

## ACTION-1 DIRECTOR'S SUMMARY

It is a privilege to write a foreword to this 26<sup>th</sup> Annual Report 2012-2013 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, Gen (Retd.) J.J. Singh, PVSM, AVSM, VSM, His Excellency, the Governor of Arunachal Pradesh for his guidance and support. The Institute has also got its new Chairman of Board of Management, Mr. M.P. Bezbaruah, IAS (Retd.) since 9<sup>th</sup> March, 2012 who is a constant source of inspiration and guidance. In this connection, the Institute shall also like to thank the Technical Bureau, IFD and other offices of MHRD for their support and cooperation from time to time.

The Institute got its new Director, who joined on 24<sup>th</sup> October, 2011. Under his leadership and with support from all concerned, a number of new academic and infrastructure development initiatives have been taken. The Institute has decided to go for a University level collaboration with American University of Sharjah, UAE, which would be the first of its kind in the history of NERIST. The IT- service has seen a paradigm shift in the right direction. Some new academic programmes have been taken up. 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, there is no room for complacency and the Institute shall work even harder to achieve a still higher standard and try to meet targets for more than what has been expected of it so far.

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 best 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 reasonable though not spectacular. The Training & Placement Cell has been doing its best to invite Govt./Semi Govt./Public Enterprises to the Institute to conduct placement interviews for our students.

**Prof. Dipankar Pal**  
**Director**

## SECTION-2 INTRODUCTION

### 2.1 The Institute

#### General

Perched in the untrammled 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. The state of 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 at 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, Forestry, Chemistry, Physics, Mathematics, Humanities & Social Sciences and Center for Management Studies 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 programs were started in 1996-97 in two fields 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 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 12 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.

### Objectives

- To provide suitable and efficient institutional facilities for the training of technical and scientific manpower in different disciplines with particular reference to the special need of the North Eastern States; to help them in the proper exploitation of the available resources for economic development;
- To prepare skilled manpower/technicians required for the execution of developmental schemes through certificate/diploma courses;
- To train specialised skilled manpower through graduate level courses;
- To offer highly specialised post-graduate courses;
- To conduct research; and
- To provide industrial consultancy.

### Vision

To contribute to the development of the north eastern region in particular and the country in general by increasing the competency levels of the people and creation and dissemination of scientific and technical knowledge relevant to the needs of the society.

## 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. M.P. Bezbarua is the 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 programmes 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. programme;
- Well equipped laboratories and workshops;
- Fully residential campus;
- Dedicated service for the 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. 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. As on March, 2013, the numbers of UG students were 1206, PG students were 217 and Ph.D. Scholar were 140. The total strength of students at present is 1563, which reflects an appreciable increase in number as compared to the previous years.

### 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.

As per the recommendation of Academic Council in its 8<sup>th</sup> Meeting and approval of Board of Management the admission of Forestry discipline in Base Module Course was withdrawn from the academic session of 2010-2011 and the total seats were equally distributed in five engineering disciplines i.e. Agricultural, Civil, Electrical, Electronics & Communication and Mechanical Engineering. However, the 4 years Degree Programme (after class 10+2/NERIST Base Module Certificate Course) in Forestry stream exists in this Institute.

### 3.3 Courses offered for Under Graduate Programme

During 2012-13, 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 Craftmanship 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 & Electrical 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 & 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 were offered during 2012-2013.

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

- a) M.Tech. in Information Technology under the Department of Computer Science & Engineering.

- b) M.Tech. in Computer Science & Engineering under the Department of Computer Science & Engineering.
- c) M.Tech. in Environmental Science & 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 & Automation under the Department of Mechanical Engineering.
- g) M.Tech. in Thermo-fluid Engineering under the Department of Mechanical Engineering.
- h) M.Tech. in Electronics & Communication Engineering under the Department of Electronics & Communication Engineering.
- i) M.Tech. in VLSI under the Department of Electronics & Communication Engineering.
- j) M.Tech. in Farm Machinery & Power under the Department of Agricultural Engineering.
- k) 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 & Engineering
- Electrical Engineering
- Electronics & Communication Engineering
- Mechanical Engineering

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

- Forestry
- Physics
- Chemistry
- Mathematics
- Humanities & Social Sciences
- Management

### 3.5 Highlights

The following PG programmes have been introduced during 2012-13:-

- (1) M.Tech. in VLSI under the Department of Electronics and Communication Engg.
- (2) M. Tech. in Electronics and Communication Engineering under the Department of Electronics and Communication Engineering.
- (3) M.Tech. in Thermo-Fluid Engineering under the Department of Mechanical Engineering.
- (4) M.Tech. in Information Technology has been shifted to the Department of Computer Science Engineering from the Department of Electronics and Communication Engineering.

### 3.6 Any other relevant information/data

Number of Students enrolled in July-December Semester, 2012-13 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)	36	12	14
Civil Engineering (CE)	40	37	33
Computer Science & Engineering (CS)	Does not exist	10	19
Electrical Engineering (EE)	38	39	34
Electronics & Communication Engg. (EC)	35	30	45
Mechanical Engineering (ME)	40	39	33
<b>Total</b>	<b>189</b>	<b>167</b>	<b>167</b>

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

DISCIPLINE	BASE	DIPLOMA	DEGREE
AE	22	20	16
CE	34	34	39
CS	Does not exist	3	14
EE	30	29	34
EC	31	33	37
ME	34	28	28
Forestry (FO)	--	Does not exist	Shown separately
<b>Total</b>	<b>151</b>	<b>147</b>	<b>168</b>

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

Year	No. of students
First	18
Second	28
Third	26
Fourth	06
<b>Total</b>	<b>78</b>

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

Discipline	No. of students
AE	01
CE	08
CS	14
EE	11
EC	08
ME	09
<b>Total</b>	<b>51</b>

**Table 5: No. of Students enrolled as Repeaters**

DISCIPLINE	BASE	DIPLOMA	DEGREE
AE	11	03	01
CE	11	03	01
CS	Does not exist	02	04
EE	07	04	05
EC	07	02	04
ME	06	03	03
FO	04		
<b>Total</b>	<b>46</b>	<b>17</b>	<b>18</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	22	14	14	08	10	01	69
CE	31	09	27	07	08	03	85
EE	31	07	24	06	04	03	75
EC	27	08	28	03	04	03	73
ME	39	01	32	02	04	02	80
FO	Course withdrawn						
<b>Total</b>	<b>150</b>	<b>39</b>	<b>125</b>	<b>26</b>	<b>30</b>	<b>12</b>	<b>382</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	04	14	06	02	00	34
CE	30	07	28	06	03	00	74
CS	08	02	02	01	02	00	15
EE	29	10	24	05	04	00	72
EC	20	10	26	07	02	00	65
ME	36	03	27	01	03	00	70
<b>Total</b>	<b>131</b>	<b>36</b>	<b>121</b>	<b>26</b>	<b>16</b>	<b>00</b>	<b>330</b>

**Table 8: Gender-wise Detail of Students (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	11	03	12	04	01	00	00	00	31
CE	26	07	29	10	08	00	01	00	81
CS	16	03	11	03	12	02	04	00	51
EE	25	09	25	09	10	01	04	01	84
EC	28	17	26	11	06	02	04	00	94
ME	33	00	21	07	09	00	00	00	70
<b>Total</b>	<b>139</b>	<b>39</b>	<b>124</b>	<b>44</b>	<b>46</b>	<b>05</b>	<b>13</b>	<b>01</b>	<b>411</b>

**Table 9: Gender-wise Detail of Students (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	12	06	15	13	20	06	03	03	78
<b>Total</b>	<b>12</b>	<b>06</b>	<b>15</b>	<b>13</b>	<b>20</b>	<b>06</b>	<b>03</b>	<b>03</b>	<b>78</b>

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

Discipline	GE	OBC	SC	ST	PH	Total
AE	10	04	02	41	00	57
CE	15	10	04	43	02	74
EE	20	11	03	33	01	68
EC	37	06	02	18	03	66
ME	29	13	04	27	01	74
FO	00	00	00	00	00	00
<b>Total</b>	<b>111</b>	<b>44</b>	<b>15</b>	<b>162</b>	<b>07</b>	<b>339</b>

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

Discipline	GE	OBC	SC	ST	PH	Total
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AE	05	03	01	21	02	32
CE	20	09	05	35	02	71
CS	06	01	01	05	00	13
EE	13	10	07	26	02	58
EC	40	10	02	10	01	63
ME	26	14	04	21	02	67
<b>Total</b>	<b>110</b>	<b>47</b>	<b>20</b>	<b>118</b>	<b>09</b>	<b>304</b>

