
12. Mr.M.Edison Singh	Programme Officer
13. Mr.Akhilesh Sharma	Programme Officer
14. Md.Mujaheed Khan	Programme Officer
15. Mr.P.Devchandra Singh	Programme Officer

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### **'No solution without sovereignty & integration: says NSCN**

**DIMAPUR, Aug 16:** NSCN (IM) General Secretary Th. Muivah said on Friday (Aug 14th) there can be "no solution whatsoever" without fulfilling the two core issues of "sovereignty" and "integration" of Naga inhabited areas.

"...Without integration there will be no solution whatsoever...don't doubt, we are standing for integration at any cost," the NSCN (IM) leader stated in his address as chief guest at the 69th Naga Independence Day celebration held at the NSCN (IM) council headquarters Hebron, in the outskirts of Dimapur, reports The Morung Express.

Muivah termed reports that the NSCN (IM) had given up on sovereignty and integration as propaganda by vested interests who are trying to manipulate the situation. "God knows how many times we have been talking about this (sovereignty and integration). Keeping the Nagas divided, can there be a solution? If this is not respected, then there can be no solution," he said.

Muivah said the NSCN had made it clear to Government of India that if a solution is to be arrived at, then the latter has to honour the wishes of the Naga people and that India should not always try to please others (states or communities) at the expense of the Nagas.

He said even the Indian leaders have understood the position of the NSCN (IM) on integration and assured to "work out on that" despite practical difficulties.

On Wednesday last, Thuingaleng Muivah sought to allay apprehension on the signed 'framework agreement' and underlined "peaceful co-existence" between the Indian Union and Naga people as the core principle of the framework. The NSCN leader, addressing a civic reception organised by Naga Hoho from a bullet proof enclosure, said the NSCN (IM) entered into political talks only after India accepted these three points: recognizing the uniqueness of Naga history that Nagas were never under India, that Nagas did not kill any Indian civilian in the course of the struggle for self determination and the universal principle that in democracy, sovereignty lies with the people. Muivah also said Nagas should forge friendly relations with their neighbours.

"We have a lot of problem with our neighbours, the Assamese, Arunachalees, the Meiteis and others. We are ready to understand them, not through physical confrontation but through mutual understanding, because that is the only way to solve the problem and co-exist as neighbours, he said. (Courtesy, The Morung Express)

### **Peace is paramount: Nabam Tuki State celebrates 69th I-day**

**ITANAGAR, Aug 16:** Pointing out that development is not possible without peace, the Chief Minister Nabam Tuki on Saturday said, "It is the duty of my government to ensure a peaceful atmosphere through affective

### **News Impact**

#### **Presidential recognition for Tachang Sangyu**

**ITANAGAR, Aug 16:** Amongst the many soldiers whose sacrifices and services were given due recognition during this year's Independence Day, one among them was Tachang Sangyu,

Hailing from Pabua village in East Kameng district, Sangyu joined the Indian Army in 2005. The thirty-year old is a sepoy in the 30 Rajput Regiment currently posted in Ranchi and was part of the army's Operation Rakshak.

Counter-insurgency operations by the Army, paramilitary, and police forces in Jammu and Kashmir are termed Operation Rakshak III, Operations Rakshak I and II were conducted by the army in Punjab during 1990-91. Initially the Army's role in J&K was limited to curbing infiltration from the border, as in Punjab, while the insurgents were fought by the J&K Police, the CRPF, and the BSF. However, when the extent of Pakistan's involvement became clear and it was realized that a proxy war was on, the Army stepped in to lead the fight.

Sangyu, along with 11 other soldiers of various ranks and regiments who were part of Operation Rakshak were awarded the President of India's Mention-in-Despatches this year.

#### **Fresher's orientation programme of NERIST NSS cell held**

**ITANAGAR, Aug 16:** The NSS cell of NERIST organised the fresher's orientation programme in its auditorium yesterday. This academic year, 220 students enrolled to NSS. The highlights of the orientation programme were motivational talks, student's presentation and award distribution ceremony.

Speaking on the occasion, Director NERIST Prof. P. K. Das recalled his earlier days as a NSS volunteer. He emphasized that the present day youths need to play a critical role in enhancing the image of the nation. He called upon all the students to keep the campus and its surrounding neat and clean.

Dean, Students Affair, Prof. Binay Singh, spoke about the importance of voluntary blood donation. He urged all the students to donate blood during camps and whenever needed. He further stated that all the volunteers must be punctual and well disciplined.

Student Group leaders, Ajay Kumar Gupta, Priya Tiwari and Niraj Mishra made presentations on voluntary blood donation, Drug Abuse and activities of NSS cell of NERIST respectively.

13 other officials rafted down from Bomjir upto Para-Tamuk on an inflatable boat (covering 60 kilometers on the river) to assess the flood damage.

After interacting with the marooned villagers at both Bizen and Anpum villages, Tayeng assured all possible help, reaching out to the affected people, she assured immediate relief to them. At Anpum village, the MLA announced Rs.10 lakhs for immediate relief and Rs.5,00,000 to the social service team for erecting flood erosion protection works. She further assured of appraising the higher authorities for immediate relief and restoration in the affected villages.

The villagers have sought for immediate diversion of the Dibang River to its main course into Dotung River so that further destruction could be avoided. They also demanded for construction of flood protection wall along the river bank.

Earlier, ADC Dambuk also announced Rs. 1 lakh to the villagers for taking up flood erosion control services.

### The Bamboo Stick released

#### Do not exhaust bamboo: Governor Rajkhowa

**ITANAGAR, Aug 29:** The Bamboo Stick, a graphic novel by Daniel Ering was released today at the Raj Bhawan by Governor of Arunachal Pradesh SP Rajkhowa.

Published by Audrey Apang on behalf of The Arunachal Times Publication, under its Empower Initiative, which aims to empower institutions and create capacity launched to mark the 25th year (1989-2014) of the Daily, the book is an illustration of how nature has given us everything in abundance and what all societies need to do is to make best use of what is naturally and locally available.

The Governor lauded the timely release of the book in the backdrop of renewed interest on natural resources which is environment friendly.

He termed the initiative of the Arunachal Times Publication laudable and hoped that the book will be published in Hindi, regional as well Arunachalese languages.

The book has beautifully explained the relevance of bamboo in our lives with a pan Arunachal story line, he said. Speaking on the occasion, the Governor said that the bamboo, a unique gift of nature be preserved and people must not exhaust it. He suggested for setting up of bamboo and cane based industries in the state, he further said that Bamboo is the most versatile grass that the world in general and Arunachal in particular is blessed with plentifully. The lives of the people of the region depend largely on Bamboo and is a base for rural lives as well as economy of the region, the Governor said. He added that Bamboo has not lost its utilities even in the face of rapid urbanisation while adding that it is environmentally sustainable too.

Audrey Apang said that as part of the Empower Initiative, the newspaper endeavours to help unpublished artists, writers, poets and filmmakers in realising their projects. The Bamboo Stick is the first project under the Initiative.

She further informed the Governor that under the Empower Initiative, the Arunachal Times media scholarship was also launched to promote research and help in enabling media education in Arunachal Pradesh. A waste paper re-cycling system at the Gonyi Polo Mission School for the Hearing Impaired, Itanagar was also set up as part of the Initiative, she added.

Author Daniel Ering who grew up amidst nature in Sile village in East Siang draws inspiration from nature and its surroundings. He worked as a part time cartoonist for The Arunachal Times. An employee of the North Eastern Electric Power Corporation Ltd., Daniel has a Masters degree in History from Rajiv Gandhi University, Centre for Cultural Research and Documentation, Naharlagun (CCRD) is the Editing Consultants and RGU's Assistant Professor Mayir Riba, who is also the Director Programmes and Administration CCRD handled the production management and Terigam Rina, Journalist is the Editor of the book.

### Rodents gobbled up computers and accessories, says Edu. dept

[ Karyir Riba ]

**ROING, Aug 29:** Disappearance of computers and accessories from Secondary School, Desali that were sanctioned under ICT in 2007-08 has sparked massive public reaction in Desali.

The youth of the village were angered about the disappearance that these items were handed over to the school authority in 2007, which was later unearthed by documents under RTI Act.

As per information obtained through RTI, the then Headmaster of the SS Desali was intimated by the DDSE office to send a representative for collection of the computer sets at Hunli through a WT message on December 26, 2007. A copy of this WT message was also produced through RTI Act which clearly shows the message was addressed to the Headmaster signed by the then DDSE.

The RTI report further informs that although the DDSE had instructed the Headmaster to confirm the receipt of the computers in the WT message, no such confirmation letter was sent by him.

It was later found that the then IT facilitator of the school had confirmed that these computers were received by him from the supplier, M/S Teledata Informatics Ltd, Chennai.

The computer sets included 10 computer tables, 40 chairs, 10 UPS,

transferring of government employees after three years and reduction of bank guarantee from 5 percent to 2 percent for tribal contractors.

### Blood donated

**ITANAGAR, Aug 29:** The All East Kamang Capital Complex Students' Welfare Association today donated six units of blood to RK Mission hospital.

### Compensation sought

**ITANAGAR, Aug 29:** Claiming that the private residence of one Akokong Minna at Yingkiang was completely gutted down in a fire incident on April 17 last, the Komkar Welfare Society has urged the concern authority to compensate the victim.

The society further informed that properties worth Rs. 40 lakhs were lost in the incident.

### Verify qualification

**ITANAGAR, Aug 29:** The All Kurung Kumey District Students' Union (AKKDSU) has called for verifying the educational qualifications and experiences of BKCCs, CRCCs, BLOs and DPCs serving under SSA in Kurung Kumey district. The union wrote to the Secretary Education in this regard.

### Seeks authority to verify ILP application

**ITANAGAR, Aug 29:** Alarmed with growing number of illegal immigrants in Upper Subansiri district, All Arunachal Pradesh Labour Union (AAPLU), Upper Subansiri District Unit has urged the Chief Secretary to authorise the Market Welfare and Gaon Burahs to verify Inner Line Permits (ILP) in the district. Claiming that the Union knows the ground reality of the labour and law & order related problems, it also demanded the Chief Secretary to authorise them to verify ILP verification.

### Meeting held on stalling of project

**ITANAGAR, Aug 29:** A meeting regarding stalling of the project, Kamra BRTF road to Darak vide, package no. AR/12/07/015' under Chairmanship of Chief Executive Officer, ARDDA, RWD, Itanagar was convened today.

Representatives from the concern area pointed out that no action has been initiated by the department for stalling the road construction even after a lapse of six years since the work started, and called on the department and the contractors for early completion of the project. The road is the life line to 18 villages, stated the representatives. The panchayat leaders also demanded the department to handover the project to DPU-I, Aalo from DPU-II, Basar for administrative convenience.

Superintending Engineer, RWD, Pasighat, N Riga suggested that the present contractor be allowed to carry out with extra time as the contractor has already drawn maximum amount of the tendered amount and re-tendering and litigation will further delay the project.

Executive Engineer, Aalo, T Kena suggested for notice to be served to the contractor for early completion of the project by March 2016.

Empowered Officer, ARDDA, RWD, Itanagar, T K Tagin highlighted for final notice and intimation to contractor for termination of the contract.

Chief Executive Officer, ARDDA, RWD, Itanagar, D. Nyodu, informed the house that positive action will be taken up in consultation with DPU-II, Basar and Superintending Engineer, RWD, Pasighat for completion of the project and informed the house that the department has already initiated action for transferring of PMOSY works under Kaying and Rumpung Block to DPU-I, Aalo.

### Blood Donation Camp at NERIST

**ITANAGAR, Aug 29:** In all, 45 units of blood were collected during a voluntary blood donation camp being jointly organised by the NSS Cell of NERIST in collaboration with Arunachal Pradesh State AIDS Control Society, Arunachal State Hospital, RK Mission Hospital and Viveka Yuva Shakti at NERIST health unit in Nirjuli today.

Speaking on the occasion, Deputy Director (Blood safety) Dr. Nabam Budh informed that the need for blood in Arunachal State Hospital, Naharlagun is increasing as many patients undergo chemo-therapy. ASH Pathologist Dr. Pasang Sona also appealed more voluntary blood donors to come forward and donate as often as they can to ensure that the ASH blood bank do not face shortage of blood.

Dean (SA) Prof. Binay Singh and NSS Cell of NERIST coordinator Dr. A. Dinams Singh also encouraged the young students to donate blood and motivate other eligible youths.



# NERIST NSS clean up Dikrong River

February 29, 2016

**ITANAGAR, Feb 28:** The student volunteers of NSS Cell of NERIST cleaned the northern bank of Dikrong River from Doimukh RCC bridge to hanging bridge during a special camp on Sunday.

The volunteers interacted with the picnic parties and requested them not to throw bottles in the river. The students also held an awareness camp to keep the river banks clean.

Prof. Binay Singh, DEAN (SA), spoke on the importance of maintaining and restoring eco-system and also the effects of river pollution.

Dr. A. Dinamani Singh, Coordinator NSS, said that there will be acute shortage of fresh water in the coming years and Dikrong being one of the major rivers of Arunachal Pradesh should be taken care of .

Around 250 NSS volunteers took part in the special camp.

# Voluntary blood donation camp at NERIST

March 6, 2016

**ITANAGAR, Mar 5:** A total of 66 units of blood were collected during a blood donation camp organized at NERIST Health Unit by the NSS Cell of NERIST in collaboration with the TR State Hospital and Arunachal Pradesh State AIDS Control Society, Naharlagun. Around 70 donors both boys and girls turned up for the camp. Many of them were regular donors. Certificates were also distributed to the donors.

Speaking on the occasion, Coordinator NSS, Dr. A. Dinamani Singh stated that NERIST being home to around 2000 students can play a major role in fulfilling the blood requirement of capital city. He further stated that other than regular donation camps NERIST students are also donating blood on call.

Addressing the gathering, Deputy Director SBTC, Dr. Nabam Budh spoke about blood science.

Blood forms a major component of Hospital treatment system and there are time when people cannot be cured only with medicines, he said.

Blood Bank Officer, TRSH, Dr. Sona Pasang highlighted the use of blood and its components in treatment of various diseases. She informed the students that there will be no shortage in the supply of blood in ASH and the state in general if every youth of the state donate blood twice a year.

Assistant Director, VBD, APSACS, Dony Tayeng spoke on the various precautions a donor has to take before and after donation. He also stated that the best quality of blood is obtained from voluntary donors.

## 7.4 ESTATE OFFICE

### 7.4.1 A Brief Profile of the Office

The Estate Office has been established to look after day to day estate matters of the Institute, dealing with matters like land encroachment, illegal construction, Liaisoning with the external agencies like Deputy Commissioner Papumpare, Deputy Commissioner Capital, District Land & Revenue & Settlement Officer, Additional District Magistrate Itanagar, EAC, Naharlagun etc and dealing with legal matters related to land encroachments and others. The Estate Office works also include field visits extended to the entire campus and day to day records keeping works, like House Allotments and issue of furniture to quarters, etc.

Strength of existing staff other than Estate Officers:

1. Assistant Estate Officer.
- 2.UDC-01 Nos.
3. Peon 01 nos.
4. TS employee- 01 nos.
5. Hand receipt -01 nos.

Estate Office is an important branch/section of the institute which is managing its activities with limited permanent manpower to look after day to day field and office works. Though there is lack of proper manpower, the Estate Office has been discharging its duties sincerely and efficiently.

Institute Quarters at present:

Sl. Nos.	Type of Quarter/Accommodation	Total Nos of Quarter/Accommodation	Remarks
01.	Type-I	132 numbers	Double Storey
02.	Type -II	124 Numbers	Double Storey
03.	Type - III	122 Numbers	Single/Double Storey
04.	Type-IV	98 Numbers	Single/Double Storey
05.	Type-V	20 Numbers	Single/Double Storey
06.	BTA	09 Numbers	Single Storey
07.	Type-VI	01 Number	Directors Banglow

## 7.5 EDUCATIONAL TECHNOLOGY CELL

### 7.5.1 A Brief Profile of the Cell

The ET cell has been established as a project sponsored by the MHRD, Govt. of India with an objective to increase the effectiveness of teaching-learning process with the help of modern audio-visual equipment and Information and Communication Technology(ICT). Presently, the cell mainly manages and maintain the Internet Connectivity to the Institute, Local Area Network(LAN), Wi-Fi LAN, Server Farm, and different services. The Cell consists of processing laboratory, seminar room, and board room that are well equipped with the state of art audio-visual equipment. These are used for Seminars, Conferences, Workshops and special lectures by faculty members and professionals from institutions and industries.



### 7.5.3 Network Devices/Servers:

Network Devices			
Sr. No	Item	Quantity	Objective
1	UTM/Firewall(Cyberoam 2500iNG)	1	To provide userbase Internet access, traffic filtering and restricting.
2	Core Switch (Cisco 6509)	1	All NERIST Campus Network Segments are interconnected through Core Switch.
3	Distribution switch (Cisco 4503)	1	All LANs of Degree Blocks are connected to distribution Switch.
4	Access Switch	68	All Departments/Sections/Hostels users are connected through Access Switches.
5	Wireless Controller (Ruckus ZD3000)	2	Manage policies, rules and configurations of all Access Points.
6	Access Points (Ruckus ZF 7782)	30	To provide Wireless connectivity to residential area.
7	SAN Switch(Brocad)	1	To provide connectivity between storage and servers over fiber channel.
Servers and Storage:			
8	Dell PowerVault R430 Rack Server	6	Using for Automation (App Server1, App Server2, DB Server, Load Balance Server) and Hyper-V node.
9	Storage Power Vault MD 3000	1	Using for Automation.
10	IBM SystemX Rack Server	3	Using for Hyper-V node, Microsoft SCCM, and AD Sever.
11	IBM and HCL Tower Server	3	Using for Public DNS, Web Server, and Mail Server.