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

Discipline	GE	OBC	SC	ST	PH	Total
AE	05	02	04	19	00	30
CE	15	10	04	46	00	75
CS	09	03	02	19	00	33
EE	25	12	02	29	00	68
EC	55	10	02	13	02	82
ME	19	14	03	24	01	61
FO	17	09	00	75	04	105
<b>Total</b>	<b>145</b>	<b>60</b>	<b>17</b>	<b>225</b>	<b>07</b>	<b>454</b>

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

Discipline	AI	AL	AM	MG	MN	MZ	NL	SK	TR	TOTAL
AE	08	23	03	05	04	05	07	02	01	58
CE	07	14	08	08	07	07	08	08	07	74
EE	04	10	07	05	09	05	07	07	10	64
EC	09	13	06	05	08	07	08	03	07	66
ME	08	09	12	07	09	06	07	08	08	74
FO										
<b>Total</b>	<b>36</b>	<b>69</b>	<b>36</b>	<b>30</b>	<b>37</b>	<b>30</b>	<b>37</b>	<b>28</b>	<b>33</b>	<b>336</b>

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

Discipline	AI	AL	AM	MG	MN	MZ	NL	SK	TR	TOTAL
AE	05	06	02	02	04	02	05	03	03	32
CE	07	14	07	04	11	04	07	07	10	71
CS	03	00	02	00	03	03	00	00	02	13
EE	08	13	06	07	09	02	06	04	13	68
EC	09	08	08	04	10	03	05	03	13	63
ME	08	08	11	07	07	04	10	02	10	67
<b>Total</b>	<b>40</b>	<b>49</b>	<b>36</b>	<b>24</b>	<b>44</b>	<b>18</b>	<b>33</b>	<b>19</b>	<b>51</b>	<b>314</b>

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

Discipline	AI	AL	AM	MG	MN	MZ	NL	SK	TR	TOTAL
AE	03	10	05	02	03	00	05	00	02	30
CE	07	25	13	01	06	02	08	04	06	72
CS	06	05	05	03	06	01	03	00	04	33
EE	08	18	12	03	10	01	04	03	09	68
EC	14	13	14	06	09	03	11	03	09	82
ME	11	11	16	04	04	02	06	01	06	61
FO	05	17	07	08	11	09	10	05	06	78
<b>Total</b>	<b>54</b>	<b>99</b>	<b>72</b>	<b>27</b>	<b>49</b>	<b>18</b>	<b>47</b>	<b>16</b>	<b>42</b>	<b>424</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 & Water Conservation Engg.	05	05	00	10
		Farm Machinery & Power	03	00	00	03
2	CE	Environmental Science & Engg.	08	04	00	12
		Geotechnical Engg.	09	06	00	15
3	CS	Computer Science & Engineering	06	03	00	09
		Information Technology	08	09	00	17
4	EE	Power System Engineering	05	12	04	21
5	EC	Electronics & Comm. Engg.	10	00	00	10
		Very Large Scale Integrated	10	00	00	10
6	ME	Computer Aided Manufacturing & Automation	02	02	01	05
		Thermo Fluid Engg.	08	00	00	08
<b>Total</b>			<b>74</b>	<b>41</b>	<b>05</b>	<b>120</b>

**Table 17: No. of Students enrolled in M.Tech. (Part 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	<b>CSE</b>	Computer Science & Engineering	01	01	00	02
2.	<b>EE</b>	Power System Engineering	00	00	02	02
3.	<b>ME</b>	Computer Aided Manufacturing & Automation	00	01	00	01
<b>Total</b>			<b>01</b>	<b>02</b>	<b>02</b>	<b>05</b>

**Table 18: 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	3 <sup>rd</sup> Year	
1	PH	M.Sc. in Physics	09	01		10
2	CH	M.Sc. in Chemistry	07	01		08

3	MA	M.Sc. in Mathematics	03	02		05
4	FO	M.Sc. in Forestry	09	07		16
<b>Total</b>			<b>28</b>	<b>11</b>		<b>39</b>

**Table 19: 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	27	26	00	53
<b>Total</b>			<b>27</b>	<b>26</b>	<b>00</b>	<b>53</b>

**Table 20: No. of Students enrolled in Ph.D. (Part Time & Full Time)**

<b>Engineering Disciplines (A)</b>				
Sl. No.	Name of the Dept.	No. of Students admitted		Total
		Part Time	Full Time	
1	AE	03	04	07
2	CE	08	01	09
3	CS	03	02	05
4	EE	05	00	05
5	EC	06	01	07
6	ME	03	00	03
<b>Total (A)</b>		<b>28</b>	<b>08</b>	<b>36</b>

<b>Science, Humanities &amp; Management Studies disciplines (B)</b>				
7	Physics	05	06	11
8	Chemistry	02	03	05
9	Mathematics	06	09	15
10	Forestry	21	27	48
11	Humanities & Social Sciences	16	05	21
12	Management Studies	04	00	04
<b>Total (B)</b>		<b>54</b>	<b>50</b>	<b>104</b>
<b>Total (A) + (B)</b>		<b>82</b>	<b>58</b>	<b>140</b>

## 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 degree (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 summer training, 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.	Dr. (Mrs.) P. Rethy	Professor	Biosystematics & Ethnobotany
2.	Dr. M. L. Khan	Professor	Forest Ecology and Conservation Biology
3.	Dr. B. Singh	Professor	Horticulture & Agroforestry
4.	Dr. C. L. Sharma,	Associate Prof.	Wood Science & Technology
5	Dr. (Mrs.) Mary P. P.	Associate Prof	Fish Microbiology / entomology

6.	Dr. (Mrs.) M. B. Sharma	Associate Prof.	Wood Science & Forest Products
7	Dr. (Mrs.) Karuna Shrivastava	Associate Prof.	Microbial molecular biology
8	Dr. P. R. Gajurel	Assistant Prof.	Taxonomy, Ethnobotany & Medicinal Plants
9.	Dr. O. P. Tripathi	Assistant Prof.	Forest Ecology, Biodiversity Conservation & Remote sensing & GIS
10	Dr. L. B. Singha	Assistant Prof.	Forest Ecology, Biochemistry & Stress Physiology
11	Dr. S. Sureshkumar Singh	Assistant Prof.	Biotechnology, Microbial Ecology & Bioinformatics
12.	Dr. A. Kumar	Assistant Prof.	Wildlife Management
13	Mr. G. Pangging	Assistant Prof.	Forest Economics & Management

#### 4.1.2 Academic activities

The Institute is located in Eastern Himalayan region which happens to be one of the biodiversity hotspots. In view of the richness of natural resources and increasing threat from rampant habitat and ecosystem destruction, it is in fitness of things to give the education where one biodiversity hot spot of the world is located. Therefore, offered programme will lead to increase highly potential manpower having capabilities of utilization, management, policy making, cultivation and conservation of the forest resources most needed by the nation for socio-economic development. 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	Present enrollment
1	<b>B. Sc. Forestry (4 Years)</b>	78
2	<b>M. Sc. (2 years)</b>	16
3	<b>Ph.D. programme (minimum three years with one year course work)</b>	46

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 organisations such as M. S. Swaminathan Research Foundation; 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 to its credit of more than 55 projects completed and about 10 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 and the department has already produced more than 44 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 Institution has a strong collaboration at national and international level with various national and international institutes.