#### **7.5.4 Status Report Regarding Activities, 2015-2016:**

1. Wi-Fi LAN of Residential areas are upgraded with high-end devices. WiFi Controller upgraded from ZD 1000 to ZD 3000 (with redundancy) and 30 Access Points are deployed to cover the Residential areas.
2. Active Directory Server deployed with redundancy for Centrally management of Internet/Intranet Users. Active Directory also facilitates single Sign on for multiple systems.
3. User-based Internet Access which facilitates only authorized user of NERIST campus LAN can access Internet for increased security and better services.
4. Radius Server deployed which facilitates only authorized user can connect to Wi-Fi.
5. Deployed/Upgraded Microsoft Operating System Licences for 300 users.
6. Deployed/Upgraded Microsoft Office Licences for 300 users.
7. Microsoft Hyper-V virtual server infrastructure developed which facilitates to create machine multiple virtual machines cost effectively.
8. New Institute Website along with full featured CMS (Content Management System) is under development and will be completed within next month.
9. An alternate ISP link of 100 Mbps from RailTel is proposed which will facilitate backup link of NKN ISP Link.
10. Deployed two 6 KVA UPS at ET Cell, Server Room in Redundant mode with two hours' backup.

#### **7.6 GYMKHANA**

##### **7.6.1 A Brief Profile:**

The student activities other than academics are facilitated and monitored by Gymkhana office. This includes participation to many inter university events like sports and cultural activities at IITs, NITs and nearby universities like Rajiv Gandhi University and Tezpur University apart from year long events at NERIST campus. NERIST Sports club, Synergy and Sonabyss are the main organizing bodies for sports, athletics and cultural events respectively, inside the campus. All the organizing clubs are headed by the Chairman Gymkhana working in consultation with the Dean –SA. Gymkhana also provides logistics and administrative help in conduct of technical festival-SHRISTI.

In the year 2015-16, Gymkhana organized year long sports events like hostel wise championships for Football, Volleyball, Basketball, Carrom, Badminton, Table tennis and Cricket. During January 2015, athletic meet was organized with events like Sprints of various span, Hurdles of various spans, Javelin throw, Cross country race, Shot-put, Triple Jump, Long Jump, Hammer Jump, Relay race and a few more events. Prize and certificate distribution for the events conducted during the whole year was taken up during this meet. During September 2015, Sonabyss – 15 was celebrated which was a covered with many musical and cultural events organised and participated upon by the students.

Mr. Priyam Dutta and Mr. Rounak Basu of Mechanical Engineering Department represented NERIST at NIT – Arunachal Pradesh in elocution events and bagged first prize, which was a cash award of INR 10000. The cash award and the certificates were handed over to them during the Republic day 2016 celebration at NERIST.

The student activities other than academics are facilitated and monitored by Gymkhana office. This includes participation to many inter university events like sports and cultural activities at IITs, NITs and nearby universities like Rajiv Gandhi University and Tezpur University apart from year long events at NERIST campus. NERIST Sports club, Synergy and Sonabyss are the main organizing bodies for sports, athletics and cultural events respectively, inside the campus. All the organizing clubs are headed by the Chairman Gymkhana working in consultation with the Dean –SA. Gymkhana also provides logistics and administrative help in conduct of technical festival -SHRISTI.

## **7.7 TECHNICAL EDUCATION QUALITY IMPROVEMENT PROGRAMME (TEQIP)**

### **7.7.1 A Brief Profile:**

TEQIP II was awarded to NERIST in 2011. NERIST received funds from World Bank under TEQIP II (Technical Education Quality Improvement Programme). The proposed Project, second phase of Technical Education Quality Improvement Programme is fully integrated with the Eleventh Five-year Plan objectives for Technical Education as a key component for improving the quality of Education in existing institutions. TEQIP Goal: To scale-up and support ongoing efforts of the Government of India to improve quality of Technical Education and enhance existing capacities of the institutions to become dynamic, demand-driven, quality conscious, efficient and forward looking, responsive to rapid economic and technological developments occurring at the local, State, National and International levels. It has a clear focus on the objectives to improve the overall quality of existing Engineering Education. Project Objectives: The Project focussed on the following objectives: • Strengthening institutions to produce high quality Engineers for better employability, • Scaling-up Postgraduate Education and demand-driven Research & Development and Innovation, • Establishing Centres of Excellence for focused applicable research, • Training of faculty for effective Teaching, and • Enhancing Institutional and System Management effectiveness. Project Scope: Project was open for competition and participation by all the AICTE (All India Council for Technical Education) approved Engineering institutions from all States and Union Territories (UTs) across the country. An estimated 200 Engineering institutions including the Centrally Funded Institutions (CFIs) was competitively selected to improve the learning outcomes and employability of the Graduates and scaling-up research, development and innovations. Eligible private unaided institutions willing to contribute to the vision of India to produce high quality technical manpower were also welcomed to participate in the Project. The Project also supported Universities affiliating project institutions to improve their policy, academic and management practices. The Project was initially planned from 2010 - 2014. It has been extended to 31st March 2017. The fund has been allotted under following heads: Improvement in teaching, training and learning facilities (Procurement)• Providing Teaching and Research Assistantships• Enhancement of R&D and institutional consultancy activities Faculty and Staff development• Enhanced interaction with Industry• Institutional Management Capacity enhancement• Implementation of Institutional Reforms• Academic support for weak students• Incremental Operating Cost• Sanctioned Amount for NERIST is Rs. 10 crore. Till March 2016, NERIST has received Rs. 7.33 crores. As of 31st March 2016, NERIST has spend Rs. 5.35 crores under the various heads as follows: Sl. No. Activities Total fund received till date (Rs.) Category of expenditure (Head of Expenditure) Rs. Total cumulative expenditure upto reporting month (Rs.) 1. Improvement in teaching, training and learning facilities 73300000.0 0 Procurement 31139904.00 2. Providing Teaching and Research

Assistantships to increase enrolment in existing and new PG existing and new PG programmes in Engineering disciplines Assistantship 12326412.00 3. Enhancement of R&D and institutional consultancy activities R&D 0 4. Faculty and Staff development for improved competence based on Training Needs Analysis (TNA) FSD 11061177.00 5. Enhanced interaction with Industry I-I-I cells 184343.00 6. Institutional Management Capacity enhancement Capacity Development 250000.00 7. Implementation of Institutional Reforms Reforms 2944452.00 8. Academic support for weak students Student Support 178500.00 9. Incremental Operating Cost IOC 3239465.00 TOTAL 73300000.0 0 61324253.00 In 2015-16, the procurement has been done in the following areas: Item Catering to Amount (Rs.) ELSEVEIR ONLINE JOURNALS Whole Institute 4316460 Integrated Digital Metallic Podium M-12 Agricultural Engineering Department 696000 ERDAS Upgradation with vector & virtual GIS Agricultural Engineering Department 391960 Camera Canon EOS 70D18 55MM Finger print scanner, 12 U wall mount rack Cat 6 cable, RJ 45 connector Dell power edge T430 server, Monitor Computer Science Engineering Department 2121133 TFT 18.5", I O Box, PC 21.5" Quad-core i5 Protection plan for IMAC Net sim Standard version Fast & Gigabit Ethernet, wireless LAN Legacy networks, BGP, MPLS, Advance wireless network, wi-max, MANET, Cellular network GSM, CDMA, Sensor Networks, WSN Zigbee cognitive Radio network IEEE802.22 WRAN Plasma Module for use with COMSOL Particle tracing module for use with COMSOL Optimization module for use with COMSOL Livelink for MATLAB for use with COMSOL Livelink for Excel for use with COMSOL AC/DC module for use with COMSOL Pulse control unit 32-bit microcontroller Intel 8051 16-bit microcontroller Intel 8096 family DSP starter kit Electrical Engineering Department 2370675 MATLAB Whole Institute 3986811 In the academic and administrative front, NERIST has taken initiatives for NBA accreditation of UG and PG programmes, Industry Institute Interaction, providing scholarship to Non-GATE M.Tech. students, enhancement of R&D, support to weak students through extra special classes, training for officers and staff in Finance, Internal Audit and Procurement etc.



## SECTION –8

### FUND AND AUDIT

The Institute is a Central Scheme of the Ministry of Human Resource Development and is fully funded by the Government of India through the MHRD.

At the beginning of the financial year 2015-16, the institute had an unspent balance of 1384.40 lakhs. During the year, the Institute received 13273.44 lakhs as grant and 297.48 as IRG. This included grant of 0.00 lakhs sanctioned at the fag-end of 2014-15, but received in 2015-16. The unspent balance as on 31.03.2016 is 3818.34 lakhs which shall be utilised during 2016-17. Brief breakup of fund received and expenditure incurred is given as under :-

in lakhs

Details of Account	HEAD			Grand Total (2+3+4)
	PLAN (CAPITAL)	PLAN (GENERAL)	NON PLAN	
1	2	3	4	5
Previous Balance	606.69	240.60	537.11	1384.40
Fund received during 2015-16	6909.22	800.00	5564.22	13273.44
IRG 2015-16	0.00	0.00	297.48	297.48
Expenditure incurred during 2015-16	5203.38	592.36	5341.24	11136.98
Unspent Balance as on 31.03.2016	2312.53	448.24	1057.57	3818.34

The details information related to the accounts of the Institute for the year 2015-16 and the audited accounts of the Institute is given in Annexure -

**MEMBERS OF THE NERIST SOCIETY AS ON 31<sup>ST</sup> MARCH 2016**

- |    |   |          |
|----|---|----------|
| 1. | His Excellency, the Governor of<br>Arunachal Pradesh<br>RajBhawan,<br>Itanagar.<br>Arunachal Pradesh,                             | Chairman |
| 2  | Joint Secretary (TEL)<br>MHRD, Govt. of India,<br>Deptt. of Higher Education,<br>ShastriBhawan, 'C' Wing,<br>New Delhi – 110 001. | Member   |
| 3  | Joint Secretary & FA,<br>IFD, MHRD ,Govt. of India,<br>ShastriBhawan, 'C' Wing,<br>New Delhi-110 001                              | Member   |
| 4. | Hon'ble Minister (Education),<br>Govt. of Assam,<br>DISPUR (ASSAM) - 788006.  | Member   |
| 5. | Hon'ble Minister (Education),<br>Govt. of Mizoram,<br>AIZAWL (Mizoram).- 796 001.   | Member   |
| 6. | Hon'ble Minister (Higher Education),<br>Govt. of Nagaland,<br>KOHIMA (Nagaland)- 797 001.   | Member   |
| 7. | Hon'ble Minister (Higher Education),<br>Govt. of Tripura,<br>AGARTALA (Tripura)- 799 001.   | Member   |
| 8. | Hon'ble Minister (Education),<br>Govt. of Manipur,<br>IMPHAL (Manipur).-795 001.  | Member   |
| 9. | Hon'ble Minister (Education),<br>Govt. of Meghalaya-<br>SHILLONG-793 001.<br>(Meghalaya)  | Member   |

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|-----|--|----------------------|
| 10. | Hon'ble Minister (Education),<br>Govt. of Sikkim,<br>GANGTOK (Sikkim)- 737103.   | Member               |
| 11. | Hon'ble Minister (Education),<br>Govt. of Arunachal Pradesh,<br>Itanagar – 791 111.  | Member               |
| 12. | Dr. Neeraj Sharma,<br>Head (TDT),<br>Ministry of Science & Technology,<br>Department of Science & Technology,<br>Technology Bhawan, New Mehrauli Road,<br>New Delhi - 110 016.                                   | Member               |
| 13. | Dr. Avinash S. Pant (10.04.2015 – 09.04.2018 )<br>Vice-Chairman, AICTE,<br>ChanderLok Building, 7 <sup>th</sup> Floor<br>Janpath, New Delhi – 110 001.<br>Mob.9958411661,011-23724195<br>pantavinash@hotmail.com | Member               |
| 14. | Shri Tarh Nachung(27.08.2015 – 08.03.2018)<br>P-Sector<br>P.O.Nirjuli<br>Dist.- Papum Pare<br>Arunachal Pradesh.   | Member               |
| 15  | Air Marshal (Retd.) Pranab Kumar Barbora,<br>Chairman, BoM, NERIST,<br>C-1201, Celebrity Homes,<br>PalamVihar,<br>Gurgaon – 122017.  | Member               |
| 16  | Prof. P.K. Das<br>Director, NERIST   | Member               |
| 17. | Dr. R.P. Bhattacharjee<br>Registrar, NERIST  | Non-Member Secretary |

**MEMBERS OF THE NERIST BOARD OF MANAGEMENT AS ON 31<sup>ST</sup> MARCH 2016**

- |    |  |          |
|----|--|----------|
| 1. | Air Marshal (Retd.) Pranab Kumar Barbora,<br>Chairman, BoM, NERIST,<br>C-1201, Celebrity Homes,<br>PalamVihar,<br>Gurgaon – 122017.                      | Chairman |
| 2. | The Joint Secretary & FA,<br>IFD, MHRD (Govt. of India),<br>ShastriBhawan, 'C' Wing,<br>New Delhi-110 115.   | Member   |
| 3. | The Joint Secretary (TEL)<br>MHRD, Govt. of India,<br>Deptt.of Higher Education,<br>ShastriBhawan, 'C' Wing ,<br>New Delhi – 110 115.                    | Member   |
| 4. | The Commissioner & Secretary,<br>Higher & Technical Education,<br>New Secretariat Complex, Room No. 402,<br>Govt. of Mizoram,<br>Khatla, Aizawl.-796 001 | Member   |
| 5. | The Secretary,<br>Higher & Technical. Education,<br>Govt. of Sikkim,<br>Gangtok(Sikkim)-737103.  | Member   |
| 6. | The Commissioner & Secretary,<br>Higher & Technical. Education,<br>Govt. of Meghalaya,<br>Shillong-793 001, Meghalaya.                                   | Member   |
| 7. | The Commissioner / Secretary,<br>(Technical Education),<br>Govt. of Nagaland,<br>Kohima-797 001, Nagaland.   | Member   |
| 8. | The Commissioner & Secretary<br>(Higher & Technical Education),<br>Govt. of Manipur,<br>Imphal-795 001, Manipur.   | Member   |

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|-----|--|--------|
| 9.  | The Secretary<br>Technical Higher Education,<br>Govt. of Tripura.<br>Agartala-799 001, Tripura.  | Member |
|     |  | Member |
| 10. | Prof. T. Mibang,<br>Vice Chancellor,<br>Rajiv Gandhi University,<br>Rono Hills, Doimukh 791112.  |        |
| 11. | The Commissioner and Secretary<br>Govt. of Assam,<br>Higher & Technical Education,<br>CM Block, 1 <sup>st</sup> Floor, Dispur,<br>Guwahati – 781 005, Assam                              | Member |
|     |  | Member |
| 12. | The Secretary<br>Technical & Higher Education,<br>Govt. of Arunachal Pradesh,<br>ITANAGAR :: 791 111,<br>Arunachal Pradesh.  |        |
| 13. | Dr. L. Joyprakash Singh<br>Associate Professor,<br>Department of Electronics and Communication Engineering,<br>North Eastern Hill University (NEHU),<br>Shillong - 793022,<br>Meghalaya. | Member |
|     |  | Member |
| 14. | Prof. Gautam Barua<br>Director,<br>Indian Institute of Information Technology,<br>Guwahati, Ambari, Gopinath Bordoloi Road,<br>Guwahati - 781 001.                                       |        |
| 15. | Prof. P.K. Tripathy,<br>Dean (Academic),<br>NERIST, Nirjuli.   | Member |
|     |  | Member |
| 16. | Prof. Md.A. Hussain,<br>Dean (P & D),<br>NERIST, Nirjuli.  |        |

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|-----|---|----------------------------|
| 17. | Prof. Binay Singh<br>Dean (SA)<br>NERIST, Nirjuli   | Member                     |
| 18. | Prof. H.S. Yadav,<br>Professor Deptt of Chemistry,<br>NERIST, Nirjuli.  | Member                     |
| 19. | Mr. D.K. Shyamal,<br>Associate Professor,<br>Department of Agricultural Engineering<br>NERIST, Nirjuli – 791 109,<br>Arunachal Pradesh. | Member                     |
| 20. | Mr. T. Saran, Asstt. Prof.<br>Deptt.of ECE.,<br>NERIST, Nirjuli - 791109.<br>Arunachal Pradesh  | Member                     |
| 21. | Prof. H.S. Yadav<br>Director, NERIST.   | Member                     |
| 22. | Dr.R.P.Bhattacharjee<br>Registrar   | Non-member Secretary (BoM) |

## MEMBERS OF NERIST FINANCE COMMITTEE AS ON 31.03.2016

1. Air Marshal (Retd.) Pranab Kumar Barbora, Chairman, BoM, NERIST	-	Chairman
2. Secretary to H.E. the Governor of Arunachal Pradesh, Itanagar	-	Member
3. The Vice Chancellor, Rajiv Gandhi University, Doimukh, Arunachal Pradesh	-	Member
4. The Commissioner (Education), Govt. of AP., Itanagar	-	Member
5. Additional Secretary & FA MHRD, Govt. of India, New Delhi	-	Member
6. Joint Secretary (TEL), MHRD, Govt. of India,	-	Member
7. Prof. P.K. Das, Director, NERIST	-	Member
8. Dr. R.P. Bhattacharjee, Registrar, NERIST	-	Member
9. Dy. Registrar (Fin), NERIST	-	Ex-officio Non-Member Secretary