#### 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

Lab No.	Name of lab and facilities	In-charge
Lab 1	Wood science & Forest products	Dr. M. Sharma
Lab 2	Plant Microbe Interaction and Microbial Biotechnology	Dr. K. Shrivastava
Lab 3	Forest Systematic Ethnobotany & Horticulture	Dr. P. R. Gajurel
Lab 4	Environment, NRM and Restoration Ecology	Mr. G. Pangging
Lab 5	Silviculture, 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. L. B. Singha
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 completed by UG/PG students

##### (i) Ph.D. thesis (awarded)

Name	Regn. No./Roll No.	Supervisor(s)	Title of Ph.D. Thesis
Mr. Tasso Tabin	Rajiv Gandhi University, Itanagar	Supervisor-Dr. A. K. Shukla, Dept. of Botany, RGU, Co-supervisor - Dr. Karuna Shrivastava	Studies on fungal diversity associated with <i>Aquilaria agallocha</i> Roxb. and their role in the formation of agarwood
Mr. Jimmy Yebjeny Yumnam	Reg. No. 50912; Roll No. Ph.D. (FT)/09/FO/1/05	Dr. O.P. Tripathi (Supervisor) Prof. M.L. Khan (Co-Supervisor)	Inventory, conservation and sustainable utilization of agrobiodiversity at agricultural landscape in East Siang district of Arunachal Pradesh, Eastern Himalaya
Mr. Shafiqul Islam Bhuyan	Reg. No. 50904; Roll No. Ph.D. (FT)/09/FO/1/02	Dr. O.P. Tripathi (Supervisor) Prof. M.L. Khan (Co-Supervisor)	Soil nutrients dynamics and associated microbial biomass under different agro-ecosystems of East Siang district, Arunachal Pradesh
Mr. Jyotishman Deka	Reg. No. 50711; Roll No. Ph.D. (P)/07/FO/002	Prof. M.L. Khan (Supervisor) Dr. O.P. Tripathi (Co-Supervisor)	Vegetation characterization and change detection analysis on LULC using RS & GIS of Kamrup district in Assam, N.E. India
Mr. Sanjeeb Bharali	Reg. No. 50714; Roll No. Ph.D(FT)/07/FO/01	Prof. M.L. Khan (Supervisor) Dr. L.B. Singha (Co-Supervisor)	Species diversity and regeneration status of selected <i>Rhododendron</i> species along an altitudinal gradient in West Siang district of Arunachal Pradesh

##### (ii) Project report of PG students



Name of Student / Roll. No.	Dissertation title	Supervisor(s)
Bibhuti Ranjan Gogoi (MS/10/FO/105)	Studies on utilization, marketing and management of three highly potential NTFPS in western Arunachal Pradesh	Prof. P. Rethy and Dr. P. R. Gajurel
Laishram Ashiskumar (MS/10/FO/014)	Vegetative propagation through Hardwood cuttings by using growth hormone	Prof. P. Rethy
L. Jamir (MS/10/FO/012)	Study on wood properties of plantation grown <i>Terminalia myriocarpa</i> Heurck & Muell.-Arg. In Nagaland	Dr. C.L. Sharma and Dr. M. B. Sharma
Wanrika J. Shylla (MS/10/FO/002)	Biometric analysis woods of Jaintia Hills of Meghalaya	
Radha Raman Sinha (MS/10/FO/010)	Wood Anatomical characteristics and database of some timber species of North East India.	Dr. M. B. Sharma and
Vijoy Kumar (MS/10/FO/005)	Structural dimensions and paper making potential of some weeds of Arunachal Pradesh.	Dr. C.L. Sharma
Krishna Hanse (MS/10/FO/102)	Survey on Bengal Slow Loris ( <i>Nycticebus bengalensis</i> ) in Garampani & Marat Longri WL Sanctuary of Karbi Anglong District, Assam.	Dr. P.P. Mary
Evanylla I Mawrie (MS/10/FO/007)	Studies on Genomic diversity of Entomopathogenic Fungi associated with <i>Heortia vitessoides</i> , an insect pest of <i>Aquillaria malaccensis</i> Lamk	Dr. K. Shrivastava
Meiruthai Panmei (MS/10/FO/015)	Studies on Genomic diversity of <i>Aquillaria malaccensis</i> Lamk. available in different northeastern states of India	
Lobsong Tashi Thungon (MS/10/FO/103)	Ethnobotany species of sherdukpen tribe in West Kameng of Arunachal Pradesh with special reference to ethnomedicinal plants	Dr. P.R. Gajurel
Pura Richo (MS/10/FO/106)	Full utilization of Forest resources "A case study in Hija village" Lower Subansiri Dist. Arunachal Pradesh	
Mr. Stanford Pariat (MS/10/FO/003)	Study on the plant diversity and community characteristics of a few selected sacred groves in Jaintia hills of Meghalaya	O.P. Tripathi
Ms. Gyati Yam (MS/09/FO/101)	Plant diversity and community characteristics of Subtropical forest of Ziro valley, Arunachal Pradesh	
Mr. W. S. Singh (MS/10/FO/018)	Plant Diversity and Community Characteristic of Keibul-Lamjao National Park, Manipur	
Ronald Khumukcham (MS/10/FO/009)	Biodiversity Assessment and Conservation of Kane Wildlife Sanctuary, Arunachal Pradesh, India	A. Kumar

Kabuk Lego (MS/10/FO/004)	Assessment of anthropogenic impact on wildlife: with special reference to Eastern Hoolock Gibbon ( <i>Hoolock leuconedys</i> ) in Lower Dibang Valley District, Arunachal Pradesh, India	
Sagolsem Lenin Singh (MS/10/FO/017)	The study of traditional agroforestry system in eastern Himalaya: A case study in fringe village of Doimukh forest range.	G. Pangging

**(iii) Project report of UG students**

Name of Student/ Roll. No.	Dissertation title	Supervisor(s)
Lipoktila (DS/08/FO/010)	Traditional knowledge of wood carving and timber species used by Ao tribe of Nagaland	Dr. C.L. Sharma and Dr. M. Sharma
Java Debbarma (DS/08/FO/009)	Tree species and their utilization by Debbarma community in West Tripura	
Princhie N. Marak (DS/08/FO/014)	Traditional knowledge of important plants of East Garo Hills Meghalaya	Dr. M. B. Sharma & Dr. C. L. Sharma
Mr. Joyson Ahongshangbam (DS/08/FO/011)	Spatial distribution pattern and change matrix of Shifting cultivation in West Siang district of Arunachal Pradesh – a Remote Sensing approach	O.P. Tripathi
Bhanu Riba (DS/08/FO/06)	Assessment of Conservation Efforts Made for Protection and Conservation of Hornbill Species in Arunachal Pradesh, India	A. Kumar
Bakorlang Rupsi (DS/08/FO/03)	Avifaunal diversity and conservation issues of Jatinga Bird Sanctuary in Assam, India.	
K. Bipin Chandra (DS/08/FO/013)	Study of Tiger ( <i>Panthera tigris tigris</i> ) Behaviour in captivity at Itanagar Zoo, A.P.	Dr. P. P. Mary
Krishna P. Dahal (DS/08/FO/101)	Human-Wildlife Conflict giving special emphasis on Human-Black bear conflicts in the fringe villages of Fambong Lho Wildlife Sanctuary, East Sikkim	
Thokchom Sonia Devi (DS/08/FO/103)	The effect of sowing treatment on seed germination in <i>Sapindus mukorossi</i> Gaertn.(Sapindaceae), <i>Spondias mangifera</i> Willd. (Anacardiaceae), <i>Melia azedarach</i> L.(Meliaceae)	Prof. P. Rethy
S. Kimbiakhohih (DS/08/FO/008)	Effect of IBA and NAA on Rooting /sprouting performance of <i>Terminalia chebula</i> and <i>Terminalia bellerica</i> from Hardwood Cutting	

Atanu Das (DS/08/FO/07)	Studies on extramural aerobiology for airborne pollen and fungal spores	Dr. K. Shrivastava
Tate Tadeng (DS/08/FO/005)	Study on various social forestry plantations in relation to species diversity in capital complex of Arunachal Pradesh	Dr. P.R. Gajurel
Mr. Sumit Mandal (DS/08/FO/12)	The microclimate and socio-economic study of the tea estate: A case study of tea plantation in Banderdewa	G. Pangging
Mr. Moyi Ponger (DS/08/FO/01)	Diagnosis of the avenue plantation: A case study of avenue trees in NERIST campus, Arunachal Pradesh	

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

1.	One day workshop on Intellectual property rights funded by MHRD IPR Chair, Tezpur University in collaboration with NERIST on 23 <sup>rd</sup> March, 2012 at NERIST ( <b>Coordinators : Dr. C. L. Sharma &amp; Dr. O. P. Tripathi</b> ).
2.	Consultative meeting on Assessment of training needs and capacities of the concerning agencies in respect of threat assessment and CAMP exercise on a long term basis under theme – Evolving a long term strategy for threat assessment and monitoring the conservation status of medicinal; plants in India, Date: 28-29 January 2013, In Collaboration with Institute of Ayurveda and integrative Medicine – Foundation for Revitalization of Local Health Tradition (FRLHT) Bangalore ( <b>Chairman: Dr. C.L. Sharma, Organizing Secretary: Dr. P. R. Gajurel</b> ).
3.	Two-day Workshop on “JFM in Arunachal Pradesh: Analysis of Policies and Programmes” organized on January 31 - February 01, 2103 ( <b>Convenor: Professor M. L. Khan, Chairman: Dr. C.L. Sharma, Organizing Secretary: Dr. O. P. Tripathi</b> ).