## MEMBERS OF ACADEMIC COUNCIL AS ON 31.03.2016

1.	Prof. P.K. Das, Director, NERIST	-	Chairman
2.	Prof. P.K. Tripathy, Dean (Academic)	-	Member
3.	Prof. Md. A. Hussain, Dean (Planning & Development )	-	Member
4.	Prof. B. Singh, Dean (Students Affairs)	-	Member
5.	Prof. M.F. Hussain, Dean (Administration)	-	Member
6.	Prof. N.S. Raghuvanshi, Dept. of Agri. and Food Engg., IIT, Kharagpur, W.B.	-	Member
7.	Prof. Sankar Chandra Deka, Deptt. of Food Engg. & Tech., Tezpur University, Tezpur (Assam)	-	Member
8.	Prof. D.N. Das, Dean, Faculty of Life Science, Rajiv Gandhi University, Doimukh(Itanagar)	-	Member
9.	Prof. DebabrataDas, Head, Deptt. of Business Administration Tezpur University, Tezpur	-	Member
10.	Prof. TomoRiba ,Dean Faculty of Environmental. Science, Rajiv Gandhi University, Doimukh, Itanagar	-	Member
11.	Prof. AnjanDutta, Deptt. of Civil Engg., IIT, Guwahati	-	Member
12.	Mr. TaloPotom, ADM cum CEO, Govt. of A.P, Itanagar	-	Member
13.	Prof. J. Choubey, Deptt. of Mathematics	-	Member
14.	Prof. S.K. Singh, Deptt. of Civil Engg.	-	Member
15.	Prof. Mubarak Hussain, Deptt of Chemistry	-	Member
16.	Prof. H.S. Yadav, Deptt. of Chemistry	-	Member
17.	Prof. M. Muralidhar, Deptt. of ME	-	Member
18.	Prof. S.K. Pandey, Deptt. of Mathematics	-	Member
19.	Prof. (Mrs). P. Rethy, Deptt. of Forestry	-	Member
20.	Prof. P.R. Alapati, Deptt. of Physics	-	Member
21.	Prof. P.P. Dabral, Deptt. of AE	-	Member
22.	Prof. L.K. Arora, Deptt. of Mathematics	-	Member
23.	Prof. K.D. Ram, Deptt.of Chemistry	-	Member
24.	Prof. K.N. Dewangan, Deptt. of AE	-	Member
25.	Prof. SaibalChatterjee, Deptt. of EE	-	Member
26.	Prof. B.D. Nayak, Deptt. of HSS	-	Member
27.	Prof. C.L. Sharma, Deptt. of Forestry	-	Member
28.	Prof. A.S. Rai, Deptt. of Mathematics	-	Member
29.	Prof. N. Deb, Deptt. of Chemistry	-	Member
30.	HoD (CE)	-	Member
31.	HoD (ME)	-	Member
32.	HoD (EE)	-	Member
33.	HoD (AE)	-	Member
34.	HoD(ECE)	-	Member
35.	HoD (CSE)	-	Member
36.	HoD (Physics)	-	Member
37.	HoD (Chemistry)	-	Member
38.	HoD (Maths)	-	Member
39.	HoD (Forestry)	-	Member
40.	HoD (HSS)	-	Member



41.	HoC (CMS)	-	Member
42.	HoC (CATARD)	-	Member
43.	Dr. S.K. Srivastava, Associate Prof., Deptt. of AE	-	Member
44.	Shri D.K. Shyamal, Associate Prof., Deptt. of AE	-	Member
45.	Dr. R.K. Mehta, Associate Prof., Deptt. of EE	-	Member
46.	Dr. M.P. Thadues, Assistant Prof., Deptt. of ME	-	Member
47.	Shri T.V.P. Singh, Assistant Prof., Deptt. of EE	-	Member
48.	Shri K. Legoh, Assistant Prof., Deptt. CSE	-	Member
49.	Controller of Examination	-	Member
50.	Registrar	-	Non-Member Secretary

## MEMBERS OF BUILDING AND WORKS COMMITTEE ON 31.03.2016

- |     |   |   |                      |
|-----|---|---|----------------------|
| 1.  | Prof.P.K.Das, Director, NERIST                  | : | Chairman             |
| 2.  | Secretary, Education, Govt. of A.P              | : | Member               |
| 3.  | Chief Engineer (WZ), APPWD, Govt. of A.P        | : | Member               |
| 4.  | Prof.Md.Anwar Hussain, Dean (P&D), NERIST       | : | Member               |
| 5.  | Mr.S.K.Sahu, HoD (Civil Engg.), NERIST          | : | Member               |
| 6.  | Sr.Architect, PWD, Govt. of A.P                 | : | Member               |
| 7.  | Dr.S.K.Bhagar, Electrical Engineer, NERIST      | : | Member               |
| 8.  | Dr.Sarsing Gao, HoD (EE), NERIST                | : | Member               |
| 9.  | Shri M.K.Camder, Deputy Registrar (Fin), NERIST | : | Member               |
| 10. | Dr.R.P.Bhattacharjee, Registrar, NERIST         | : | Mermber              |
| 11. | Executive Engineer (Civil), NERIST              | : | Non-Member Secretary |

**INSTITUTE ADMINISTRATION AS ON 31.03.2016**

01.	Director	-	Prof. H.S. Yadav
02.	Deans :		
	Administration	-	Prof. M.F. Hussain
	Academic	-	Prof. P.K. Tripathy
	Student's Affairs	-	Prof. Binay Singh
	Planning & Development	-	Prof. Anwar Hussain
<u>03.Group-A Officer</u>			
	Registrar	-	Dr. R.P.Bhattacharjee
	Deputy Registrar (Finance)	-	Shri M.K. Camder
Assistant Registrars:			
	Academic	-	Dr. K.K.Rajesh
	Examination Cell	-	Shri Gautam Kr Roy
	Stores & Purchase	-	Shri Toko Shama
	HMC	-	Shri Animesh Basu
	Medical Officers:	-	Dr.Sushmita P Taggu
		-	Dr. P.Camdir Tok
	Librarian	-	Shri Asim Kr. Gupta
		-	Shri V.P. Gupta
	Assistant Workshop Superintendent	-	Shri Harshendra Mishra
	Net Work Administrator	-	Shri Dewan Rashidul Alam
	Executive Engineer	-	Shri Charlie Welly

#### 04. Group-B Officer

	Sports Officer	-	Shri B.S. Raja
	Security Officer	-	Shri Toko Shama (in-charge)
	Section Officer (Establishment)	-	Shri Doge Kamduk
	Stores & Purchase	-	Shri Rabindra Dev
	Finance	-	Shri P. Gowawami
	HMC	-	Smti. Pratibha Saikia
	Exam. Cell	-	Shri S. Chattopadhyay
	Academic	-	Shri Sibdas Bhattacharjee
		-	Shri Radhe Tadu
05.	Chief Vigilance Officer	-	Prof P.P. Dabral
06.	Estate Officer	-	Shri K.K. Rajesh
07.	Liaison Officer, SC/ST	-	Dr. Pradip Lingfa
08.	Hindi Officer	-	Shri Ratan Singh
09.	Head of the Departments:		
	Forestry	-	Dr. (Mrs.) M.B. Sharma
	Agricultural Engineering	-	Prof. K.N. Dewangan
	Civil Engineering	-	Mr. S.K. Sahu
	Computer Science & Engg.	-	Dr.(Mrs.) N. Marchang
	Electrical Engineering	-	Dr. Sarsing Gaon
	Electronics & Communication Engg.	-	Dr. A. Dinamani Singh
	Mechanical Engineering	-	Dr. Pradip Lingfa
	Physics	-	Dr. Tado Karlo
	Chemistry	-	Prof. Nidhuban Deb
	Mathematics	-	Prof. S.K. Pandey
	Humanities & Social Sciences	-	Dr. P. Parida
	Centre for Management Studies	-	Dr. M. Mall

10.	Head of Centre (CATRD)	-	Dr. S.K.Shrivastava
11.	Chairman:		
	NEE Committee	-	Dr. Deepak Jhalaria
	HMC	-	Dr. S.S. Gautam
	Gymkhana	-	Mr. Aswini Kumar Patra
	Telecom	-	Dr. S. Majumdar
	TPT	-	Dr. M. Chandrasekaran
	Library	-	Prof. S.K.Singh
	HAC	-	Dr. C.L. Sharma
12.	Training & Placement i/c	-	Dr. Arnab Bandopadhyay
13.	ET Cell i/c	-	Shri Amar Taggu
14.	Coordinators:		
	SRIC	-	Dr. Arvind Pandey
	NSS	-	Dr. A. Dinamani Singh
	CEP	-	Dr. Arvind Pandey
	CRF	-	Dr. Jagannath Bhuyan
	ACCF	-	Shri Amar Taggu
15.	Controller of Examination	-	Dr. P. Parida
16.	Secretary NEE Committee	-	Dr. K.K. Rajesh
17.	NCC Officer	-	Mr. Anubhav Pal

**MEMBERS OF THE LIBRARY COMMITTEE AS ON 31.3.2016**

1.	Prof.P.R.Alapati	-	Chairman
2.	Mr.S.K.Sahu	-	Member
3.	Dr.Mrs.S.L.Bharati	-	Member
4.	Dr.K.Saharia	-	Member
5.	Dr.S.K.Bhagat	-	Member
6.	Mr.S.M.Khan	-	Member
7.	Dr.P.Debnath	-	Member
8.	Mr.Raju Barthakur	-	Member
9.	Mr.S.Choudhury	-	Member
10.	Dr.P.K.Pandey	-	Member
11.	Dr.Awadesh Kumar	-	Member
12.	Dr.Manish Kumar	-	Member
13.	Mr.Marjit Singh	-	Member
14.	Mr.A.K.Gupta	-	Member Secretary

**MEMBERS OF NERIST ENRANCE EXAMINATION COMMITTEE AS ON 31.03.2015**

1.	Dr. Deepak Jhajharia	-	Chairman
2.	Dr. R.K. Mehta	-	Member
3.	Dr. (Ms) K.T. Kamal	-	Member
4.	Dr. Ajay Bharti	-	Member
5.	Dr. P. R. Gajurel	-	Member
6.	Dr.K K Rajesh, Astd. Registrar (Acad)	-	Member Secretary

**MEMBERS OF HOSTEL MANAGEMENT COUNCIL AS ON 31.3.2016**

Dean (Students Affairs)

Prof.Binay Singh

Chairman-cum-Chief Warden

Dr.S.S.Gautam, Associate Professor, Department M.E. Department (up to July, 2016)

Dr.Sandeep Singh, Associate Professor, DEpartment of M.E. Department (from August, 2016 and till continuing)

Assistant Registrar

Mr. Animesh Basu

Wardens

- |    |                              |                  |
|----|------------------------------|------------------|
| a) | Dr.Kh. Hera Ch. Singh        | Hostel Block - A |
| b) | Dr.M.Hassan                  | Hostel Block - B |
| c) | Mr.A.K.Chowdhury             | Hostel Block - C |
| d) | Mr.S.Tamang                  | Hostel Block - D |
| e) | Mr.A.K.Gautam and Dr.K.Borah | Hostel Block - E |
| f) | Mr.Akhilesh Sharma           | Hostel Block - F |
| g) | Mrs.Y. Bidya Laxmi Devi      | Hostel Block - G |
| h) | Dr.M.Mall                    | Hostel Block - H |
| i) | Mrs.N.Siyum                  | Subansiri Hostel |



## NERIST ENTRANCE EXAMINATION

## 1. Admission notice :

The admission notification was published in the following newspapers on 16.12.2014:

Sl.	Name of News Paper	Date
1	Arunachal Times, Itanagar	17.12.2014
2	Assam Tribune, Guwahati	17.12.2014
3	All editions of Hindustan Times viz : (Education Horizon)	22.12.2014
4	Arunachal Front	17.12.2014
5	Shillong Times	17.12.2014
6	Sikkim Express	17.12.2014
7	Nagaland Post	17.12.2014
8	Tripura Times	17.12.2014
9	Mizoram Post	17.12.2014
10	Sangai Express, Imphal	17.12.2014

Date of Examination:      **25. 04. 2015 - NEE – II & III**  
   **26. 04. 2015 - NEE - I**

**Candidates applied and appeared in NEE-2015 (State - wise)**

Name of state	Module						Total	
	NEE-I		NEE-II		NEE-III		Appld.	Apprd.
	Appld.	Apprd.	Appld.	Apprd.	Appld	Apprd.		
Arunachal Pradesh	3591	3181	2150	1902	350	287	<b>6091</b>	<b>5370</b>
Assam	1021	839	952	791	193	172	<b>2166</b>	<b>1802</b>
Manipur	443	373	626	523	31	27	<b>1100</b>	<b>923</b>
Meghalaya	202	180	287	246	106	86	<b>595</b>	<b>512</b>
Mizoram	28	20	89	73	13	13	<b>130</b>	<b>106</b>
Nagaland	279	221	377	301	48	35	<b>704</b>	<b>557</b>
Sikkim	36	28	63	58	14	13	<b>113</b>	<b>99</b>
Tripura	716	632	189	156	79	69	<b>984</b>	<b>857</b>
All India	337	261	230	176	57	44	<b>624</b>	<b>481</b>
PD	28	05	22	06	09	04	<b>59</b>	<b>15</b>
<b>Total</b>	<b>6681</b>	<b>5740</b>	<b>4985</b>	<b>4232</b>	<b>900</b>	<b>750</b>	<b>12,566</b>	<b>10,722</b>

**STATEWISE DETAILS OF CANDIDATES APPEARED IN NEE-III, 2015**

<b>Name of State</b>	<b>AE</b>	<b>CE</b>	<b>ME</b>	<b>ECE</b>	<b>CSE</b>	<b>EE</b>	<b>TOTAL</b>
Arunachal Pradesh	01	206	13	05	29	36	<b>290</b>
Assam	07	77	28	24	19	18	<b>173</b>
Manipur	01	06	04	09	02	05	<b>27</b>
Meghalaya	01	29	23	10	11	12	<b>86</b>
Mizoram	00	04	04	01	04	00	<b>13</b>
Nagaland	01	09	03	03	17	02	<b>35</b>
Sikkim	00	06	04	01	00	02	<b>13</b>
Tripura	01	18	03	22	10	15	<b>69</b>
All India	00	15	11	05	05	08	<b>44</b>
<b>Total</b>	<b>12</b>	<b>370</b>	<b>93</b>	<b>80</b>	<b>97</b>	<b>98</b>	<b>750</b>

**CATEGORY-WISE DETAILS OF APPLICATION RECEIVED, NEE-2015**

**FOR NEE-I**

<b>Name of States</b>	<b>Category</b>				
	<b>GEN</b>	<b>ST</b>	<b>SC</b>	<b>OBC</b>	<b>TOTAL</b>
Arunachal Pradesh	237	3354	0	0	<b>3591</b>
Assam	397	198	80	346	<b>1021</b>
Manipur	124	171	21	127	<b>443</b>
Meghalaya	40	162	0	0	<b>202</b>
Mizoram	9	19	0	0	<b>28</b>
Nagaland	26	253	0	0	<b>279</b>
Sikkim	6	12	2	16	<b>36</b>
Tripura	431	166	119	0	<b>716</b>
All India	169	20	29	119	<b>337</b>
PD	-	-	-	-	<b>28</b>
<b>Total</b>	<b>1439</b>	<b>4355</b>	<b>251</b>	<b>608</b>	<b>6681</b>

**FOR NEE-II**

Name of States	Category				
	GEN	ST	SC	OBC	TOTAL
Arunachal Pradesh	110	2040	0	0	<b>2150</b>
Assam	404	179	34	335	<b>952</b>
Manipur	166	301	19	140	<b>626</b>
Meghalaya	33	253	0	1	<b>287</b>
Mizoram	4	84	0	1	<b>89</b>
Nagaland	21	356	0	0	<b>377</b>
Sikkim	12	31	0	20	<b>63</b>
Tripura	107	55	27	0	<b>189</b>
All India	96	15	31	88	<b>230</b>
PD					<b>22</b>
<b>Total</b>	<b>953</b>	<b>3314</b>	<b>111</b>	<b>585</b>	<b>4985</b>

**FOR NEE-III**

Name of States	Category				
	GEN	ST	SC	OBC	TOTAL
Arunachal Pradesh	27	323	0	0	<b>350</b>
Assam	67	39	9	78	<b>193</b>
Manipur	10	10	1	10	<b>31</b>
Meghalaya	2	104	0	0	<b>106</b>
Mizoram	3	10	0	0	<b>13</b>
Nagaland	2	44	1	1	<b>48</b>
Sikkim	2	7	0	5	<b>14</b>
Tripura	38	22	19	0	<b>79</b>
All India	30	0	10	17	<b>57</b>
PD					<b>9</b>
<b>Total</b>	<b>181</b>	<b>559</b>	<b>40</b>	<b>111</b>	<b>900</b>

## RESULT ANNOUNCEMENT

- 1) Result approved on : 01.5.2015  
 2) Declaration on notice boards : 01.5.2015  
 3) Result given in NERIST website : 01.5.2015

### Candidates selected (state and category wise): 2015

Name of state & category	MODULE				Total
	NEE-I	NEE-II		NEE-III	
		Technology	Forestry		
PRC	14	05	02	5+2*=7	28
PHYSICALLY HANDICAPPED	06	02	01	02	11
Arunachal pradesh	20	08	03	07	38
Assam	20	08	03	07	38
Manipur	20	08	03	06	37
Meghalaya	20	08	03	06	37
Mizoram	16	08	02	05	31
Nagaland	20	08	03	07	38
Sikkim	12	07	03	05	27
Tripura	20	08	03	07	38
All India	20	08	03	06	37
<b>Total</b>	<b>176</b>	<b>79</b>	<b>29</b>	<b>65</b>	<b>360</b>

\*Floating

### Candidates wait-listed (State & Category-wise) 2015

Name of state & category	MODULE				Grand total
	NEE-I	NEE-II		NEE-III	
		Technology	Forestry		
PRC	14	06	02	5+2*=7	29
PHYSICALLY HANDICAPPED	06	02	01	02	11
Arunachal pradesh	20+20	8+8	3+3	6+6	74
Assam	20	08	03	06	37
Manipur	20	08	03	05	36
Meghalaya	20	08	03	04	35
Mizoram	02	08	02	03	15
Nagaland	20	08	02	05	35
Sikkim	08	04	03	02	17
Tripura	20	08	03	05	36
All India	20	08	03	06	37
<b>Total</b>	<b>190</b>	<b>84</b>	<b>31</b>	<b>58</b>	<b>362</b>

\*Floating

**COUNSELLING SCHEDULE OF NEE-2015**

1	06.07.2015	Selected List of NEE – I (Base)(Excluding Arunachal Pradesh)
2	07.07.2015	Waiting List of NEE – I(Excluding Arunachal Pradesh)
3	08.07.2015	Selected & Waiting List of NEE – I <b>(for the candidates of Arunachal Pradesh state Quota)</b>
4	09.07.2015	Selected List of NEE –II & III, (Excluding Arunachal Pradesh)
5	10.07.2015	Waiting List of NEE-II & III, (Excluding Arunachal Pradesh)
6	11.07.2015	Selected & Waiting List of NEE – II & III <b>(for the candidates of Arunachal Pradesh state Quota)</b>