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

<b>Prof. M. L. Khan</b>	<ul style="list-style-type: none"> <li>➤ Intellectual Property Rights of indigenous people; a review. Workshop on Intellectual Property Rights; 23<sup>rd</sup> March, 2012, Organized at NERIST, Nirjuli, AP.</li> <li>➤ Biodiversity conservation through community based natural resource management in Arunachal Pradesh (3<sup>rd</sup> May, 2012), Organized by GBPIHED, Itanagar Unit at Itanagar.</li> <li>➤ Personality Development, May 7-9 2012, Sponsored by NERIST TEQIP (MHRD-World Bank).</li> <li>➤ Remote Sensing and GIS Applications in Natural Resources Management (14-18<sup>th</sup> May 2012), organized by Agri. Eng., NERIST, Nirjuli.</li> <li>➤ Studies on diversity and abundance of canopy dwelling wildlife species in tropical forest of Arunachal Pradesh, India. Scoping Workshop on Canopy Research, Pre- Conference Workshop, Society for Conservation Biology Asia Conference, August 06, 2012. Ashoka Trust for Research in Ecology and the Environment (AREE), Bangalore.</li> <li>➤ Biodiversity management - a vital key to mitigate climate</li> </ul>
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	<p>change. International Conference on “Biodiversity in changing climate – evolution, adaptation and conservation, August 07-11, 2012. Ashoka Trust for Research in Ecology and the Environment (AREE) and Indian Institute of Sciences (IISc), Bangalore.</p> <ul style="list-style-type: none"> <li>➤ Consultative meeting for promotion of medicinal plants cultivation, 6<sup>th</sup> – 7<sup>th</sup> November, 2012, Organized by Institute of Ayurveda and Integrative Medicine, Bangalore at NERIST, Nirjuli.</li> <li>➤ 3<sup>rd</sup> Sacred Grove Festival under Ecosystem Services provided by sacred groves rituals and beliefs, health, biodiversity, ecology (14-16<sup>th</sup> December, 2012), Organized by Indira Gandhi Rashtriya Manav Sangrahalaya, Bhopal.</li> <li>➤ Jhum Cultivation vis-à-vis livelihood opportunities in NE India (25<sup>th</sup> – 27<sup>th</sup> February, 2013), Organized by Rain Forest Research Institute (ICFRE), Jorhat, Assam.</li> <li>➤ Managing the dominance of invasive alien forest plant species in high-priority conservation areas of North East India, Risk Analysis of Forest Invasive Alien Species (February 27-March 1, 2013), Organized by IUFRO, NRC, DNAES &amp; PU, Chandigarh.</li> </ul>
<b>Dr. P.P. Mary</b>	<ul style="list-style-type: none"> <li>➤ Presented a paper on <i>Population density and conservation status of Indian Gaur in Trishna wildlife sanctuary, Tripura state, India</i>” in the 1<sup>st</sup> National Biodiversity Congress (NBC2012) organized jointly by National Biodiversity Authority, India and Kerala State Biodiversity Board at Kanakakunnu place, Trivandrum from 27<sup>th</sup> to 30<sup>th</sup> December 2012.</li> </ul>
<b>Dr. C. L. Sharma</b>	<ul style="list-style-type: none"> <li>➤ Attended 3<sup>rd</sup> ONE DAY INDEST User Convention (E-Journals &amp; E-resources Awareness Training) held at NERIST, Nirjuli on 19<sup>th</sup> January, 2013.</li> </ul>
<b>Dr. M. Sharma</b>	<ul style="list-style-type: none"> <li>➤ One day workshop on ‘<b>Intellectual Property Rights</b>’ organised by MHRD IPR chair, Tezpur University in collaboration with NERIST on 23<sup>rd</sup> March, 2012 at NERIST</li> <li>➤ Attended Workshop on “Joint Forest Management in Arunachal Pradesh: Analysis of Policies and Programmes” sponsored by Regional centre, National Afforestation &amp; Eco-development Board, Shillong held at NERIST, Nirjuli from 31<sup>st</sup> January-1<sup>st</sup> February, 2013.</li> <li>➤ Attended Consultative workshop on “Assessment of training needs and capacities of the concerned agencies” as part of GOI-UNDP programme for Threat assessment and monitoring the conservation status of medicinal plants in India held at NERIST, Nirjuli in collaboration with IAIM &amp; FRLHT, Bangalore from 28<sup>th</sup>-29<sup>th</sup> January, 2013</li> <li>➤ Attended 3<sup>rd</sup> ONE DAY INDEST User Convention (E-Journals &amp; E-resources Awareness Training) held at NERIST, Nirjuli on 19<sup>th</sup> January, 2013.</li> </ul>
<b>Dr. K. Shrivastava</b>	<ul style="list-style-type: none"> <li>➤ Attended National Symposium on “Aerobiology for sustainable management of plant, animal and human health” held at Centre of Advanced Study in Life Sciences, Manipur University, Imphal from 25<sup>th</sup>-26<sup>th</sup> March, 2013.</li> <li>➤ Attended Workshop on “Joint Forest Management in Arunachal</li> </ul>

	<p>Pradesh: Analysis of Policies and Programmes” sponsored by Regional centre, National Afforestation &amp; Eco-development Board, Shillong held at NERIST, Nirjuli from 31<sup>st</sup> January-1<sup>st</sup> February, 2013.</p> <ul style="list-style-type: none"> <li>➤ Attended Consultative workshop on “Assessment of training needs and capacities of the concerned agencies” as part of GOI-UNDP programme for Threat assessment and monitoring the conservation status of medicinal plants in India held at NERIST, Nirjuli in collaboration with IAIM &amp; FRLHT, Bangalore from 28<sup>th</sup>-29<sup>th</sup> January, 2013</li> <li>➤ Attended 3<sup>rd</sup> ONE DAY INDEST User Convention (E-Journals &amp; E-resources Awareness Training) held at NERIST, Nirjuli on 19<sup>th</sup> January, 2013.</li> <li>➤ Attended National stakeholder workshop on “National Mission for Sustaining the Himalayan Ecosystem [NMSHE]” held at CSIR-IHBT, Palampur, Himachal Pradesh from 6<sup>th</sup> -7<sup>th</sup> October 2012.</li> <li>➤ Studies on extramural aerobiology for anemophilous pollen grains and fungal spores at Nirjuli, Arunachal Pradesh authored by Karuna Shrivastava &amp; Atanu Das. Presented in National Symposium on “Aerobiology for sustainable management of plant, animal and human health” held at Centre of Advanced Study in Life Sciences, Manipur University, Imphal from 25<sup>th</sup>-26<sup>th</sup> March, 2013.</li> </ul>
<b>Dr. P.R. Gajurel</b>	<ul style="list-style-type: none"> <li>➤ Presented a paper on Present status of distribution, exploitation and threats of some endangered medicinal plants occurring in Eastern Himalaya of India, Malaysia International Biological Symposium. University Putra Malaysia, July 11-12, 2012.</li> <li>➤ Presented a paper on Ethnobotany and market potentiality of two mostly preferred edible forest species from Eastern Himalaya of India. 53<sup>rd</sup> Annual meeting of the Society for Economic Botany and symposium on Ethnobotany of Mountain Culture. Frostburg State University MD, USA, June 2-8., 2012.</li> </ul>
<b>Dr. O.P. Tripathi</b>	<ul style="list-style-type: none"> <li>➤ 10 YEAR JOURNEY OF NAP IN ARUNACHAL PRADESH; a workshop at NEW GUEST HOUSE, NEHU organized by RC-NAEB, NEHU, SHILLONG on 22<sup>nd</sup> February 2012</li> <li>➤ Remote Sensing and GIS Applications in Natural Resources Management (14-18<sup>th</sup> May 2012), organized by Agri. Eng., NERIST, Nirjuli.</li> <li>➤ Remote Sensing and GIS Applications in Natural Resources Management (14-18<sup>th</sup> May 2012), organized by Agri. Eng., NERIST, Nirjuli.</li> <li>➤ Advances in traffic flow and environmental management, TEQUIP sponsored FDP, Civil Eng. Dept., NERIST, 17-21 April 2012</li> <li>➤ Attended the third one day INDEST user convention (E – Journalls user training workshop organised by the AICTE-INDEST user committee, NERIST, Arunachal Pradesh on 19<sup>th</sup> January 2013.</li> <li>➤ Consultative meeting for promotion of medicinal plants cultivation, 6<sup>th</sup> – 7<sup>th</sup> November, 2012, Organized by Institute of Ayurveda and Integrative Medicine, Bangalore at NERIST, Nirjuli.</li> </ul>
<b>Dr. L.B. Singha</b>	<ul style="list-style-type: none"> <li>➤ Completed one-year Post-Doctoral Research as DBT Overseas</li> </ul>