**Candidates admitted in the year 2015 (State and category wise):**

Name of State & category	Module											
	NEE-I (200 seats)			NEE-II (Technology) (80 seats)			NEE-II (forestry 30 seats)			NEE-III (72 seats)		
	Sel.	WL	Total	Sel.	WL	Total	Sel.	WL	Total	Sel.	WL	Total
PRC	6	2	8	--	1	1	--	--	--	5	2	7
PD	4	1	5	1	1	2	1	--	1	2	--	2
Arunachal	11	20	31	4	4	8	2	3	5	4	6	10
Assam	12	8	20	1	1	2	2	--	2	6	--	6
Manipur	18	2	20	6	2	8	--	--	--	5	--	5
Meghalaya	11	9	20	3	1	4	1	2	3	3	--	3
Mizoram	12	--	12	5	1	6	--	1	1	2	--	2
Nagaland	13	3	16	5	--	5	1	1	2	7	--	7
Sikkim	6	5	11	4	1	5	3	--	3	2	--	5
Tripura	8	7	15	3	--	3	1	1	2	6	--	8
All India	14	4	18	2	4	6	--	--	--	5	1	6
Floating	--	--	--	--	--	--	--	--	--	--	--	--
<b>Total</b>	115	61	176	34	16	50	11	8	19	47	9	56

Sel- Selected; WL- Waitlisted

**CANDIDATES ADMITTED IN BASE MODULE (NEE-I) AS PER COUNSELLING REPORT – 2015 (Branch wise):**

DISCIPLINE	PD	PRC	AP	AS	MN	MG	MZ	NL	SK	TR	AI	TOTAL
AE	1	--	4	4	4	4	4	4	4	4	3	<b>36</b>
CE	1	3	4	4	4	4	4	4	4	4	4	<b>40</b>
EC	1	--	--	4	4	4	2	1	--	2	4	<b>22</b>
EE	2	2	4	4	4	4	4	4	4	4	4	<b>40</b>
ME	--	3	4	4	4	4	4	4	3	4	4	<b>38</b>
<b>TOTAL</b>	<b>5</b>	<b>8</b>	<b>16</b>	<b>20</b>	<b>20</b>	<b>20</b>	<b>18</b>	<b>17</b>	<b>15</b>	<b>18</b>	<b>19</b>	<b>176</b>

**CANDIDATES ADMITTED IN DIPLOMA MODULE (NEE-II) AS PER COUNSELLING REPORT – 2015 (Branch wise):**

DISCIPLINE	PD	PRC	AP	AS	MN	MG	MZ	NL	SK	TR	AI	TOTAL
AE	--	--	1	--	1	--	1	1	1	--	--	<b>05</b>
CE	1	--	1	1	1	1	1	1	1	1	1	<b>10</b>
CS	1	--	1	--	3	1	1	--	--	--	3	<b>10</b>
EC	--	--	1	--	1	1	1	1	1	1	--	<b>07</b>
EE	--	1	1	1	1	1	1	1	1		1	<b>10</b>
ME	--	1	--	1	1	--	1	1	1	1	1	<b>08</b>
FO	1	--	3	2	--	3	3	2	3	2	--	<b>19</b>
<b>TOTAL</b>	<b>03</b>	<b>02</b>	<b>08</b>	<b>05</b>	<b>08</b>	<b>07</b>	<b>09</b>	<b>07</b>	<b>08</b>	<b>06</b>	<b>06</b>	<b>69</b>

**CANDIDATES ADMITTED IN DEGREE MODULE (NEE-III) AS PER COUNSELING REPORT – 2015 (Branch wise):**

DISCIPLINE	PD	PRC	AP	AS	MN	MG	MZ	NL	SK	TR	AI	TOTAL
AE	--	--	--	--	--	--	--	--	--	--	--	<b>--</b>
CE	1	1	1	1	1	1	1	2	1	1	1	<b>12</b>
CS	1	3	1	1	1	1	1	2	--	1	1	<b>13</b>
EC	--	1	1	2	2	1	1	1	1	1	1	<b>12</b>
EE	--	1	2	1	1	1	--	1	--	2	2	<b>11</b>
ME	--	1	1	1	1	--	1	1	--	1	1	<b>08</b>
<b>TOTAL</b>	<b>02</b>	<b>07</b>	<b>06</b>	<b>06</b>	<b>06</b>	<b>04</b>	<b>04</b>	<b>07</b>	<b>02</b>	<b>06</b>	<b>06</b>	<b>56</b>

**SUMMARY OF NEE-2015**

<b>POSITION</b>	<b>NEE-I</b>	<b>NEE-II</b>	<b>NEE-III</b>	<b>Total</b>
No. of application received	6681	4985	900	<b>12,566</b>
No. of candidates appeared	5740	4232	750	<b>10,722</b>
No. of candidates selected (Technology)	176	79	65	<b>320</b>
No. of candidates selected (Forestry)	--	29	--	<b>29</b>
No. of candidates waitlisted (Technology)	190	84	57	<b>331</b>
No. of candidates waitlisted (Forestry)	--	31	--	<b>31</b>

**HIGHLIGHTS OF NEE-2015**

<b>Sl.No.</b>	<b>Events</b>	<b>2014</b>	<b>2015</b>	<b>Remarks</b>
01.	Number of applicants	<b>12654</b>	<b>12,566</b>	<b>Decreased by 88Nos.</b>
02.	No. of candidates appeared	<b>10677</b>	<b>10,722</b>	<b>Increased by 45 Nos.</b>
03.	No. of candidates taken admission through counseling	<b>NEE-I 172 NEE-II 70 NEE-III 56</b> <b>298</b>	<b>NEE-I 176 NEE-II 69 NEE-III 56</b> <b>301</b>	<b>Increased by 03 Nos.</b>
04.	The most preferred branch	<b>CE with 66</b>	<b>CE with 62</b>	<b>Decreased by 04 Nos.</b>
05.	Less preferred branch	<b>CS with 18</b>	<b>CS with 23</b>	<b>Increased by 05 Nos.</b>
06.	No. of students admitted from selected list	<b>200</b>	<b>207</b>	<b>Increased by 07 Nos.</b>
07.	No. of students admitted From wait list	<b>98</b>	<b>94</b>	<b>Decreased by 04 Nos.</b>

Adoption of online registration [neonline.ac.in](http://neonline.ac.in) and OMR answer sheets has helped the NEE Cell to publish the NEE result in time as per the schedule. The Challan were made available to the applicants by the Axis Bank Branches throughout the country at major places of choice. Payment mode for application was also available to the candidates via debit cards and credit cards. For up to date information, NERIST website was used for the sell being of the applicants and general public.

## LIST OF FACULTY AS ON 31.03.2016

Name of the faculty members	Date of joining in present post	Specialization
<b>A.I.1 Department of Applied Science (Forestry)</b>		
<b>Professor</b>		
Dr. Binay Singh, Ph.D	31.03.09	Horticulture
Dr. C.L. Sharma, Ph.D	02.08.13	Wood Science
Dr. (Mrs.) M. Sharma Ph.D	11.02.16	Wood Science
Dr. (Mrs.) K. Shrivastava, Ph.D.	11.02.16	Microbial Aerobiology & Plant
<b>Associate Professor</b>		
Dr. (Mrs.) Mary P.P., Ph.D	31.03.12	Fish Microbiology
Dr. P.R. Gajurel, Ph.D	30.12.14	Botany Taxonomy Pathology
Dr. Awadhesh Kumar, Ph.D.	30.12.14	Wild life Biology
Dr. K.Suresh Kr. Singh, Ph.D	30.12.14	Social Microbial Ecology
<b>Assistant Professor</b>		
Dr. L.B. Singha, Ph.D	23.06.06	Botany Taxonomy
Dr. O.P. Tripathi, Ph.D	26.06.06	Forest Ecology
Shri Gobinda Pangging, M.Sc	23.06.06	Forestry Economics & Mngt.
<b>A.I.2 Department of Agricultural Engineering</b>		
<b>Professor</b>		
Dr. K.N. Dewangan, Ph.D.	09.12.12	Farm Machinery & Power
Dr. P.P. Dabral, Ph.D	02.07.14	Process & Food Engg.
Dr. S.K. Shrivastava, Ph.D.	12.02.16	Soil & Water Conservation
<b>Associate Professor</b>		
Shri D.K. Shyamal, M.Tech.	31.12.01	Post Harv Proc. & Food Engg



Dr. Deepak Jhajaria, Ph.D	05.06.14	Water Resource Engg.
Dr. Aditi Bhadra, Ph.D.	05.01.15	Soil & Water Consvrn. Eng.
Dr. ArnabBandopadhyay, Ph.D.	05.01.15	Thermal & spatial trends of ref. Evapotranspiration

#### **Assistant Professor**

ShriUkil Singh, M.Tech	04.07.06	Farm Machinery & Power
ShriPankaj Kr. Pandey, ME	17.07.06	Irrigation & Water Mangt
Dr. P.K.Pranav, Ph.D.	18.07.06	Farm Machinery & Power
Dr.Thaneswar Patel, M.Tech	24.07.06	Farm Machinery & Power
Dr. P. Anand Kumar, Ph.D.	28.08.06	Post-Harvest Engg.
ShriArun Kr. Chourdury, M.Tech	13.01.15	Processing and Food Engg.
Mr. Anubhab Pal. M.Tech.	09.04.15	-

#### **A.I.3 Department of Civil Engineering**

##### **Professor**

Dr. S.K. Singh, Ph.D	26.04.97	Geotechnical Engg.
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##### **Associate Professor**

Dr. R.K. Prasad, Ph.D	10.12.09	Water Resource Engg.
Dr. S. Baishya, Ph.D	31.03.12	Geotechnical Engg.
Dr. S. Misra, Ph.D	31.03.12	Town Planning
Shri S.K. Sahu, M.Tech	31.03.12	Hydraulic & Water Resource Engg.
Dr. H.P.Singh, Ph.D.	31.03.12	Soil Mechanics & Foundation Engg.
Dr. Ajay Bharti, Ph.D.	30.12.14	Environmental Engg.

##### **Assistant Professor**

Ms. Y. Bidyalaxmi Devi, M.Tech	20.06.06	Env. Science &Engg.
Ms. MudoPuming, M.Tech	26.06.06	Env. Science &Engg
Dr. Dipika Devi, Ph.D.	18.07.06	Social Mechenics&Fntn. Eng.
Dr. MonowarHussain, Ph.D.	21.12.09	Soil Mechanic &Foundation Engg.

Ms. YamenTamut, M.Tech	09.12.09	Transportation Engg.
Mr. N.G. Sorum, M.Tech	09.12.09	Transportation Engg.
Shri K. James Singh, ME	28.01.10	Wastewater Management &Flood Control
Dr. Ajanta Kalita, Ph.D.	09.02.10	Soil Mechanic & Foundation Engg.
Dr. Dibendu Pal, M.Tech	09.02.10	Transportation Sys. Engg.

#### **A.I.4 Department of Computer Science & Engineering**

##### **Associate Professor**

Dr. (Mrs.) T. Tuithung, Ph.D.	31.03.12	Image Processing
Dr. NingrinlaMarchang, Ph.D.	04.06.14	Database Management Sys
ShriKapangLegoh, M.Tech	12.02.16	Computer Sci. &Engg.
Ms. Margaret Kathing, M.Tech	11.02.16	Image retrieval on the basis of Face reorganization using Eigen face::CBIR Approach

##### **Assistant Professor**

ShriSatyajyoti Borah, M.Tech	18.06.01	Image Processing
ShriAswani Kr. Patra, B.Tech	31.07.06	-
ShriMarjit Singh, M.Tech	02.01.07	Computer Sci. &Engg.
ShriManjulSaikia, M.Tech	11.07.07	Computer Sci. &Engg
Shri Amar Taggu, M.E	11.12.09	Computer Sci.&Engg.

#### **A.I.5 Department of Electrical Engineering**

##### **Professor**

Dr. S. Chatterjee, Ph. D.	10.12.12	High Voltage Engg.
Dr. O.P. Roy, Ph. D	11.02.16	Electric Drive, Micro.
Dr. SarsingGao, Ph. D.	11.02.16	Alternative Hydo-Energy Sys

##### **Associate Professor**

Dr.R.K. Mehta, Ph.D.	10.12.09	Control Engg
Dr. S.K.Bhagat, Ph.D	31.03.12	Control System

Dr. Arvind Kr. Singh, Ph.D.	01.08.14	Power System
ShriRadakBlange, M.Tech	11.02.16	Control Engg.
Shri T.V. Prakash Singh, M.E	12.02.16	Control and Instrumentation

#### **Assistant Professor**

Shri Deben Singh, M.Tech	20.06.06	Electronic Design & Tech.
ShriAdikandaParida, M.E	17.07.06	Industrial System & Drives
ShriAnu Kr. Das, M.Tech	12.01.07	Power & Energy system Eng.
Shri N.L. Meitei, M.Tech	24.12.09	Energy Technology
Ms. SomilaHashunao, M. Tech	15.01.10	Electrical Power System Mangt.
Shri. Akhilesh Sharma, M.Tech	23.06.14	<b>Power Electronics&amp; Drives</b>
Ms. Piyali Das, M.Tech.	01.09.14	<b>Illumination Engineering</b>
Mr.P.DevachandraSingh,M.Tech	23.01.15	<b>Power System Engineering</b>

#### **A.I.6 Department of Electronics & Communication Engineering**

##### **Professor**

Dr. Anwar Hussain, Ph.D	31.03.09	Microwave Engg Fiber optic Integration
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##### **Assistant Professor**

ShriTripurariSharan, M.Tech	02.07.01	Electronics & Comm. Engg.
Shri M. Mishra, M.Tech	24.07.06	Signal Processing
Dr. A. Dinamani Singh, M. Tech	20.06.06	-
Dr.Joyatri Bora, M.Tech	22.06.06	Electronics Design & Tech.
Shri Ashok Kr. Ray, M.Tech	03.07.06	Micro Electronics
Dr. S. Majumdar, M.Tech.	14.07.06	Instrumen. & Control Engg.
ShriPranab Kr. Dutta, M.Tech	24.07.06	Electronics Design & Tech.
ShriManish Kumar, M.Tech	09.03.07	Design of low power digital circuits in deep submicron CMOS Technology
ShriRushniKimaMangang, ME	23.02.10	Applied Electronics

Shri. Akho John Richa, M.Tech	17.06.14	Nano Technology
Shri. Anil Kr. Gautam, M.Tech.	15.07.14	VLSI Design
Mr. M. Edison Singh, M.Tech.	21.01.15	Microwave Engineering

#### **A.I.7 Department of Mechanical Engineering**

##### **Professor**

Prof. M. Muralidhar, Ph.D	31.03.09	FoundaryEngg.
Dr. PradipLingfa, Ph.D	11.02.16	Energy Studies
Dr. M. Chandrasekharan,Ph.D	11.02.16	Production Engg& System

##### **Associate Professor**

Dr. AsisGiri, Ph.D.	22.12.09	Studies on Son luminescence in the Form of Resonance Radiation
Shri S. Mahto, M.Tech	31.03.09	CIDM
Dr. SutanuSamanta, Ph.D.	05.06.14	Production Engineering
Dr.SatyamShivamGautom, Ph.D.	30.12.14	Tribology

##### **Assistant Professor**

Dr. M.P. Thaddeus, Ph.D.	19.09.94	Industrial Engg.
Dr.Sandeep Singh, M.Tech	09.07.01	Tribology
ShriKajal Kr. Mandal, M.Tech	10.07.01	Production Technology
Shri Narendra Kr. Rana, M.E	05.07.06	IndustrialMaterial& Metallurgy
ShriMaryomDabi, M.Tech	06.07.06	Fluids and Thermal Engg.
ShriNabamTeyi, M.Tech	11.01.10	Computer Integrated Manufacturing &Automataion
ShriSantosh Kumar Tamang,M.Tech	30.12.14	-
Md. S. MujaheedKhan,M.Tech.	19.01.15	Thermal Sciences
Mr. YadaiahNirsanmetla,M.Tech	05.02.15	CAD/CAM

### **A.I.8 Department of Physics**

#### **Professor**

Dr. P.R. Alapati, Ph.D. 31.03.09 Condensed matter (Liquid Crys)

#### **Associate Professor**

Dr. M. Sengupta, Ph.D. 02.08.07 Theoretical Nuclear Physics  
Dr. Tado Karlo, Ph.D 31.03.09 Mathematical Foundation of Quantum Physics  
Dr. Arvind Pandey, Ph.D 18.08.13 Superconductivity  
Dr. (Mrs.) Th. Gomti Devi, Ph.D 22.01.15 Physics

#### **Assistant Professor**

Dr. Kamal Saharia, Ph.D. 22.12.09 Electrostatic Parallel Electric Fields in Plasmas  
Dr. Sanoujam Dhiren Meetei, Ph.D 29.12.14 Physics  
Dr.(Ms.) Akbari Jahan, Ph.D 09.01.15 Theoretical Physics  
Dr. Kunal Borah, Ph.D 13.01.15 Physics

### **A.I.9 Department of Chemistry**

#### **Professor**

Dr. Mubarak Husain, Ph.D 26.04.97 Organic Chemistry  
Dr. H.S. Yadav, Ph.D 01.09.01 Organic Chemistry  
Dr. P.K. Tripathy, Ph.D 31.03.09 Organic Chemistry  
Dr. M.F. Hussain, Ph.D 31.03.09 Physical Chemistry  
Dr. K.D. Ram, Ph.D 31.03.09 Physical Chemistry  
Dr. Nidhuban Deb, Ph.D 30.05.14 Physical Chemistry

#### **Associate Professor**

Dr. A.K. Gupta, Ph.D 31.03.09 Organic Chemistry  
Dr.(Mrs.) K.T. Kamal, Ph.D 31.03.09 Organic Chemistry

**Assistant Professor**

Shri N. Ghanashyam Singh, M.Sc.	23.12.09	Physical Chemistry
Dr. ShashiLataBharati, Ph.D	06.01.15	Coordination Chemistry
Dr. MeeraYadav, Ph.D	06.01.15	Chemistry
Dr. Jagannath Bhuyan, Ph.D	13.01.15	Chemistry

**A.I.10 Department of Mathematics****Professor**

Dr. J. Choubey, Ph.D.	18.10.93	Theory of numbers
Dr.P.K. Das, Ph.D.	26.04.97	Graphtheory&combinatorics
Dr. S.K. Pandey, Ph.D	31.03.09	Continuum Mechanics & Sub-Surface Flow
Dr. L.K. Arora, Ph.D	31.03.09	Special Functions
Dr. A.S. Rai, Ph.D	01.04.14	Gasdynamics, Shock wave MHD

**Associate Professor**

Dr. B.K. Singh, Ph.D	19.06.13	Sampling Technique
Dr. H.K. Nigam	01.08.14	Mathematics

**Asstt. Professor**

Dr. M.M. Dixit, Ph.D	25.07.06	Cont. &Discr. Bessel Wave. Transforms
Shri Jayanta Bora, M.Sc	07.07.06	Pure Mathematics
Dr. Herachandra Singh, Ph.D	18.06.14	Mathematics
Dr. Pradip Debnath, Ph.D	07.01.15	Fuzzy Mathematics
Dr. Mohammad Hassan, Ph.D	08.01.15	Applied Mathematics

**A.I.1Department of Humanities & Social Sciences****Professor**

Dr. BenudharNayak, Ph.D	02.08.13	Rural & Agri. Devp. Tribal Dev.& Proj.Mgmt.
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**Associate Professor**

Dr. P.R. Parida, Ph.D.	11.01.01	OrganisationalBehaviour/ Managerial effectiveness
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Dr. ShyamaleeSinha, Ph.D                      31.03.12                      Behavioural Science, HRM,  
OrganisationalBehaviour.

ShriRanendra Prasad, M.Phil                      31.03.12                      Indian English fiction & literary theory

**Assistant Professor**

Shri Raju Barthakur, MA                      06.07.06                      American Literature

**A.I.12 Centre for Management Studies**

**Professor**

Dr. R.M. Pant, Ph.D                      02.08.07                      Labour Economics, HRM, Business Policy

**Assistant Professor**

Shri S. Choudhury, MBA                      18.08.06                      MBA

Ms. BijoylaxmiSarmah, MBA.                      08.12.06                      MBA

Dr. Manmohan Mall, Ph.D.                      15.01.15                      **A study on stock index and stock index futures  
with special reference to S&P CNX Nifty and  
Nifty Futures.**



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**SEPARATE AUDIT REPORT  
OF THE  
COMPTROLLER AND AUDITOR GENERAL OF  
INDIA**

**ON THE ACCOUNTS OF THE  
NORTH EASTERN REGIONAL INSTITUTE OF  
SCIENCE AND TECHNOLOGY (NERIST)  
NIRJULI  
ARUNACHAL PRADESH**



**FOR THE YEAR ENDED  
31 MARCH 2016**



**Separate Audit Report of the  
Comptroller & Auditor General of India  
on the accounts of the  
North Eastern Regional Institute of Science & Technology,  
Nirjuli for the year ended 31 March 2016**

We have audited the Balance Sheet of North Eastern Regional Institute of Science & Technology (NERIST), Nirjuli for the year ended 31 March 2016, the Income & Expenditure Account and the Receipt & Payment Account for the year ended on that date under Section 20(1) of the Comptroller and Auditor General's (Duties, Powers & Conditions of Service) Act, 1971, read with Rule 5(a) (xv) and Rule 33 (v) of NERIST, framed under the Memorandum of Association of NERIST (Under Section 3 of the UGC Act, 1956). These financial statements are the responsibility of NERIST's management and our responsibility is to express an opinion on these financial statements, based on our audit.

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

3. We have conducted our audit in accordance with auditing standards generally accepted in India. These standards require

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material mis-statements. An audit includes examining, on a test-check basis, evidences supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of financial statements. We believe that our audit provides a reasonable basis for our opinion.

**4. Based on our audit, we report that:**

- i. We have obtained all the information and explanations, which to the best of our knowledge and belief, were necessary for the purpose of our audit;
- ii. The Balance Sheet and Income & Expenditure Account/Receipt & Payment Account dealt with by this report have been drawn up in the format approved by Ministry of Human Resources Development, Government of India vide order No 29-4/2012-FD dated 17 April 2015.
- iii. In our opinion, proper books of accounts and other relevant records have been maintained by the NERIST, as required under Rule 33 of NERIST, in so far as it appears from our examination of such books.
- iv. We further report that:

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material mis-statements. An audit includes examining, on a test-check basis, evidences supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of financial statements. We believe that our audit provides a reasonable basis for our opinion.

**4. Based on our audit, we report that:**

- i. We have obtained all the information and explanations, which to the best of our knowledge and belief, were necessary for the purpose of our audit;
- ii. The Balance Sheet and Income & Expenditure Account/Receipt & Payment Account dealt with by this report have been drawn up in the format approved by Ministry of Human Resources Development, Government of India vide order No 29-4/2012-FD dated 17 April 2015.
- iii. In our opinion, proper books of accounts and other relevant records have been maintained by the NERIST, as required under Rule 33 of NERIST, in so far as it appears from our examination of such books.
- iv. We further report that:

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<b>A. Balance Sheet</b>
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**Assets**

**1. Fixed Assets (Schedule- 4) – ₹195.34 crore**

The above does not include ₹ 0.45 crore being the cost of furniture and equipments purchased during 2015-16 out of the grant received from All India Council of Technical Education (AICTE), New Delhi and as the grant is demanded back by AICTE due to non-execution of the programme and resolved (31<sup>st</sup> May 2016) to be refunded in the Board Meeting, necessary accounting in respect of the assets purchased and liability made should have been created in the accounts. Non booking of the furniture and equipments purchased and non creation of equivalent liability has resulted in understatement of "Fixed Assets" and understatement of "Current Liabilities and Provisions" to the extent of ₹ 0.45 crore.

**2. Current Assets, Loans, Advances etc. (Schedule- 6)-  
₹43.34 Crore**

The above does not include Plan and Non-Plan grants amounting to ₹ 49.58 crore under the head "Grant Receivable" received during April 2016 out of total grant amounting to ₹ 132.73 crore sanctioned for the year 2015-16. The non booking of the grant receivable amount under the head "Grant Receivable" and advance booking of total sanctioned amount of grant in the current years cash book resulted in understatement of "Grant Receivable" and overstatement of "Cash at Bank" in the Balance sheet to the extent of ₹ 49.58 crore.

## **Current Liabilities**

### **1. Current Liabilities & Provisions (Schedule- 3)- ₹5.66 crore**

The above does not include ₹ 0.68 crore being the amount spent on purchase of furniture and establishment expenses out of the grant received from AICTE and is resolved (31<sup>st</sup> May 2016) to be refunded out of the annual budgetary allocation of the institute. Non creation of liability on account of the decision to refund the amount resulted in understatement of "Current Liabilities & Provisions" and understatement of "Deficit" to the extent of ₹ 0.68 crore.

## **B. Income and Expenditure Account**

### **Expenditure**

#### **1. Establishment Expenses (Schedule- 11)- ₹46.72 crore**

This does not include ₹ 0.23 crore being spent on establishment expenditure during 2015-16 out of the grant received from AICTE. Non booking of the expenditure resulted in understatement of "Establishment expenses" and understatement of "Deficit" to the extent of ₹ 0.23 crore.

## **C. Receipt & Payment Account**

#### **1. Any Other receipt (schedule- 15)- ₹6.04 crore**

The above does not include ₹ 0.13 crore collected by State Bank of India on behalf of the institute during 12.06.2015 to 31.03.2016 and credited into the accounts. These collections are reflected in the transaction statements of account of the institute but were not taken into the receipts side of "Receipt &

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Payment" accounts which understated "Cash receipts" and "Cash at Bank" to the extent of ₹ 0.13 crore. Due to non-ascertainment of source and head of receipts, the comments on Income & Expenditure Accounts with regard to deficit/surplus could not be made in audit.

#### **D. Significant Accounting Policies**

1. The Nomenclature "**Accounting Policies**" indicating the policies adopted by the institute should be named as **Significant Accounting Policies**. So the nomenclature is deficient to this extent.
2. A reference is invited to Point No 4 of Accounting Policy and Notes where in it is stated that fixed assets have been depreciated adopting Straight Line Method on pro-rata basis at the rates applicable for educational institutes. However it is observed that depreciation on addition of fixed assets during the year is calculated for full month in case of installation of assets in the middle of the month. As per Accounting Standard, depreciation should be charged proportionately for the period of use of the assets. Due to non-availability of the date of addition of fixed assets during the year, the financial involvement could not be quantified. Hence the accounting policy is deficient to this extent.
3. The provision for retirement benefits was to be made as per actuarial valuation. The method of treatment/provision for retirement was not disclosed in Significant Accounting Policy.

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Annexure

**1. Adequacy of Internal Control Mechanism**

The Institute did not have any Internal Audit Manual. For Internal Audit purposes, the Institute appointed an assistant to work as an auditor who performed the task of pre-checking of bills only. No Internal Audit was conducted till date of Audit (July, 2016).

**2. Adequacy of Physical Verification of Fixed Assets and Inventories**

Adequate physical verification of assets and inventories has been conducted.

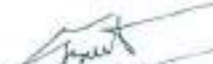
**3. Regularity in Payment of Statutory Dues.**

The Institute was regular in payment of Statutory Dues.

Place: Itanagar

Dated: 31<sup>st</sup> October 2016

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

  
**Principal Accountant General  
Arunachal Pradesh**






**E. Grant in Aid**

Out of the total funds of ₹ 157.36 crore consisting of opening balance of ₹ 15.61 crore, grants-in-aid of ₹ 132.73 crore received during the year, internal revenue generation of ₹ 9.02 crore; the Institute could spend ₹ 116.75 crore leaving a balance of ₹ 40.62 crore as on 31<sup>st</sup> March 2016.

- v. Subject to our observations in the preceding paragraphs, we report that the Balance Sheet and Income & Expenditure Account/Receipt & Payment Account dealt with by this report are in agreement with the books of accounts.
- vi. In our opinion and to the best of our information and according to the explanation given to us, the said financial statements and subject to the significant matters stated above and other matters mentioned in Annexure to this Audit Report give a true and fair view in conformity with accounting principles generally accepted in India:
  - a. In so far as it relates to the Balance Sheet, of the state of affairs of the NERIST as at 31 March 2016; and
  - b. In so far as it relates to the Income & Expenditure Account of the Institute for the year ended on that date.

Place: Itanagar  
Dated: 31<sup>st</sup> October 2016

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

  
Principal Accountant General  
Arunachal Pradesh



भारतीय लेखापरीक्षा और लेखा विभाग  
प्रधान महालेखाकार का कार्यालय, अरुणाचल प्रदेश  
जे एन के बिल्डिंग, ई-सेक्टर, इटानगर-791 111

INDIAN AUDIT AND ACCOUNTS DEPARTMENT  
OFFICE OF THE PRINCIPAL ACCOUNTANT GENERAL, ARUNACHAL PRADESH  
JNK BUILDING, E-SECTOR, ITANAGAR-791 111

**CONFIDENTIAL**

No: AG(AP)/CAW/AB/Accts/NERIST/3-3/2015-16/ 92

Dated: 31<sup>st</sup> October 2016

To

The Director  
North Eastern Regional Institute of Science & Technology  
Nirjuli – 791 109  
Arunachal Pradesh

Sub: *Separate Audit Report on accounts of the North Eastern Regional Institute of Science & Technology (NERIST), Nirjuli, Arunachal Pradesh, for 2015-16.*

Sir,

Please find enclosed the Separate Audit Report on the Accounts of the *North Eastern Regional Institute of Science & Technology (NERIST), Nirjuli, Arunachal Pradesh, for 2015-16* for your necessary action. You are requested to make necessary arrangements for translation of the same into the Hindi version and for printing the requisite number of copies, along with the Annual Accounts. Submission of the Report to the Ministry of Human Resources Development, Government of India, may also be ensured.

Further, while printing the Separate Audit Report in the Hindi version, the following disclaimer should be inserted positively:

“ प्रस्तुत प्रतिवेदन मूल रूप से अंग्रेजी में लिखित मूल लेखापरीक्षा प्रतिवेदन का हिन्दी अनुवाद है । यदि इसमें कोई विसंगति परिलक्षित होती है तो अंग्रेजी में लिखित प्रतिवेदन मान्य होगा ”

Kindly ensure that the previous year's Report is placed in Parliament before placement of the current Report. The date of placement of the said Reports before the Parliament may be intimated to this office. A copy of the Audit Report may also be sent to this office.

The Separate Audit Report may be treated as **CONFIDENTIAL** till it is placed before both Houses of Parliament.

Encl: as stated.

Yours faithfully,

  
Principal Accountant General

## CORRIGENDUM

1. **Para No- E. Grant-in-aid** is revised and may be read as

"Out of the total funds of ₹ 149.55 crore consisting of opening balance of ₹ 13.84 crore, Grant-in-aid of ₹ 132.73 crore received during the year and internal revenue generation of ₹ 2.98 crore, the institute could spend ₹ 111.37 crore leaving a balance of ₹38.18 crore as on 31<sup>st</sup> March 2016".

2. **Annexure** to the Separate Audit Report is revised and may be read as

### Annexure

1. **Adequacy of Internal Audit**

The Institute did not have any Internal Audit Manual. For Internal Audit purposes, the Institute appointed an assistant to work as an auditor who performed the task of pre-checking of bills only. No Internal Audit was conducted till date of Audit (July, 2016).

2. **Adequacy of Physical Verification of Fixed Assets and Inventories**

Adequate physical verification of assets and inventories has been conducted.

3. **Adequacy of Internal Control Mechanism**

Daily transactions in the cash book was not supervised by a person other than the writer of the cash book as several entries in the cash book was not authenticated due to lack of adequate internal control mechanism.

4. **Regularity in Payment of Statutory Dues.**

The Institute was regular in payment of Statutory Dues.



Deputy Accountant General (Audit)

NORTH EASTERN REGIONAL INSTITUTE OF SCIENCE AND TECHNOLOGY

NIRJULI :: ITANAGAR :: ARUNACHAL PRADESH :: 791109

BALANCE SHEET AS ON 31<sup>ST</sup> MARCH, 2016

Amount in Rs.

CORPUS/CAPITAL FUND AND LIABILITIES	SCHEDULE	CURRENT YEAR	PREVIOUS YEAR
CORPUS/CAPITAL FUND	1	2328905080.52	1574915812.72
Earmarked/Endowment Funds	2	1904040.00	1945894.00
Current Liabilities & Provisions	3	56569244.75	36864038.75
<b>Total</b>		<b>2387378365.27</b>	<b>1613725745.47</b>

ASSETS	SCHEDULE	CURRENT YEAR	PREVIOUS YEAR
FIXED ASSETS	4	1953392518.75	1429332360.04
Investment from Earmarked/Endowment Funds	5	544468.00	535009.00
Current Assets, Loan, Advances etc.	6	433441378.52	183858376.43
<b>Total</b>		<b>2387378365.27</b>	<b>1613725745.47</b>

Sd/-  
Finance Officer  
NERIST

Sd/-  
Director  
NERIST

NORTH EASTERN REGIONAL INSTITUTE OF SCIENCE AND TECHNOLOGY

NIRJULI :: ITANAGAR :: ARUNACHAL PRADESH :: 791109

SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31<sup>ST</sup> MARCH, 2016

Amount in Rs.