	<p>Associate at Concordia University, Montreal, Canada on 5<sup>th</sup> April 2012.</p> <ul style="list-style-type: none"> <li>➤ Participated a training programme on Remote Sensing and GIS Applications in Natural Resource Management during 14-18 April 2012 conducted by Deptt. of Agricultural Engineering, NERIST, Nirjuli.</li> <li>➤ Participated a training programme on Climate Change and Carbon mitigation during 19-23 Nov 2012 organized by ICFRE, Dehradun.</li> <li>➤ Participated a Colloquium of DBT's Overseas Associates of North Eastern Region on 20<sup>th</sup> December 2012 at College of Veterinary Science, Assam Agricultural University, Khanapara, Guwahati and presented a brief report on the Post-doctoral research entitled "Molecular Phylogenetic and Population genetic studies for conservation and management of bamboo genetic resources in Northeast India.</li> <li>➤ Participated Third one-day INDEST user Convention (E-journals user Training Workshop) on 19<sup>th</sup> Jan 2013, conducted by Department of Forestry, NERIST.</li> <li>➤ Participated a workshop on Assessment of Training needs and Capacities of Agencies for threat assessment and monitoring the conservation of medicinal plants in India during 28-29 Jan 2013, organized by Department of Forestry, NERIST.</li> <li>➤ Participated a workshop on Joint Forest Management in Arunachal Pradesh: Analysis of Policies and Programmes during 31Jan-01 Feb 2013, organized by Department of Forestry, NERIST.</li> <li>➤ Presented a research article entitled " Bamboo resources of Northeast India: A comprehensive approach on ecology, economics and Molecular phylogeny" in a National Seminar on Plant Bioresources of NE Region and their Bioprospecting on 30<sup>th</sup> March 2013, organized by Botany Department, Gauhati University, Assam.</li> </ul>
<b>Dr. A. Kumar</b>	<ul style="list-style-type: none"> <li>➤ Attended and presented papers in "<i>The 1<sup>st</sup> International Gibbon Husbandry Conference</i>" organized by Natural Science Centre of Greensboro, at Greensboro, North Carolina, USA from 3-7<sup>th</sup> June 2012</li> <li>➤ Attend faculty Development Workshop on "<i>Remote Sensing and GIS Applications in Natural Resources Management</i>", organized by Department of Agricultural Engineering at NERIST, Nirjuli, Itanagar, Arunachal Pradesh, India from 14--18<sup>th</sup> May, 2012.</li> <li>➤ Attend faculty Development Workshop on "<i>Personality Development</i>", organized by Centre for Management Studies at NERIST, Nirjuli, Itanagar, Arunachal Pradesh, India from 7-9<sup>th</sup> May, 2012.</li> <li>➤ Attend faculty Development Workshop on "<i>Advance in Traffic flow and Environmental Management</i>", organized by Department of Agricultural Engineering at NERIST, Nirjuli, Itanagar, Arunachal Pradesh, India from 14--18<sup>th</sup> May, 2012.</li> </ul>
<b>G. Pangging</b>	<ul style="list-style-type: none"> <li>➤ Attended workshop on IPR organised by MHRD IPR Chair Tezpur University in collaboration with NERIST on 23<sup>rd</sup> March 2012.</li> <li>➤ Attended FDP on "Remote sensing and GIS applications in NRM" organised by the Department of Agricultural Engineering during 14<sup>th</sup> to</li> </ul>



	<p>18<sup>th</sup> May, 2012.</p> <p>➤ Attended the third one day INDEST user convention (E – Journalls user training workshop organised by the AICTE-INDEST user committee, NERIST, Arunachal Pradesh on 19<sup>th</sup> January 2013.</p>
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#### 4.1.7 Achievements, awards, membership, etc. earned by the faculty

**Prof. P. Rethy:** Executive committee member of Pleione official journal of EHSST.

**Dr. A. Kumar:** Member, IUCN SSC Primate Specialist Group-2013-2016.

**Dr. P. R. Gajurel:** Executive committee member of Pleione official journal of EHSST.

#### 4.1.8 Research project with amount date of sanction, agency, etc.

Name	Title of project	Sanction No.	Period	Amount (Lakhs)
Prof. M.L. Khan	Sacred Grove Ecosystem Service	No.22/13/2011-(SG)/RE	5 years	39.84
	Assessment of Madhya Pradesh (CO-PI)			
	Inventory, biodiversity value, status and strategies for conservation of sacred groves of central India (PI)	CSIR, New Delhi 38(2887)/11	3 years	15.00
Dr. C.L. Sharma & Dr. M. Sharma	Evaluation of <i>Taxus wallichiana</i> from North Eastern and North Western Indian Himalayas for the selection of Elite clone for artificial propagation (PI- Dr. C. L. Sharma and Co- PI- Dr. M. Sharma)	DBT under Twinning programme with HRG, Shimla BT/194/NE/TBP/2011 dated May 24, 2012	3 years	Rs. 32.69 Lakhs
Prof.P. Rethy, Prof.B.Singh and P.R.Gajurel)	Development of a digital database on Bio-Resources of North-East India- Through a network among North Eastern States P.R.Gajurel (PI) Prof. P. Rethy (Co- PI)	DBT, New Delhi	3 year	Rs. 27.00 Lakhs
	Mapping Management & Analysis of Medicinal and Aromatic Plants in Arunachal Pradesh using GIS and Phytochemical & Molecular Techniques (Prof. B. Singh (PI) P.R.Gajurel (PI) Prof. P. Rethy (Co- PI)	NEC, Shillong	5 year	Rs. 212.00 Lakhs (2012-13)
	Preventing extinction and improving conservation status	DBT, New Delhi	3 year	Rs. 8.41 Lakh

	of threatened plants through application of biotechnological tools <b>(P.R.Gajurel (PI) Prof. P. Rethy (Co- PI))</b>			(2012-13)
Dr. O. P. Tripathi	AICRP on Sacred Grove Ecosystem Services Assessment in Arunachal Pradesh <b>(PI)</b>	MoEF, New Delhi	5 years	Rs.34.28 Lakhs
	Impact analysis of spatio-temporal changes in land use/cover and plant diversity of Itanagar, Arunachal Pradesh <b>(PI)</b>	CSIR, New Delhi	3 years	Rs. 11.00 Lakhs
	Spatial and temporal changes in Land-use/Land cover of Dehang Debang Biosphere Reserve of Arunachal Pradesh and its effect on plant diversity and population dynamics of important tree species <b>(Co PI)</b>	MoEF, New Delhi	3 years	Rs. 19.66 Lakhs
Dr. A. Kumar	Studies on distribution, behavioural ecology, habitat structure and conservation of newly discovered Arunachal Macaque ( <i>Macaca munzala</i> ) in Western Arunachal Pradesh, India <b>(Co-PI)</b>	DST, New Delhi	3 years	Rs. 23.98 Lakhs

#### 4.1.9 Publications

##### (a) Refereed Research Journal

Buragohai R. Gajurel P.R., Rethy, P. & Singh, B. 2012. *Ficus conglobata* King A rare and lesser known species from Arunachal Pradesh. *Pleione*, 6(2): 415-419

Gajurel, P. R., Doley B. & Rethy, P. 2012. *Bauhinia roxburghii* Voigt. (Caesalpiniaceae): A new record for NE India. *Pleione* 6(1): 238-241

Choudhury B. I., Khan M. L. and Dayanandan, S. 2013. Genetic Structure and Diversity of Indigenous Rice (*Oryza sativa*) Varieties in the Eastern Himalayan Region of Northeast India, *Springer Plus* (in press).