SCHEDULE-1 CORPUS FUNDS/CAPITAL FUND	CURRENT YEAR	PREVIOUS YEAR
Balance at the beginning of the year	1574915812.78	1169267408.00
Add: Contribution towards Corpus/Capital Fund:		
Grant-in-aid received from Ministry of Human Resource Development, Department of Higher Education, Govt. of India, vide sanction order No.		
<b>a) Plan (Capital)</b>		
<b>F No.9-5/2015-TS.VII dtd.03.07.2015</b>	<b>2,32,50,000.00</b>	23250000.00
<b>F No.9-5/2015-TS.VII dtd.03.07.2015</b>	<b>45,00,000.00</b>	4500000.00
<b>F No.9-5/2015-TS.VII dtd.03.07.2015</b>	<b>22,50,000.00</b>	2250000.00
<b>F No.9-5/2015-TS.VII dtd.25.08.2015</b>	<b>45,00,000.00</b>	2250000.00
<b>F No.9-5/2015-TS.VII dtd.25.08.2015</b>	<b>2,32,50,000.00</b>	4500000.00
<b>F No.9-5/2015-TS.VII dtd.25.08.2015</b>	<b>22,50,000.00</b>	23250000.00
<b>F No.9-5/2015-TS.VII dtd.09.12.2015</b>	<b>4,50,00,000.00</b>	2250000.00
<b>F No.9-5/2015-TS.VII dtd.09.12.2015</b>	<b>2,25,00,000.00</b>	4500000.00
<b>F No.9-5/2015-TS.VII dtd.09.12.2015</b>	<b>19,50,00,000.00</b>	23250000.00
<b>F No.9-5/2015-TS.VII dtd.10.02.2016</b>	<b>8,40,00,000.00</b>	5812000.00
<b>F No.9-5/2015-TS.VII dtd.10.02.2016</b>	<b>90,00,000.00</b>	563000.00
<b>F No.9-5/2015-TS.VII dtd.10.02.2016</b>	<b>45,00,000.00</b>	1125000.00
<b>F No.9-5/2015-TS.VII dtd.29.03.2016</b>	<b>37,50,000.00</b>	17700000.00

F No.9-5/2015-TS.VII dtd.29.03.2016	3,87,50,000.00	8850000.00
F No.9-5/2015-TS.VII dtd.29.03.2016	75,00,000.00	91450000.00
F No.9-5/2015-TS.VII dtd.30.03.2016	17,19,67,000.00	735000.00
F No.9-5/2015-TS.VII dtd.30.03.2016	1,62,55,000.00	125293000.00
F No.9-5/2015-TS.VII dtd.30.03.2016	3,27,00,000.00	1470000.00
	--	7595000.00
	--	26465000.00
	--	13242000.00
<b>Total (a)</b>	<b>69,09,22,000.00</b>	<b>390300000.00</b>
<b>b) Plan (General)</b>		
F No.9-5/2015-TS.VII dtd.03.07.2015	5,62,000.00	562000.00
F No.9-5/2015-TS.VII dtd.03.07.2015	58,13,000.00	5813000.00
F No.9-5/2015-TS.VII dtd.03.07.2015	11,25,000.00	1125000.00
F No.9-5/2015-TS.VII dtd.25.08.2015	58,13,000.00	1125000.00
F No.9-5/2015-TS.VII dtd.25.08.2015	5,62,000.00	5813000.00
F No.9-5/2015-TS.VII dtd.25.08.2015	11,25,000.00	562000.00
F No.9-5/2015-TS.VII dtd.10.02.2016	1,16,24,000.00	562000.00
F No.9-5/2015-TS.VII dtd.10.02.2016	22,50,000.00	1125000.00
F No.9-5/2015-TS.VII dtd.10.02.2016	11,26,000.00	5813000.00
F No.9-5/2015-TS.VII dtd.29.03.2016	37,50,000.00	563000.00
F No.9-5/2015-TS.VII dtd.29.03.2016	3,87,50,000.00	5812000.00
F No.9-5/2015-TS.VII dtd.29.03.2016	75,00,000.00	1125000.00
	--	338000.00
	--	675000.00
	--	3487000.00

	--	5967000.00
	--	1155000.00
	--	578000.00
<b>Total (b)</b>	<b>8,00,00,000.00</b>	<b>42200000.00</b>
<b>Total</b>	<b>2345837812.78</b>	<b>1601767408.00</b>
Add/deduct: Balance of net (Income/ expenditure from Income & Expenditure Account)	(-)16932732.26	(-)26851595.28
<b>Total</b>	<b>2328905080.52</b>	<b>1574915812.72</b>

SCHEDULE – 2 EARMARKED /ENDOWMENT FUNDS	CURRENT YEAR	PREVIOUS YEAR
Opening balance of Funds donated by HE the Governor of Arunachal Pradesh:	275167.00	274555.00
Gold Medal : Topper of Diploma Module	101935.00	101935.00
Student Welfare Funds	1359572.00	1410885.00
Donation for SHRISTI -2009	167366.00	158519.00
<b>TOTAL</b>	<b>1904040.00</b>	<b>1945894.00</b>

SCHEDULE-3 CURRENT LIABILITIES & PROVISIONS	CURRENT YEAR	PREVIOUS YEAR
<u>A: Current Liabilities</u>		
1.Caution Money of Students	15298982.00	13801886.00
2.Security Deposits and others	20304058.75	15596126.75
<b>Total(A)</b>	<b>35603040.75</b>	<b>29398012.75</b>
B. Provisions: Outstanding Expenses, Total (B)	20966204.00	7466026.00
<b>Total (A+B)</b>	<b>56569244.75</b>	<b>36864038.75</b>

Sd/-  
Finance Officer  
NERIST

Sd/-  
Director  
NERIST

# NORTH EASTERN REGIONAL INSTITUTE OF SCIENCE

NIRJULI :: ITANAGAR :: ARUNACHAL PRADESH

SCHEDULE FORMING PART OF BALANCE SHEET AS ON 31ST

## SCHEDULE-4-- FIXED ASSETS

		<b>GROSS BLOCK</b>					
	Description	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	
-	<b>A.Fixed Assets</b>	-					
1	Buildings	1 14 90 83 378.00	11 03 68 186.00	.00	1 25 94 51 564.00	33 23 45 498.09	
2	Lab & Scientific Equipment	32 76 84 992.46	1 60 83 381.00	.00	34 37 68 373.46	21 88 04 313.89	
3	Furniture & Fixture	8 24 91 779.43	1 72 00 624.00	.00	9 96 92 403.43	3 47 68 252.73	
4	Vehicles	1 22 65 641.75	14 73 696.00	.00	1 37 39 337.75	78 88 943.04	
5	Office Equipment	3 18 15 645.23	15 75 500.00	.00	<b>3 33 91 145.23</b>	1 63 36 329.41	
6	Sports Equipment	14 39 921.00	.00	.00	14 39 921.00	.00	
7	Medical Equipment	16 97 595.79	.00	.00	16 97 595.79	10 45 626.30	
8	Hostel Equipment	5 32 381.08	.00	.00	5 32 381.08	5 10 974.55	
9	Library Equipment	9 95 263.00	.00	.00	9 95 263.00	8 79 777.81	
10	Computer /Peripherals	35 29 609.00	14 47 072.00	.00	<b>49 76 681.00</b>	71 494.00	
11	Guest House Equipment	1 06 705.00	.00	.00	1 06 705.00	1 00 645.48	
12	Musical Instruments	63 593.00	.00	.00	63 593.00	62 712.43	
13	Electri Installations	5 31 856.00	10 45 854.00	.00	15 77 710.00	26 592.80	
14	Library Books	6 59 66 288.26	29 30 819.00	.00	6 88 97 107.26	4 15 31 718.51	
15	Plant & Machinery	59 99 273.22	.00	.00	59 99 273.22	10 84 679.05	
16	Tubewell & Water supply	<b>29 07 480.00</b>	<b>78 97 670.00</b>	.00	1 08 05 150.00	1 257.10	
17	Canteen Utensils	25 842.00	.00	.00	25 842.00	23 265.66	
18	Hostel Utensils	55 090.00	.00	.00	55 090.00	54 521.58	
19	Other fixed assets	.00	.00	.00	.00	.00	
20	Club Equipment	90 200.60	.00	.00	90 200.60	86 688.35	
-	<b>TOTAL OF CURRENT YEAR</b>	<b>1 68 72 82 534.82</b>	16 00 22 802.00	.00	<b>1 84 73 05 336.82</b>	<b>65 56 23 290.78</b>	
-	<b>B. Building in Progress</b>	39 76 73 116.00	51 02 55 433.00	11 03 68 186.00	79 75 60 363.00	.00	
-	<b>TOTAL</b>	<b>2 08 49 55 650.82</b>	<b>67 02 78 235.00</b>	<b>11 03 68 186.00</b>	<b>2 64 48 65 699.82</b>	<b>65 56 23 290.78</b>	
-	<b>Previous Year</b>	<b>1 70 62 44 508.82</b>	<b>58 85 52 049.00</b>	<b>20 98 40 907.00</b>	<b>2 08 49 55 650.82</b>	<b>62 75 65 487.57</b>	

Sd/-  
Finance Officer  
NERIST

Sd/-  
Director  
NERIST



SCHEDULE-5 INVESTMENT FROM EARMARKED/ENDOWMENT FUNDS	CURRENT YEAR	PREVIOUS YEAR
1. Investment with SBI Nirjuli, Donation by HE, the Governor of Arunachal Pradesh – Gold Medal : Toppers: of Diploma Module	275167.00	274555.00
2. Investment with SBI, Nirjuli – Institute’s Gold Medal	101935.00	101935.00
3 Donation for Shristi	167366.00	158519.00
<b>Total</b>	<b>544468.00</b>	<b>535009.00</b>

SCHEDULE-6 CURRENT ASSETS, LOAN ADVANCES ETC	CURRENT YEAR	PREVIOUS YEAR
<b>A:CURRENT ASSETS</b>		
1) Cash in Hand	0.27	0.27
2) Imprest	357650.00	357650.00
Total	357650.27	357650.27
<b>Bank Balance with Schedule Banks</b>		
a) On Current Account with SBI, Nirjuli (Society for NERIST)	399747361.29	142419881.29
b) NERIST Entrance Exam. A/c	14104.00	14734.00
c) AXIS BANK	6053752.96	13290336.87
Total	405815218.25	155724952.16
<b>Total (A)</b>	<b>406172868.52</b>	<b>156082602.43</b>
<b><u>B: LOANS, ADVANCES AND OTHERS</u></b>		
<b><u>1) Loan /Advances</u></b>		
a) Staff	7975046.00	9349846.00

2) advances and other amounts recoverable in Cash or kind or for value to be received		
<b><u>a) On Current Accounts</u></b>		
I) United India Insurance Co. Ltd.	20000.00	20000.00
II) Nodal Centre	185000.00	185000.00
III) Project account	104000.00	104000.00
V) Out standing Shop Rent	126004.00	90905.00
VI) Short Term Deposit (AXIS Bank)	10808963.00	9987688.00
VII) Short Term Deposit (NEE Account)	2616049.00	2604887.00
VIII)Secuirity Deposit by Institute To Executive Engineer ( Elect) Deptt of Power, Naharlagun, Govt of Arunachal Pradesh	5433448.00	5433448.00
Total (B)	27268510.00	27775774.00
<b>Total A+B)</b>	<b>433441378.52</b>	<b>183858376.43</b>

NORTH EASTERN REGIONAL INSTITUTE OF SCIENCE & TECHNOLOGY

NIRJULI :: ARUNACHAL PRADESH

Income & Expenditure Accounts for year ended 31<sup>st</sup> March, 2016

(Amount. In Rs.)

<b>A. Income</b>	<i>Schedule</i>	<i>Current Year</i>	<i>Previous Year</i>
Grant-in-Aid	7	556422000.00	461112000.00
Fees from Students	8	24901170.03	27587665.93
Interest earned	9	832437.00	1953756.00
Other Income	10	4050219.00	3300491.00
<b>Total (A)</b>		<b>586205826.03</b>	<b>493953912.93</b>
<b>B. Expenditure</b>			
<i>Establishment Expenses</i>	11	467214568.00	414237069.00
<i>Other Administrative Expenses</i>	12	100074100.00	78510636.00
<i>Fixed asset written off</i>		--	---
<i>Depriciation</i>		35849890.29	28057803.21
<b>Total(B)</b>		<b>603138558.29</b>	<b>520805508.21</b>
<i>Balance being excess/deficit of Expenditure over income (A-B)</i>		(-)16932732.26	(-)26851595.28
<i>Balance being deficit/excess carried over to corpus fund</i>		(-)16932732.26	(-)26851595.28

**Schedule Forming Part of Income and Expenditure Accounts for the Year ended 31.3. 2016**

(Amount – Rs.)

<b>SCHEDULE 7 – GRANTS</b>		Current Year	Previous Year
Ministry of Human Resource Development, Deptt. Of Higher Education, vide Sanction order No			
Salary Components & Non Salary Components			
F No.9-6/2015-TS.VII	dtd.30.06.2015	11,23,00,000.00	97948000.00
F No.9-6/2015-TS.VII	dtd.24.08.2015	11,23,00,000.00	34800000.00
F No.9-6/2015-TS.VII	dtd.04.12.2015	11,23,00,000.00	63148000.00
F No.9-6/2015-TS.VII	dtd.26.02.2016	11,23,00,000.00	90000000.00
F No.9-6/2015-TS.VII	dtd.29.03.2016	3,00,00,000.00	105896000.00
F No.9-6/2015-TS.VII	dtd.30.06.2015	1,12,00,000.00	11080000.00
F No.9-6/2015-TS.VII	dtd.24.08.2015	1,11,11,000.00	11080000.00
F No.9-6/2015-TS.VII	dtd.26.02.2016	2,23,11,000.00	9080000.00
F No.9-6/2015-TS.VII	dtd.29.03.2016	3,26,00,000.00	9080000.00
		--	25000000.00
		--	4000000.00
<b>Total</b>		<b>55,64,22,000.00</b>	<b>461112000.00</b>

**SCHEDULE 8- FEE FROM STUDENTS**

		Current Year	Previous Year
<b>Fees from Students</b>			
a)Academic			
1	Tution fee	4483954.00	7772275.00
2	Admission fee	116616.00	94155.00
3	Enrolment fee	--	--
4	Library admission fee	----	----

5	Laboratory fee	---	---
6	Art & Craft fee	--	--
7	Registration fee	4275975.00	150200.00
8	Syllabus fee	90173.00	80595.00
<b>Total (a)</b>		<b>8966718.00</b>	<b>8097225.00</b>
<b>b) Examination</b>			
i)	Admission test fee		--
2)	Annual Examination fee	1483086.00	1309835.00
3)	Mark sheet, certificate fee	965837.00	926545.00
4)	Convocation fee	195000.00	153100.00
<b>Total (b)</b>		<b>2643923.00</b>	<b>2389480.00</b>

<b>c) Other fee</b>			
1	Identity Card fee	43806.00	36840.00
2	Fine/Miscellaneous fee	556637.00	626884.00
3	Medical fee	257719.00	232120.00
4	Transportation fee	--	--
5	Hostel fee	1998077.00	195170.00
6	ECA fee	977324.00	878740.00
7	Other fee	2170573.00	889220.00
<b>Total (c)</b>		<b>6004136.00</b>	<b>2858974.00</b>

<b>d)Sale of publication</b>			
1	Sale of syllabus and Question Paper etc	--	--
2	Sale of prospectus including admission forms	7286393.03	14241986.93
<b>Total d)</b>		<b>7286393.03</b>	<b>14241986.93</b>
<b>Total 7 (a+b+c+d)</b>		<b>24901170.03</b>	<b>27587665.93</b>

SCHEDULES 9-INTEREST EARNED

1	Interest on mobilization advance of Construction of Girl's hostel ( Society for NERIST A/c)	0.00	890000.00
2	NEE A/c	11162.00	179839.00
3	AXIS Bank A/c	821275.00	883917.00
<b>Total</b>		<b>832437.00</b>	<b>1953756.00</b>

**SCHEDULE 10(a) – (MISC RECEIPTS) Other Income**

		Current Year	Previous Year
<b>a) Income from Land &amp; Building</b>			
1	Hostel Room Rent/ Guest house Seat Rent	1259289.00	611500.00
2	License fee	--	--
3	Hire charges of Auditorium/Play ground/Convention Centre	132138.00	----
4	Electricity & Water Charges	1546150.00	1660539.00
5	Building and ATM rent	150618.00	180903.00
<b>Total (a)</b>		<b>3088195.00</b>	<b>2452942.00</b>

<b>b.Other</b>			
1	Income from consultancy	--	--
2	RTI fee	22625.00	3995.00
3	Income from Royalty	--	---
4	Sale of application form (Recruitment)	95500.00	239150.00
5	Misc Receipt( Sale of tender form, waste paper, etc	176150.00	24050.00
6	Bus Fare / Hire charges	136483.00	113897.00
7	Profit on Sale/disposal Assets	531266.00	4000.00
8	Bond recovery from Faculty	0.00	462457.00
<b>Total ( b)</b>		<b>962024.00</b>	<b>847549.00</b>
<b>TOTAL 10 (B) (a+b)</b>		<b>4050219.00</b>	<b>3300491.00</b>

#### **SCHEDULES 11-ESTABLISHMENT EXPENSES**

i	Salary & Wages	355415550.00	316292370.00
ii)	Allowance & Bonus	1177236.00	1363116.00
iii)	Contribution to Provident Fund	32115597.00	27945200.00
iv)	Contribution to Other fund (Specify)		
v)	NPS	15117750.00	9591960.00
vi)	EPF	3391526.00	3158863.00
vii)	GPF	48140.00	81680.00
viii)	Staff Welfare Expenses	20000.00	--
ix)	Retirement and terminal benefits etc	11650281.00	6482426.00
x)	LTC facility	3500278.00	6555710.00
xi)	Medical facility	18471898.00	16669812.00

xii)	Children Educational Allowances	4950672.00	5227224.00
xiii)	Honorarium	789270.00	5130850.00
xiv)	TA/DA Expenses	---	--
xv)	Other ( Specify		
xvi)	Liveries & Uniforms	0.00	736395.00
xvii)	Professional Development Allowance to Faculty	6038370.00	4547463.00
xviii)	Salary & Wages for Kendriya Vidyalaya	14528000.00	10454000.00
	<b>TOTAL</b>	<b>467214568.00</b>	<b>414237069.00</b>

**SCHEDULES 12-OTHER ADMINISTRATIVE /ACADEMIC EXPENSES ETC.**

(Amount in Rs.)

<b>SCHEDULE 12 A -- Academic Expenses</b>		<b>Current Year</b>	<b>Previous Year</b>
i)	Laboratory Expenses	3666031.00	4007148.00
ii)	Work/ Participation	--	--
iii)	Seminar/Workshop	345248.00	--
iv)	Payment to visiting faculty	442482.00	419669.00
v)	Examination	673598.00	530147.00
vi)	Student Welfare Expenses	4717755.00	4823693.00
vii)	Admission Expenses	268494.00	281070.00
viii)	Convocation Expenses	1893598.00	2511995.00
ix)	Publications	---	--
x)	Stipend/means cum merit scholarship(As per 45 <sup>th</sup> FC decision Stipend/ scholarship has been spent from Plan ( General) account	19664362.00	9480132.00



xi)	Subscription expenses	---	--
xii)	Other Specy (NCC/NSS)	221294.00	170694.00
<b>TOTAL</b>		<b>31892862.00</b>	<b>22224548.00</b>

(Amount in Rs.)

<b>SCHEDULE 12 (B)-- Other Administrative Expenses</b>		<b>Current Year</b>	<b>Previous Year</b>
i)	Entrance Examination	2630441.00	2686334.00
ii)	Printing & Stationary	4622856.00	3585192.00
iii)	Traveling Allowances	5023835.00	5007206.00
iv)	Advertisement/Publicity	311146.00	346205.00
v)	Postage, & Telephone	472936.00	588048.00
vi)	Telegram & Internet Charges	1694125.00	--
vii)	Electricity and Power	11113199.00	11321340.00
viii)	Water Charges	357780.00	530355.00
ix)	Insurance	---	--
x)	Rent,Rates and taxes (Including Property Tax )	--	--
xi)	Expenses on Seminar /Workshops	--	--
xii)	Hospitality	--	--
xiii)	Auditors Remuneration	186147.00	230000.00
xiv)	Office Expenses/Misc. Expenses	5487098.00	8566163.00
xv)	Legal Charges/Professional charges	782820.00	933240.00
xvi)	Magazines & Journals	7283.00	12789.00
xvii)	Other specify	--	--
<b>Total</b>		<b>32689666.00</b>	<b>33806872.00</b>

<b>SCHEDULE 12 (C)-- Transportation Expenses</b>		<b>Current Year</b>	<b>Previous Year</b>
i) Vehicles (owned by educational Institution)			
a)	Running Expenses	1138230.00	1731140.00
b)	Repair& Maintenance	675817.00	347956.00
c)	Insurance Expenses	123161.00	262616.00
2.Vehicles taken on rent/lease			
a)	Rent /Lease Expenses	--	20000.00
<b>Total</b>		<b>1937208.00</b>	<b>2361712.00</b>

<b>SCHEDULE 12 (D) Repair and Maintainance</b>		<b>Current Year</b>	<b>Previous Year</b>
i)	Buildings	25882716.00	13013216.00
ii)	Furniture & Fixture	16301.00	20000.00
iii)	Plant & Machinery	684586.00	297786.00
iv)	Office Equipment	70605.00	271350.00
v)	Cleaning Material & services	2268259.00	2184151.00
<b>Total</b>		<b>28922467.00</b>	<b>15786503.00</b>

<b>SCHEDULE 12 (E)-- Finance Cost</b>		<b>Current Year</b>	<b>Previous Year</b>
i)	Interest on fixed loans	--	--
ii)	Interest on other loan	--	--
iii)	Bank Charges	9897.00	11001.00
iv)	Other	--	--

Total	<b>9897.00</b>	<b>11001.00</b>
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SCHEDULE 12 ( F)--		Current Year	Previous Year
i)	Transferred to Pension and Pensionery account	4622000.00	4320000.00

Total 12(A+B+C+D+E +F)	<b>100074100.00</b>	<b>78510636.00</b>
------------------------	---------------------	--------------------

1. Fixed Asset written off	---	--
2. Depreciation	35849890.29	28057803.21
<b>  Total</b>	<b>35849890.29</b>	<b>28057803.21</b>

Sd/- Finance Officer,  
NERIST

Sd/- Director,  
NERIST

NORTH EASTERN REGIONAL INSTITUTE OF SCIENCE  
NIRJULI :: ARUNACHAL PRADESH :: 7  
RECEIPT & PAYMENTS ACCOUNTS FOR THE YEAR EN

Opening Balance		Current Year	Previous Year	
		.27	.27	a) Establishm
b) Imprest	13	3 57 650.00	3 52 650.00	b) Administrat
c) Bank Balance		15 57 24 952.22	9 95 72 493.23	2. Expenditure o
a) Cash in hand				capital work i
2. Grants In-Aid Received from Ministry of HRD Deptt. Of Education. Govt. of India, New Delhi				a) Purchase o
Non Plan (Salary) head		47 92 00 000.00		b) Expenditur
Non Plan (Non Salary) head		7 72 22 000.00		Progress
			9 79 48 000.00	3. Other payme
			3 48 00 000.00	
			6 31 48 000.00	<u>Closing Balanc</u>
			9 00 00 000.00	a) Cash in ha
			10 58 96 000.00	
			2 50 00 000.00	
			1 10 80 000.00	b) Imprest
			1 10 80 000.00	
			90 80 000.00	<u>Bank Balance</u>
			90 80 000.00	a) <u>In Curren</u>
			40 00 000.00	Details of Bank b
Plan (Capital) ,Plan SC- Capital & Plan ST- Capital		69 09 22 000.00		1. Plan Fund (C
			39 03 00 000.00	2. Plan Fund(G
Plan -General ,Plan SC- General & Plan ST- General		8 00 00 000.00		3. Non Plan Fur
				4. Non Plan Fur
			4 22 00 000.00	(Non Salary )
				5. Students Cat
				5. Security Dep
				EMD and other
3. Interest earned on Short term Deposit with SBI /AXIS bank and others	14	8 32 437.00	19 53 756.00	
4. Other Income		28916290.03	30987244.93	
<b>5. Any other Receipt</b>	<b>15</b>	<b>60476876.00</b>	<b>66089333.00</b>	
Total		<b>1573652205.52</b>	<b>1092567477.43</b>	TOTAL

Sd/- Finance Officer  
NERIST

Sd/- Directo  
NERIST

NORTH EASTERN REGIONAL INSTITUTE OF SCIENCE AND TECHNOLOGY  
NIRJULI : : ARUNACHAL PRADESH

**SCHEDULE FORMING PART OF RECEIPTS AND PAYMENTS ACCOUNTS**

**FOR THE YEAR ENDED 31<sup>ST</sup> MARCH, 2016**

(Amount in Rs.)

SCHEDULE 13A -- Opening Balance		Current Year	Previous Year
i)	Cash in hand	0.27	0.27
ii)	Imprest	357650.00	352650.00
iii)	AXIS Bank A/c	13290336.93	6078577.00
iv)	State Bank of India (NEE A/c)	14734.00	14889.00
v)	State Bank of India (Society for NERIST A/c)	142419881.29	93479027.23
<b>TOTAL</b>		<b>156082602.49</b>	<b>99925143.50</b>

SCHEDULE 13B -- GRANTS from MHRD		Current Year	Previous Year
	<b>a) Plan (Capital)</b>		
	<b>F No.9-5/2015-TS.VII dtd.03.07.2015</b>	<b>2,32,50,000.00</b>	23250000.00
	<b>F No.9-5/2015-TS.VII dtd.03.07.2015</b>	<b>45,00,000.00</b>	4500000.00
	<b>F No.9-5/2015-TS.VII dtd.03.07.2015</b>	<b>22,50,000.00</b>	2250000.00
	<b>F No.9-5/2015-TS.VII dtd.25.08.2015</b>	<b>45,00,000.00</b>	2250000.00
	<b>F No.9-5/2015-TS.VII dtd.25.08.2015</b>	<b>2,32,50,000.00</b>	4500000.00
	<b>F No.9-5/2015-TS.VII dtd.25.08.2015</b>	<b>22,50,000.00</b>	23250000.00
	<b>F No.9-5/2015-TS.VII dtd.09.12.2015</b>	<b>4,50,00,000.00</b>	2250000.00
	<b>F No.9-5/2015-TS.VII dtd.09.12.2015</b>	<b>2,25,00,000.00</b>	4500000.00

	<b>F No.9-5/2015-TS.VII dtd.09.12.2015</b>	<b>19,50,00,000.00</b>	23250000.00
	<b>F No.9-5/2015-TS.VII dtd.10.02.2016</b>	<b>8,40,00,000.00</b>	5812000.00
	<b>F No.9-5/2015-TS.VII dtd.10.02.2016</b>	<b>90,00,000.00</b>	563000.00
	<b>F No.9-5/2015-TS.VII dtd.10.02.2016</b>	<b>45,00,000.00</b>	1125000.00
	<b>F No.9-5/2015-TS.VII dtd.29.03.2016</b>	<b>37,50,000.00</b>	17700000.00
	<b>F No.9-5/2015-TS.VII dtd.29.03.2016</b>	<b>3,87,50,000.00</b>	8850000.00
	<b>F No.9-5/2015-TS.VII dtd.29.03.2016</b>	<b>75,00,000.00</b>	91450000.00
	<b>F No.9-5/2015-TS.VII dtd.30.03.2016</b>	<b>17,19,67,000.00</b>	735000.00
	<b>F No.9-5/2015-TS.VII dtd.30.03.2016</b>	<b>1,62,55,000.00</b>	125293000.00
	<b>F No.9-5/2015-TS.VII dtd.30.03.2016</b>	<b>3,27,00,000.00</b>	1470000.00
		--	7595000.00
		--	26465000.00
		--	13242000.00
	<b>Total (a)</b>	<b>69,09,22,000.00</b>	<b>390300000.00</b>
	<b>b) Plan (General)</b>		
	<b>F No.9-5/2015-TS.VII dtd.03.07.2015</b>	<b>5,62,000.00</b>	562000.00
	<b>F No.9-5/2015-TS.VII dtd.03.07.2015</b>	<b>58,13,000.00</b>	5813000.00
	<b>F No.9-5/2015-TS.VII dtd.03.07.2015</b>	<b>11,25,000.00</b>	1125000.00
	<b>F No.9-5/2015-TS.VII dtd.25.08.2015</b>	<b>58,13,000.00</b>	1125000.00
	<b>F No.9-5/2015-TS.VII dtd.25.08.2015</b>	<b>5,62,000.00</b>	5813000.00
	<b>F No.9-5/2015-TS.VII dtd.25.08.2015</b>	<b>11,25,000.00</b>	562000.00
	<b>F No.9-5/2015-TS.VII dtd.10.02.2016</b>	<b>1,16,24,000.00</b>	562000.00
	<b>F No.9-5/2015-TS.VII dtd.10.02.2016</b>	<b>22,50,000.00</b>	1125000.00

	<b>F No.9-5/2015-TS.VII dtd.10.02.2016</b>	<b>11,26,000.00</b>	5813000.00
	<b>F No.9-5/2015-TS.VII dtd.29.03.2016</b>	<b>37,50,000.00</b>	563000.00
	<b>F No.9-5/2015-TS.VII dtd.29.03.2016</b>	<b>3,87,50,000.00</b>	5812000.00
	<b>F No.9-5/2015-TS.VII dtd.29.03.2016</b>	<b>75,00,000.00</b>	1125000.00
		--	338000.00
		--	675000.00
		--	3487000.00
		--	5967000.00
		--	1155000.00
		--	578000.00
	<b>Total (b)</b>	<b>8,00,00,000.00</b>	<b>42200000.00</b>

	<b>c) Non Plan ( Salary Components)</b>		
	<b>F No.9-6/2015-TS.VII dtd.30.06.2015</b>	<b>11,23,00,000.00</b>	97948000.00
	<b>F No.9-6/2015-TS.VII dtd.24.08.2015</b>	<b>11,23,00,000.00</b>	34800000.00
	<b>F No.9-6/2015-TS.VII dtd.04.12.2015</b>	<b>11,23,00,000.00</b>	63148000.00
	<b>F No.9-6/2015-TS.VII dtd.26.02.2016</b>	<b>11,23,00,000.00</b>	90000000.00
	<b>F No.9-6/2015-TS.VII dtd.29.03.2016</b>	<b>3,00,00,000.00</b>	105896000.00
			25000000.00
	<b>Total ( c )</b>	<b>47,92,00,000.00</b>	<b>416792000.00</b>
	<b>Total d) Non Plan (Non Salary Components</b>		
	<b>F No.9-6/2015-TS.VII dtd.30.06.2015</b>	<b>1,12,00,000.00</b>	11080000.00
	<b>F No.9-6/2015-TS.VII dtd.24.08.2015</b>		11080000.00

		<b>1,11,11,000.00</b>	
	<b>F No.9-6/2015-TS.VII dtd.26.02.2016</b>	<b>2,23,11,000.00</b>	9080000.00
	<b>F No.9-6/2015-TS.VII dtd.29.03.2016</b>	<b>3,26,00,000.00</b>	9080000.00
		--	4000000.00
	<b>Total (d)</b>	<b>7,72,22,000.00</b>	<b>44320000.00</b>
	<b>Total Grants (a+b+c+d)</b>	<b>1,32,73,44,000.00</b>	<b>893612000.00</b>

**SCHEDULE 14A – (ACADEMIC RECEIPTS) Other Income**

		Current Year	Previous Year
<b>Fees from Students</b>			
a)Academic			
1	Tuition fee	4483954.00	7772275.00
2	Admission fee	116616.00	94155.00
3	Enrolment fee	--	--
4	Library admission fee	----	----
5	Laboratory fee	---	---
6	Art & Craft fee	--	--
7	Registration fee	4275975.00	150200.00
8	Syllabus fee	90173.00	80595.00
<b>Total (a)</b>		<b>8966718.00</b>	<b>8097225.00</b>
<b>b) Examination</b>			
i)	Admission test fee		--
2)	Annual Examination fee	1483086.00	1309835.00



3)	Mark sheet, certificate fee	965837.00	926545.00	
4)	Convocation fee	195000.00	153100.00	
<b>Total (b)</b>		<b>2643923.00</b>	<b>2389480.00</b>	<b>23</b>

<b>c) Other fee</b>				
1	Identity Card fee	43806.00	36840.00	
2	Fine/Miscellaneous fee	556637.00	626884.00	
3	Medical fee	257719.00	232120.00	
4	Transportation fee	--	--	
5	Hostel fee	1998077.00	195170.00	
6	ECA fee	977324.00	878740.00	
7	Other fee	2170573.00	889220.00	
<b>Total (c)</b>		<b>6004136.00</b>	<b>2858974.00</b>	<b>23</b>

<b>d) Sale of publication</b>			
1	Sale of syllabus and Question Paper etc	--	--
2	Sale of prospectus including admission forms	7286393.03	14241986.93
<b>Total d)</b>		<b>7286393.03</b>	<b>14241986.93</b>
<b>Total 14 (A) (a+b+c+d)</b>		<b>24901170.03</b>	<b>27587665.93</b>

**SCHEDULE 14B – (MISC RECEIPTS) Other Income**

	Current Year	Previous Year
<b>a) Income from Land &amp; Building</b>		

1	Hostel Room Rent/ Guest house Seat Rent	1259289.00	611500.00	
2	License fee	--	--	
3	Hire charges of Auditorium/Play ground/Convention Centre	132138.00	----	
4	Electricity & Water Charges	1546150.00	1660539.00	
5	Building and ATM rent	115519.00	279991.00	
<b>Total (a)</b>		<b>3053096.00</b>	<b>2552030.00</b>	<b>25</b>
<b>b. Interest on term deposit / other deposits</b>				
1	Interest on mobilization advance of Construction of Girl's hostel ( Society for NERIST A/c)	0.00	890000.00	
2	NEE A/c	11162.00	179839.00	
3	AXIS Bank A/c	821275.00	883917.00	
<b>Tota (b)</b>		<b>832437.00</b>	<b>1953756.00</b>	<b>19</b>

<b>c .Other</b>				
1	Income from consultancy	--	---	
2	RTI fee	22625.00	3995.00	
3	Income from Royalty	--	---	
4	Sale of application form (Recruitment)	95500.00	239150.00	
5	Misc Receipt( Sale of tender form, waste paper, etc	176150.00	24050.00	
6	Bus Fare / Hire charges	136483.00	113897.00	
7	Profit on Sale/disposal Assets	531266.00	4000.00	
8	Bond recovery from Faculty	0.00	462457.00	
<b>Total ( c)</b>		<b>962024.00</b>	<b>847549.00</b>	<b>8</b>

<b>TOTAL 14 (B) (a+b+c)</b>	<b>4847557.00</b>	<b>5353335.00</b>	<b>53</b>
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<b>TOTAL 14 (A) +14 (B)</b>	<b>29748727.03</b>	<b>32941000.93</b>
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**SCHEDULE 15--- Any Other receipts**

i)	Caution Money from Students	3778396.00	2973845.00
ii)	Advances Received from Staff	4821753.00	4204761.00
iii)	Security Deposit	7968990.00	5353053.00
iv)	Earnest Money Deposit	315933.00	5000.00
iv)	Students Welfare Fund	268873.00	236780.00
v)	Alumani association etc	200542.00	149825.00
vi)	Loan/ advance to Project A/c etc	30487500.00	30000000.00
vii)	Loan/ advance to Nodal Centre etc	--	--
viii)	Other misc advance	42314.00	11637250.00
ix)	Investment	12592575.00	11528819.00
	<b>TOTAL</b>	<b>60476876.00</b>	<b>66089333.00</b>

**SCHEDULE 16—Establishment Expenses**

i)	Salary & Wages	347622950.00	314033290.00
ii)	Allowance & Bonus	1177236.00	1363116.00
iii)	Contribution to Provident Fund	32115597.00	27945200.00
iv)	Contribution to Other fund (Specify)		
v)	NPS	15117750.00	9591960.00

vi)	EPF	3391526.00	3158863.00
vii)	GPF	48140.00	81680.00
viii)	Staff Welfare Expenses	20000.00	--
ix)	Retirement and terminal benefit s etc	6487277.00	3485480.00
x)	LTC facility	3500278.00	6555710.00
xi)	Medical facility	17708496.00	16919812.00
xii)	Children Educational Allowances	4950672.00	5227224.00
xiii)	Honorarium	789270.00	5130850.00
xiv)	TA/DA Expenses	---	--
xv)	Other ( Specify		
xvi)	Liveries & Uniforms	--	736395.00
xvii)	Professional Development Allowance to Faculty	6038370.00	4547463.00
xviii)	Salary & Wages for Kendriya Vidyalaya	14528000.00	10454000.00
	<b>TOTAL</b>	<b>453495562.00</b>	<b>409231043.00</b>

(Amount in Rs.)

<b>SCHEDULE 17 A -- Academic Expenses</b>		<b>Current Year</b>	<b>Previous Year</b>
i)	Laboratory Expenses	3666031.00	4007148.00
ii)	Field Work/ Participation	--	--
iii)	Seminar/Workshop	345248.00	--
iv)	Payment to visiting faculty	442482.00	419669.00

v)	Examination	673598.00	530147.00
vi)	Student Welfare Expenses	4717755.00	4823693.00
vii)	Admission Expenses	268494.00	281070.00
viii)	Convocation Expenses	1893598.00	2511995.00
ix)	Publications	---	--
x)	Stipend/means cum merit scholarship (As per 45 <sup>th</sup> FC decision Stipend/ scholarship has been spent from Plan ( General) account	19664362.00	9480132.00
xi)	Subscription expenses	---	--
xii)	Other Specy (NCC/NSS)	221294.00	170694.00
<b>TOTAL</b>		<b>31892862.00</b>	<b>22224548.00</b>

(Amount in Rs.)