Paul A., Bharali S., Khan M.L. and Tripathi O.P. 2013. Anthropogenic disturbances led to risk of extinction of *Taxus wallichiana* Zuccarini, an endangered medicinal tree in Arunachal Himalaya, *Natural Areas Journal* (in press).

Paul A., Kalita J., Khan M. L. and Tripathi, O. P. 2013. *Illicium griffithii*: A potential source of natural off-farm income resources to the rural people of Arunachal Himalaya, India, *Indian Journal of Natural Products and Resources* (in press).



- Kalita J. and Khan, M. L. 2013. Commercial medicinal plants of the high altitudes of Arunachal Pradesh, India and their trades, *International Journal of Conservation Science* (in press).
- Deka J., Tripathi O. P., and Khan, M. L. 2013. Study on land use/land cover change dynamics through remote sensing and GIS – a case study of Kamrup district, North East India, *International Journal of Current Research* (in press).
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#### **(b) Research articles in Books, Conference Proceedings etc.**

P. Rethy (2012). Taxonomy of the genus *Piper* L. (Piperaceae) in Arunachal Pradesh. Annual conference of India Association for Angiosperm taxonomy (IAAT) October 28-30 at Bhubaneswar, Odisha, India. Pp10.

R., Buragohain P.R., Gajurel, P. Rethy and B. Kalita 2012. Taxonomic Diversity of *Ficus* L. In Arunachal Pradesh, India. Annual conference of India Association for Angiosperm taxonomy (IAAT) October 28-30 at Bhubaneswar, Odisha, India. Pp.93.

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Saikia P. and Khan M. L. 2013. Status, distribution and socio-cultural uses of some selected homegarden plants of upper Assam, Northeast India *In: Proceedings of 35<sup>th</sup> Indian Social Science Congress*, Indian Academy of Social Sciences in association with Mahatma Gandhi Antarrashtriya Hindi Vishwavidyalaya at Wardha, Maharashtra (in press).

Dutta J., Muang O., Balasubramaniam D., Wann F.M., Pangging G. and Khan, M. L. 2013. The 'Tani' mega-cultural landscape, In: P. S. Ramakrishnan, K. G. Saxena, K. S. Rao, & G. Sharma. (eds). *Cultural landscapes, The basis for linking biodiversity conservation with the sustainable development*. UNESCO, New Delhi

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Tripathi R.S., Khan M. L. and Yadav A.S. 2012. Biology of *Mikania micrantha* H.B.K. – a review. *Invasive Alien Plants: An Ecological Appraisal for the Indian Subcontinent* Editors: Bhatt, J.R., Singh, J.S., Singh, S.P., Tripathi, R.S., Kohli, R.K. CAB International, UK, 99-107.

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Sharma, C. L., Sharma, M. and Singh, B. 2012. Utilization of banana products for rural livelihood in NE India. pp 158-161 published in regional seminar cum workshop on promotion of rural livelihood through cottage industries for upliftment of rural economy of NER (26<sup>th</sup>-27<sup>th</sup> July 2012) held at NIRD, Guwahati.

Yumnam JY and Tripathi OP 2012. Woody species diversity and population structure of certain threatened tree species in subtropical forest of Meghalaya, NE India. In: Biodiversity Status and Conservation Strategies with reference to NE India. CAS in Life Sciences, Manipur University. PP. 36-43.

Awadhesh Kumar and Jikom Panor (2012). Ecology and Behavior of Eastern Hoolock gibbon (*Hoolock leuconedys*) at Conservation Breeding Centre, Biological Park, Itanagar, Arunachal Pradesh. Presented in 1<sup>st</sup> International Gibbon Husbandry Conference held at the Natural Science Center of Greensboro in North Carolina, USA on June-3th-7<sup>th</sup>.

Jikom Panor and Awadhesh Kumar (2012). Husbandry and Management Practices on Eastern Hoolock gibbon (*Hoolock leuconedys*) at Conservation Breeding Centre, Biological Park, Itanagar, Arunachal Pradesh. Presented in 1<sup>st</sup> International Gibbon Husbandry Conference held at the Natural Science Center of Greensboro in North Carolina, USA on June-3th-7<sup>th</sup>.

Pangging, G., Arunachalam, K., and A. Arunachalam. 2012. Sustainable Management of Land and People's Forests in the Indian Eastern Himalaya: A C & I Approach. In: S. Suthar (ed.). Land Management. Nova Publishers, PP 69-78.

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

Prof. M.L. Khan	Member of Expert level Consultation Committee for Establishment of a Network of Long-Term Ecological Observatories (LTEO), MoEF, New Delhi.
	Member of Working Group (Environment & Forests Sector) of the State Steering Committee for Climate Change, Arunachal Pradesh.
	Member of the Committee for Biodiversity Strategy and Action Plan of Govt. of Arunachal Pradesh.
	Member of Multidisciplinary Committee for implementation of

	Environment safeguard measure, NEEPCO, Arunachal Pradesh.
	Member of Advisory Management Committee of Regional Centre, National Afforestation and Eco-Development Board (MOEF), NEHU, Shillong.
	On the panel of experts of Inter-Academy Advisory Panel of INSPIRE Programme of DST, New Delhi.
	On the panel of experts of MOEF, Govt. of India to celebrate "International Year of Biodiversity.
Dr. P.P. Mary	Life member of the Indian Society of Technical Education (AICTE) Life member of World Wide Fund for Nature (WWF), India.
Dr. C. L. Sharma	Life member of Indian Academy of Wood Science.
Dr. M.B. Sharma	Life member of International Association of Wood Anatomists, Netherland Life member of Indian Academy of Wood Science.
Dr. O.P. Tripathi	Life member of International Society for Environmental Botanists (ISEB), Lucknow <i>Associate Editor:</i> Asian Journal of Agriculture Sciences <i>Associate Editor:</i> Research Journal of Environmental and Earth Sciences
Dr. L.B. Singha	Annual member Society for Conservation Biology, USA.
G. Pangging	Life membership in Academy for Environment and life sciences, Agra (Membership ID: FAELS-12) Life membership in Medicinal and Aromatic Plant Association of India (MAPAI), Gujarat. Life membership in Bamboo Society of India, Malleswaram (I.L.M-303/2012) Life membership in National Environmental Science Academy, New Delhi. (L/M No. 1700) Life Membership in Indian Society for Plantation Crops, Kerala. (L/M No. 671/12)

#### 4.1.11 Achievements of the students

MS. EVANYLLA IANGAP MAWRIE MS/10/FO/007 selected as Range Forest Officer, Meghalaya  
 MR. SAMDAKIYOO PH R SHULLAI MS/11/FO/007 selected as Range Forest Officer, Meghalaya  
 MR. TAJUM YOMCHA MS/07/FO/008 selected as Research Officer, Namdapha National Park, Arunachal Pradesh  
 MS. GYATI YAM MS/09/FO/101 selected for Rajib Gandhi National Fellowship (RJNF), New Delhi  
 MR. FIFTH MILESTONE WANN MS/08/FO/004 selected as Range Forest Officer, Meghalaya  
 MR. JOYSON AHONGSHANGBAM was selected in SRIJAN (Not Joined).  
 MR. SUMIT MONDAL is working as Assistant Manager in Lattakoojan tea estate, Golaghat, Assam.  
 MR. AMETHYST SLONG MS/07/FO/006 selected as Range Forest Officer, Meghalaya



#### 4.1.12 PG Admission

1.	MR. TATE TADENG	M.Sc. Forestry	FRI University, Dehradun
2.	MR. JOYSON AHONGSHANGBAM	M.Tech	IIRS, Dehradun
3.	MR. BAKORLANG RUPSI	M.Sc. Forestry	Department of Forestry, NERIST
4.	MS. BHANU RIBA	M.Sc. Forestry	Department of Forestry, NERIST
5.	MS. JABA DEBBARMA	M.Sc. Forestry	Department of Forestry, NERIST
6.	MR. KRISHNA PRASAD DAHAL	M.Sc. Forestry	Department of Forestry, NERIST
7.	MS. THOKCHOM SONIA DEVI	M.Sc. Forestry	Department of Forestry, NERIST

#### 4.1.13 Any Others, if any

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

1. Erection of two shade house from project fund in the nursery
2. Development of Nursery
3. Establishment of Forestry Herbarium
4. Establishment of Departmental Seminar Hall
5. Purchased following instruments from different project grants (Lab-II):
  - i. RT-PCR with PCR (Make-QPCR System, MX3000P) - Rs. 1396900
  - ii. Model- 80 deep freezer with stabilizer (Make-Sub-zero, Model-ULT 80/DF 80U, size-325L) – Rs. 314875
  - iii. 3 KVA Online UPS (Make-Orion, 1hr battery backup) – rs. 68000
  - iv. Shaker water bath with Chillers & clamp holders (Make-Orbittek, Model-WO+C) – Rs. 188867
  - v. Double distillation unit (Make-Borosil, Model-Unit model 3362) – Rs. 57182
  - vi. Laminar Airflow (Make-Klenzaid, Model-1500c) – Rs. 209975

## 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 student is registered in M. Tech. (Farm Machinery and Power)

& M. Tech. (Soil & Water Conservation Engineering) and in Ph.D. programme are 03, 10 and 07 respectively.

At present department have 13 faculty members. Department runs 03 sponsored research projects (ICAR and DST) 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

<b>1. Modification of existing courses</b>	<b>: Nil</b>
(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:

Centre of Pressure, Metacentric Height Apparatus, Spray dryer, Oxygen cylinder, Heart rate monitor, Transmitter (for chest belts), Indus make 5- Gas Analyser, Proving Ring Penetrometer, Solar Water Heater system, Statistica Software, CCR software.

#### 4.2.4 Project completed by the PG and UG students (completed in May, 2012)

##### (a) M. Tech. project

S.No	Title of the project	Name of the guide	Name of the student
1	Performance of downdraft gasifire using bamboo, kookan and kadam biomass feed stock.	Dr. P. K. Pranav Mr. T. Patel	Mr. Y. K. Rao

##### (b) Degree projects

S.No	Title of the project	Name of the guide	Name of the student
1	Time series analysis of monthly pan evaporation : A case study	Prof. P. P. Dabral, Dr. D. Jhajharia	Ms. P. Mishra Ms. L. Hangshing Mr. Bitual Jyoti Doley
2	An anthrometric survey of tractor operators of tea plantation located in North Lakhimpur and Sonitpur districts of Assam	Prof. L. S. Yadav	Mr. J. Karbak Mr. H. Dailiam
3	ANN modeling of runoff from a snow covered catchment	Dr. A. Bandyopadhyay Dr. Aditi Bhadra	Mr. S. Chakraborty Mr. Sorav Roy Mr Tushar Kumar
4	Development of computer program to design downdraft gasifier	Dr. P. K. Pranav	Mr. Pamcheiba Meitei Mr Hemendra Tripura
5.	Trends in sunshine duration in	Dr. Deepak Jhajharia	Mr. S. Laji



	humid conditions of north east India	Mr. P. K. Pandey	Mr. Tage Tapang Mr. K. Dahal
6.	Preparation of ginger beer and quality evaluation.	Dr. P. Anand Kumar	Mr. Chunthai Kamei Mr. Mashumi Kasar

### (c) Diploma projects

S.No	Title of the project	Name of the guide	Name of the student
1	Fluidized bed drying of Bamboo shoot	Dr. P. Anand Kumar Mr D. K. Syamal	Ms. Sneha Tripathy Mr Inya Riba Mr Dage Lollen
2	Vulnerability assessment of Arunachal Pradesh to floods	Dr. Aditi Bhadra Dr. A. Bandyopadhyay	Ms. V. V. Zaphu Ms. N. Monica Ms. Vanlalremruatpuui
3	Locus of virtual hitch point with respect to depth of operation of tractor	Dr. P. K. Pranav	Ms. Bitu Hazarika Mr. Avinash Kumar
4	Temporal variation of relative humidity and dry bulb temperature derived heat index over north east India	Dr. S. K. Shrivastva	Mr. V. Pucho Mr. S. Pariat Mr S. D. Sangma
5	Ergonomic effects of Sherpa mode of load carriage on physiological responses.	Mr. T. Patel	Mr. Amardeep Kumar Mr W. Ammar Singh
6	An anthropometric survey of tractor operators of tea plantations located in North Lakhimpur and Sonitpur Districts of Assam, India	Prof. L.S. Yadav	Mr. R. Darlong Mr. C.P. Phom Mr. Seru Jomoh

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

Dr. (Ms.) A. Bhadra and Dr. A. Bandyopadhyay organised TEQIP sponsored FDP on "Remote Sensing and GIS Applications in Natural Resources Management" during 14-18 May 2012.

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

Dr. L.S. Yadav had attended national seminar organized by Kamala Nehru Institute of Technology, Sultanpur (UP) during 7-8 April, 2012.

Dr. P. P. Dabral, Dr. S. K. Shrivastva, Mr. D. K. Syamal and Dr. P. Anand Kumar attended TEQIP sponsored FDP on “Remote Sensing and GIS Applications in Natural Resources Management” during 14-18 May 2012

Dr. P. P. Dabral, Mr. D. K. Syamal , Dr. P. K. Pranav ,Dr. P. Anand Kumar and Dr. P. K. Pandey has attended third one day INDEST USER convention ( E Journal User Training Workshop) on 19 January,2013 organized by AICTE- INDEST User Committee, NERIST.

Dr. D. Jhaharia has attended national workshop on “Advance soft computing in hydrology and its application” jointly organized by NIH, Roorkee and IAH during 29-10-2012 to 2-11-2012.

Dr. P. K. Pranav and Mr. P. K. Pandey attended TEQIP sponsored FDP on “workshop on Engineering optimisation” during May 14-18, 2012 at NERIST.

Dr. P. K. Pranav and Mr. P. K. Pandey attended TEQIP sponsored FDP on “Personality development” during May 7-9 at NERIST.

Dr. P. K. Pranav and Mr. T. Patel attended workshop on “AICRP on ESA” during May 31- June 2, 2012 at CIAE Bhopal.

Dr. P. K. Pranav attended coordination committee meeting on “AICRP on ESA” during November 2-3, 2012 at OUAT, Bhubneswar.

Mr. P. K. Pandey attended TEQIP sponsored FDP on “On Advances in Traffic Flow and Environmental Management” during April 17-21, 2012 at NERIST.

Dr.A. Bandyopadhyay and Dr. A. Bhadra International Conference on SUSTAINABLE IRRIGATION 2012, Adelaide, Australia, December 11-13, 2012.

Dr. A. Bandyopadhyay and Dr. A. Bhadra One week FDP on Advances in Computer Integrated Manufacturing and Robotics, 26-30 June 2012.

#### **4.2.7 New Degrees/Professional Memberships obtained by the faculty**

Prof. L. S. Yadav acquired life membership of International Society of Tea Science.

#### **4.2.8 Achievements/awards/recognition earned by the faculty**

- Dr. P. P. Dabral is included as member of editorial board of Journal of Indian Water Resources Society.
- Dr. Aditi Bhadra availed Prestigious Indo-US Research Fellowship 2012 by IUSSTF for Post-Doctoral Research in UC Merced (July-September, 2012).

#### **4.2.9 Projects sanctioned by outside agencies to the faculty**

Dr. A. Bhadra (PI) and A. Bandyopadhyay (Co-PI), Impact of Climate Change on Snowmelt Runoff Contribution to Eastern Himalayan Nuranang River, DST, Rs.41,44,200/-, Fund received during the review year: Rs.7,00,000/-.

Dr. A. Bandyopadhyay (PI) and A. Bhadra (Co-PI), Vulnerability of North-East India to Climate Change for Hydrological Extremes of Floods and Droughts, INCOH-MoWR, Rs. 30, 71,880/-, Fund received during the review year: Rs.9,65,000/-.