<b>SCHEDULE 17 (B)-- Other Administrative Expenses</b>		<b>Current Year</b>	<b>Previous Year</b>
i)	Entrance Examination	2630441.00	2686334.00
ii)	Printing & Stationary	4622856.00	3585192.00
iii)	Traveling Allowances	5023835.00	5007206.00
iv)	Advertisement/Publicity	311146.00	346205.00
v)	Postage, & Telephone	472936.00	588048.00
vi)	Telegram & Internet Charges	1694125.00	--
vii)	Electricity and Power	11122027.00	11271340.00
viii)	Water Charges	357780.00	530355.00
ix)	Insurance	---	--
x)	Rent, Rates and taxes (Including Property Tax )	--	--

xi)	Expenses on Seminar /Workshops	--	---
xii)	Hospitality	--	---
xiii)	Auditors Remuneration	396147.00	---
xiv)	Office Expenses /Misc. Expenses	5487098.00	8566163.00
xv)	Legal Charges/Professional charges	782820.00	933240.00
xvi)	Magazines & Journals	7283.00	12789.00
xvii)	Other specify	--	--
	<b>Total</b>	<b>32908494.00</b>	<b>33526872.00</b>

<b>SCHEDULE 17 (C)-- Transportation Expenses</b>		<b>Current Year</b>	<b>Previous Year</b>	
i) Vehicles (owned by educational Institution)				
a)	Running Expenses	1138230.00	1731140.00	
b)	Repair& Maintenance	675817.00	347956.00	
c)	Insurance Expenses	123161.00	262616.00	
2.Vehicles taken on rent/lease				
a)	Rent /Lease Expenses	--	20000.00	
<b>Total</b>		<b>1937208.00</b>	<b>2361712.00</b>	<b>2361712.00</b>

<b>SCHEDULE 17 (D) Repair and Maintainance</b>		<b>Current Year</b>	<b>Previous Year</b>
i)	Buildings	25882716.00	13013216.00
ii)	Furniture & Fixture	16301.00	20000.00
iii)	Plant & Machinery	684586.00	297786.00
iv)	Office Equipment	70605.00	271350.00

v)	Cleaning Material & services	2268259.00	2184151.00
	<b>Total</b>	<b>28922467.00</b>	<b>15786503.00</b>

<b>SCHEDULE 17 (E)-- Finance Cost</b>		<b>Current Year</b>	<b>Previous Year</b>
i)	Interest on fixed loans	--	--
ii)	Interest on other loan	--	--
iii)	Bank Charges	9897.00	11001.00
iv)	Other	--	--
<b>Total</b>		<b>9897.00</b>	<b>11001.00</b>

<b>SCHEDULE 17 ( F)--</b>		<b>Current Year</b>	<b>Previous Year</b>
i)	Transferred to Pension and Pensionery account	4622000.00	4320000.00

<b>Total 17 (A to F )</b>	<b>100292928.00</b>	<b>78230636.00</b>
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<b>SCHEDULE 18A -- Expenditure on Capital Works in Progress/ completed</b>		<b>Current Year</b>	<b>Previous Year</b>
	<b>a)Plan (Capital) works</b>		
i)	Construction of Road	4848355.00	14999653.00
ii)	Construction of 24 no Class Rooms	22000000.00	15000000.00
iii)	Construction of CEP Building	0.00	5512000.00
iv)	Construction of 2 <sup>nd</sup> floor CEP Building	30000000.00	0.00
v)	Construction of Silver Jubilee Hall	0.00	40000000.00
vi)	Construction of Girl's Hostel	0.00	9628886.00
vii)	Construction of 2 <sup>nd</sup> floor Girl's Hostel	40000000.00	0.00
viii)	Construction of Boy,s Hostel	110000000.00	25000000.00
ix)	Construction of Gallery in play ground	4280917.00	1081500.00
x)	Construction of utility centre	0.00	12500000.00
xi)	Construction of Extension of admn building	0.00	10000000.00
xii)	Construction of Flood Protection works	0.00	50000000.00
xiii)	Construction of widening of road	5010000.00	8000000.00

xiv)	Construction of Permanent Admn building	0.00	40000000.00
xv)	Construction of library building	80000000.00	39000000.00
xvi)	Construction of residential quarters	30000000.00	23000000.00
xvii)	Construction of Central Workshop	105000000.00	0.00
xviii)	Construction of Peripheral Road	3766074.00	0.00
xix)	Construction of Boundry wall	1224638.00	0.00
xx)	Other Construction works	34553388.00	10685618.00
	<b>Total</b>	<b>470683372.00</b>	<b>304407657.00</b>

<b>SCHEDULE 18B -- Expenditure on the Purchase of Lab/Workshop/ office equipments</b>		<b>Current Year</b>	<b>Previous Year</b>
Equipments			
i)	Mechanical Engg. Department	2547565.00	305972.00
ii)	Applied Science Department	389653.00	943129.00
iii)	Electrical Engg. Department	2079861.00	113794.00
iv)	Chemistry Department	0.00	--
v)	Computer Science & Engg. Department	1737401.00	1146044.00
vi)	Agricultural Engg. Department	1474981.00	222687.00
vii)	Humanities & Social Science Department	---	---
viii)	Physics Department	810810.00	909597.00
ix)	E.T.Cell	--	37949.00
x)	CMS	--	150000.00
xi)	ACCF	--	---
xii)	Electronics & Commn. Engg.	1003950.00	474824.00
xiii)	Civil Engg. Department	412136.00	71249.00
xiv)	CRF	--	---
xv)	Maths	--	--
xvi)	CATARD	--	--
xvii)	Medical Equipment	--	---
xviii)	LAN/WAN	5254824.00	2192808.00
xix)	Computer Peripherals	1447072.00	3172139.00
xx)	Electrical appliance	372200.00	632460.00
xxi)	Plant & Machinery		4795000.00
xxii)	Office Equipment	1575500.00	1925868.00
xxiii)	Electrical Installation	1045854.00	--
xxiv)	Tube well & Water supply system	7897670.00	2844625.00



xxv)	Sport equipment	--	1439921.00
	<b>TOTAL</b>	<b>28049477.00</b>	<b>21378066.00</b>

<b>SCHEDULE 18C -</b>		<b>Current Year</b>	<b>Previous Year</b>
	Library Books/Journals		
i)	Library Books/Journals	<b>2930819.00</b>	<b>4222525.00</b>

<b>SCHEDULE 18D -</b>		<b>Current Year</b>	<b>Previous Year</b>
	Furniture & Fixtures	<b>17200624.00</b>	<b>13033683.00</b>

<b>SCHEDULE 18E</b>		<b>Current Year</b>	<b>Previous Year</b>
	Vehicle	<b>1473696.00</b>	---

<b>SCHEDULE 18F</b>		<b>Current Year</b>	
	Plan (General )Activities Expenditure		
	Construction of C.C.Drain	5471273.00	901966.00
	Construction of Retaining Wall	1071750.00	15911010.00
	Renovation works for buildings	7128522.00	7595129.00
	Re carpeting of road	14530898.00	3220190.00
	Other campus development works	11369618.00	8040916.00
	<b>Total</b>	<b>39572061.00</b>	<b>35669211.00</b>

<b>Total 18 ( A to F )</b>	<b>559910049.00</b>	<b>378711142.00</b>
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<b>SCHEDULE 19 -- Other payments</b>		<b>Current Year</b>	<b>Previous Year</b>
i)	Advances to Staff & others	3446953.00	3735450.00
ii)	Security Deposits to contractors	3800147.00	9346851.00
iii)	Caution Money of Students	2281300.00	2212029.00

iv)	Investment (Short Term Deposit receipt of Axis Bank / SBI	13425012.00	12592575.00
vi)	Student Welfare fund	320186.00	83899.00
vii)	Alumani Association	.--	--
viii)	Loan to Project Account	30487500.00	30104000.00
ix)	Secuirity Deposit by Institute to EE(E), Deptt of Power, NLG	---	--
x)	Earnest money deposit	19700.00	600000.00
x)	Other misc advance	--	11637250.00
	<b>Total</b>	<b>53780798.00</b>	<b>70312054.00</b>

<b>SCHEDULE 20 -- Closing Balance</b>		<b>Current Year</b>	<b>Previous Year</b>
i)	Cash in hand	0.27	0.27
ii)	Imprest	357650.00	357650.00
iii)	AXIS Bank	6053752.96	13290336.87
iv)	State Bank of India (NEE A/c)	14104.00	14734.00
v)	State Bank of India (Society for NERIST)	399747361.29	142419881.29
	<b>Total</b>	<b>406172868.52</b>	<b>156082602.43</b>

Sd/- Finance Officer  
NERIST

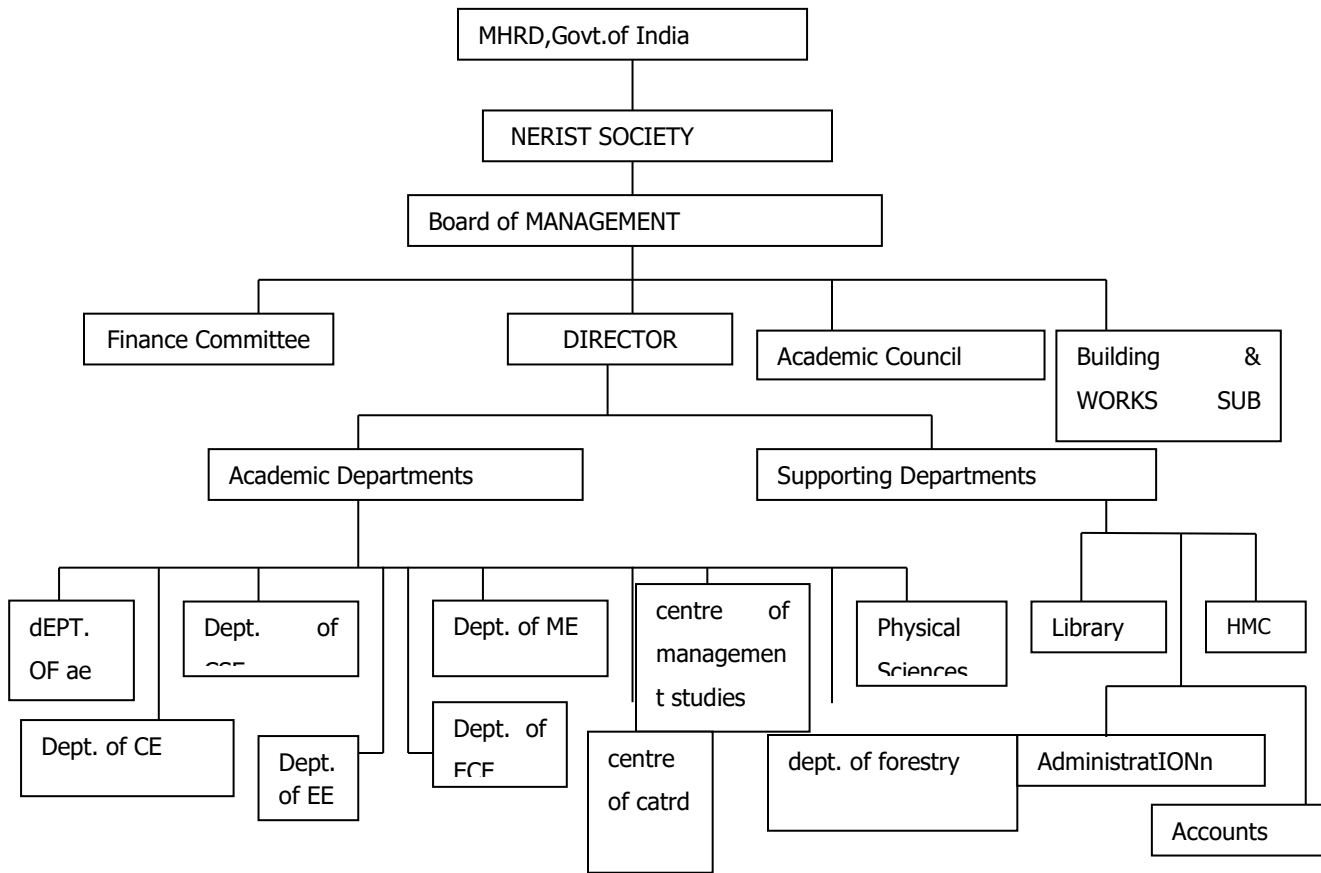
Sd/-Director  
NERIST

## Accounting Policy and Notes

### INTRODUCTION

The North Eastern Regional Institute of Science and Technology (NERIST) was set up by the Government of India, initially as a project of the North Eastern Council, for providing a system of education to create technical manpower at various levels for the development of the North Eastern region of the country. The foundation stone of the Institute was laid by late Giani Zail Singh, the then President of India, on 4<sup>th</sup> March, 1984 and the first batch of students was admitted to the Base Module in August, 1986 and subsequently to Diploma and Degree Module. The Institute is under MHRD since 1994. So far by July, 2007, sixteen batches of graduates in Engineering with specialization in Agricultural Engineering, Civil Engineering, Computer Science & Engineering, Electronics & Communication Engineering, Electrical Engineering, Mechanical Engineering and in Forestry have completed their degrees. The Institute has already introduced M. Tech. (Full Time), M.B.A and Ph.D. (Part-time) Programmes from the Academic Session 2006-07.,

The Institute attained the status of Deemed University under section 3 of the UGC Act, 1956, vide Notification No. F.9-15/2005-U.3, dated 31<sup>st</sup> May, 2005 by Ministry of Human Resource Development, Govt. of India.



## GENERAL

The financial statement are prepared in three parts i.e.(1) Receipt and Payment Account .(ii) Income and expenditure and (iii) balance sheet

On Accounting Policy of the Institute, we follow the procedure as :-

### 1.

a).The Institute followed accrual basis for maintaining its accounts. As per implementation of revised accounting standard in educational institutions many sub heads are included. Also

b).The Institute have been following Bank accounts as

i. Society Account of NERIST

ii Project Account of NERIST

iii. NAIP Project (ICAR) Account

iv.Contributory Pension Scheme Account

v. Contributory provident Fund Account of NERIST

vi.Scholarship Account of NERIST

vii. NERIST Pension and pensionary account

viii..We maintained a separate NEE account/Axis bank account but it is a

subsidiary of society Account of NERIST

c) Account of the Institute are prepared based on GFR/CCS/CTR/ and other rules/guide lines of the Government of India.

### 2 Provision of out standing expenses/out standing dues :

Provision of out standing expenses/out standing dues under Income and Expenditure account are as follow

Sl no.	Heads	Current year	Previous year	Remarks
1	Medicine	1763402.00	1000000.00	Outstanding expenses 2015-16
2	electricity	841172.00	850000.00	-do-
3	Administrative Expenses (Audit fee)	150000.00	360000.00	-do-
4	Retirement benefit	8159950.00	2996946.00	Provision for

				financial year2016-17
5	Leave Encashment	10051680.00	2259080.00	Provision for financial year2016-17
6	Shop Rent	126004.00	90905.00	Outstanding Dues 2015-16

### 3. Revenue Recognition

- i) The Institute is funded by the Ministry of Human Resource & Development (MHRD), Govt. of India. The government releases the Grant under two major heads i.e. PLAN and NON-PLAN. Grants from Government of India is accounted for in the same financial year for which it is sanctioned by the MHRD, Government of India.
- ii) The major sources for Internal Revenue Generation ( IRG) are various fees realized from students (Collected during academic year ), interest earned on investments and other miscellaneous income.

### 4. Fixed asset & Depreciation

Fixed assets have been depreciated adopting Strait Line Method on pro-rata basis at rates as under mentioned in Revised Accounting Standard in educational institutions manual provided by MHRD as bellow.:

Type of Assets	Rate of Annual Depreciation
Buildings / Roads / Bridges	2 %
Tube well & Water Supply	2 %
Plant and Machinery	5%
Scientific and Laboratory equipments	8%
Office Equipments	7.5 %
Computer & Peripherals	20 %
Furniture, fixture & Fitting	7.5%
Vehicles	10%
Lib Books & Journals	10%

No depreciation is charged on capital work in progress.

5.

a) Budget provision and expenditure as under in r/o NERIST as per Receipt and Payment Account during 2015-16

(Rs in lakh)

Year	Budget Provision	Opening balance	Grants received	Other receipt	Total (3+4+5)	Expenditure incurred	Closing balance (6-7)
1	2	3	4	5	6	7	8
2015-16	37797.07	1560.83	13273.44	902.25	15736.52	11674.79	4061.73

b) Budget allocation and expenditure ( as per utilization certificate) during 2015-16

(Rs in lakh)

Head	Budget Provision	Opening balance	Grants in received	Other receipt ( IRG)	Total (3+4+5)	Expenditure incurred	Closing balance (6-7)
1	2	3	4	5	6	7	8
Plan	25541.07	847.29	7709.22	--	8556.51	5795.74	2760.77
Non Plan	12256.00	537.11	5564.22	297.49	6398.82	5341.24	1057.58
Total	37797.07	1384.40	13273.44	297.49	14955.33	11136.98	3818.35

6.a) Balance Sheet Account has been compiled from Schedule 1 to Schedule 6.

b) Income and Expenditure Account has been compiled from Schedule 7 to Schedule

12.

c) Receipt and Payment Account has been compiled from Schedule 13 to 20.

7. As per resolution of 45<sup>th</sup> Finance committee Meeting agenda item no FC:45:05, expenditure of PhD /GATE Scholarship of student has been spent in Plan ( General) head of Account .

8.

(a). Name of the Head of the Institute during 2015-16

Sl No.	Head of Institute	From	To
1	Prof P K Das, Director	01.04.2015	31.03.2016

(b).Name of the D.D.O. of the Institute during 2015-16

Sl. No	Name of the D.D.O.	From	To
1	Dr. R.P.Bhattacharjee, Registrar	01.04.2015	31.03.2016

9.

a)No of Under Graduate students as on 31.3.2016 -- 1249

b) No of Post Graduate students as on 31.3.2016 -- 279

c) ) No of Ph D students as on 31.3.2016 -- 217

Total 1745

10.

. a) No of teaching employees as on 31.3.2016 --- 136

b) No of non -teaching employees as on 31.3.2016 --- 347

Total 483

PHOTO GALARY