#### 4.2.10 Publications

##### (a) Referred Journal

- **Yadav, L.S.** (2012). Effect of background knowledge and human factors on tea leaf plucking in north east India. *BIOHERALD (An International Journal)*, 2(1):51-54.
- **Yadav, L.S.** (2012). An ergonomic study to match anthropometric dimensions of tractor operator with their seat in occupational condition of tea plantation in north east India. *Crop Research (An International Journal)*, 44(3):473-478.
- **Yadav, L.S.** (2012). Role of shade, grass cover and mechanization in weed control on tea gardens in north east India. *BIOHERALD (An International Journal)*, 2(2):170-174.
- **Jhajharia D.**, Chattopadhyay, S., Choudhary, R.R., Dev, V., Singh V.P., Lal, S., (2013). Influence of climate on incidences of malaria in the Thar Desert, north-west India. *International Journal of Climatology-Wiley Inter Science*, Doi:10.1002/joc.3424.02/2013; Vol.33(2),pp.312–325.
- Vousoughi, F.D., Dinpashoh, Y., Aalami, M.T., **Jhajharia, D.** (2013). Trend analysis of groundwater using non-parametric methods (case study: Ardabil plain). *Stochastic Environmental Research and Risk Assessment (SERRA)-Springer (IF: 1.52)*, DOI 10.1007/s00477-012-0599-4. Vol. 27(2), pp. 547-559.
- Kumar, R., Bhakar, S.R., **Jhajharia, D.** and Morvejalahkami, B. (2012). Evaluation of drain spacing equations in Indira Gandhi canal command, India. *ISH Journal of Hydraulic Engineering (Taylor & Francis pub.)*, 18(3):186-193.
- Kumar, R., **Jhajharia D.**, D Ram, S Chand, M Kumar, R M Shukla (2012). Rainwater harvesting in northwestern himalayan region-A case study. *Journal of Soil and Water Conservation (022-457X)*,11(4):323-328.
- Seveda M. S., **Jhajharia, D.** (2012). Design and performance evaluation of solar dryer for drying of large cardamom (*Amomum subulatum*) . *Journal of Renewable and Sustainable Energy (American Institute of Physics)*, 4(6):1-11.

- **Pranav, P. K.**, Tewari, V. K., Pandey, K. P. and Jha, K. R. ( 2012). Automatic wheel slip control system in field operations for 2wd tractors. *Computer and Electronics in Agriculture*, 84: 1-6.
- **Pranav, P. K., Patel, T.**, Rathore, M., Sonowal, A. J., Tapang, T. and Laji, S., (2012). Computer Simulation for Haulage Performance of Power Tiller. *International Journal of Computer Applications*, 58(5):19-25.
- **Bandyopadhyay, A., Bhadra, A.**, Swarnakar, R.K., Raghuwanshi, N.S., Singh, R. (2012). Estimation of Reference Evapotranspiration using a User-Friendly Decision Support System: DSS\_ET. *Elsevier Agricultural and Forest Meteorology*, 154-155: 19-29. ISSN: 0168-1923. DOI: 10.1016/j.agrformet.2011.10.013.
- **Bandyopadhyay, A.**, Mahendra, K., Raghuwanshi, N.S. (2012). Forecasting daily net irrigation requirement map of India using an ArcGIS toolbar. *WIT Transactions on Ecology and The Environment*, 168: 147-158. ISSN: 1743-3541 (Online). DOI: 10.2495/SI120131.
- **Bhadra, A.**, Raghuwanshi, N.S., Singh, R.( 2012). Generation of monthly irrigation maps for India using spatial interpolation techniques. *WIT Transactions on Ecology and The Environment*, 168: 291-302. ISSN: 1743-3541 (Online). DOI: 10.2495/SI120251.
- Jain, C.K., **Bandyopadhyay, A., Bhadra, A.** ( 2012). Assessment of Ground Water Quality for Irrigation Purpose, District Nainital, Uttarakhand, India. *Journal of Indian Water Resources Society*, 32(3-4): 8-14.
- **Pandey, P. K.** and Pandey Vanita (2012). Lysimeter based crop coefficients for estimation of crop evapotranspiration of black gram (*Vigna Mungo L.*) in sub-humid region. *International Journal of Agriculture & Biological Engg.* 4(4):50-58.

#### (b) Conference papers

- Yadav, L. S. (2012). Biodiesel an alternative fuel for internal combustion engines. *Proceedings of national seminar on advances in mechanical engineering and emerging technologies-2012*, organized by KNIT, on 7-8 April at Sultanpur.
- P.K. Pranav, T. Patel, S. Nandy, M. Biswas, R. Phukon and N. Gogoi,( 2012). Assessment of dust hazard in rice mills and suggesting suitable dust mask for their minimization. *International Conference on Ergonomics and Human Factors*, organised by GBPUAT, Pantnagar, December 6-8, 2012.
- P. K. Pranav, T. Patel, and D. Mandal, (2012). Ergonomic evaluation of existing orange harvesters and its design modification for north east region. *International Conference on Ergonomics and Human Factors*, organised by GBPUAT, Pantnagar, December 6-8, 2012.

- Bandyopadhyay, A., Mahendra, K., Raghuwanshi, N.S. (2012). Forecasting daily net irrigation requirement map of India using an Arc GIS toolbar. Proc., SUSTAINABLE IRRIGATION 2012, Adelaide, Australia, December 11-13, 2012.
- Bhadra, A., Raghuwanshi, N.S., Singh, R. (2012). Generation of monthly irrigation maps for India using spatial interpolation techniques. Proc., SUSTAINABLE IRRIGATION 2012, Adelaide, Australia, December 11-13, 2012.

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

Dr. P. P. Dabral is nominated as a nominee of Director, NERIST to Regional Committee of NIH Centre for flood management studies, Guwahati.

#### 4.2.11 Achievements of students

Mr. Subu Laji (DE/10/AE/08) and Mr. Tage Tapang (DE/10/AE/08) qualified GATE-2012.

Mr. Chunthai Kamei (DE/10/AE/01) and Mr Mashumi Kasar (DE/10/AE/03) Qualified ICAR Junior Research Fellowship Examination.

#### 4.2.12 Any other relevant information

Prof. P. P. Dabral acted as member of selection board of APSC, Arunachal Pradesh and G. B. Pant Institute of Himalyan Environment and Development at Itanagar.

Dr. D. Jhaharia is appointed as Nodal Officer (Anti Ragging cell) by the institute.

### 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 Department has capability of imparting quality education to the students through well-qualified faculty and staff. Presently, the Department has 17 well-qualified faculty members with specialization in different areas of Civil Engineering. One faculty member, Ms. Y. B. Devi is pursuing PhD programme at IIT Guwahati and Mr. K. K. Singh is pursuing M. Tech Programme at IIT Guwahati, under QIP Programme.

The Department has two Senior Instructors GR II, three Laboratory Assistants, two Skilled Workers and five Laboratory Attendants. The staff members are well trained. Sr P Siva Kumar, Lab Assistant, after passing AMIE examinations, and M.Tech in Hydraulics and Water Resources Engineering from IT, BHU, Varanasi, is now pursuing Ph. D. from the department.

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 keeping 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, NGO's as well as village level community of the state.

#### **4.3.1 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.

#### **4.3.2 Academic Activities - Curricular Development**

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

#### **4.3.3 Laboratory Development**

##### **(a) List of new equipments procured**

The lab equipment of approximately 10 lakhs have been purchased during the year. The following are the list of equipment procured during the year.

Sl. No.	Name of Labs	Name of equipment	Quantity	Make	Total Cost (Rs.)
1.	Drafting Section	UPS-625 VA	16 nos	Microtek	30,461.56
2.	Drafting Section	1000 VA UPS	2 nos.	Microtek	8,786.84
3.	Drafting Section	Kaspersky Internet Security-2012	23 nos.	Kaspersky	14,501.24
4	M. T. Lab	Test Sieves of Different Sizes	09 nos	AIMIL	7,700.00
5	Highway Lab	Ductility Testing M/c with Digital Display	01 no.	AIMIL	97,750.00
6	Survey Lab	Automatic Level	01 no.	AIFA Instr.	28,400.00
7.	Survey Lab	Prismatic compas	05 nos.	AIFA Instr.	28,500.00
8.	Survey Lab	Metalic Tape, Ranging Rod	06 nos	TT Traders, N. R. Enterprises	27,608.00
9.	Computer Lab	Desktop Computer Dell (Vostro 360)	06 nos	Pixel Sollution	3,77,624.00
10.	Computer Lab	Northern Anti Virus	10 nos	Dell Solution	14,286.00
11.	Geo Tech Lab	Constant Pressure System For Tri axial Test	01 no.	AIMIL	53,520.00
12.	Geo Tech Lab	Penetration Piston	02 no.	AIMIL	1,090.00
13.	Geo Tech Lab	Electronic Balance	01 no.	T. T. Traders	12,850.00
14.	Drafting Section	LCD Projector	01 no.	Sony	95,248.57
15.	Seminar Hall	LCD Projector	01 no.	Sony	95,248.57
16.	Environmental Lab	COD Meter and Multiparameter Photometer with 17 Reagents	01	HANNA	1,24,000/-
<b>Total</b>					<b>10,17,574.78</b>

### **New laboratory developed**

#### **(b) Laboratory manuals prepared**

#### **4.3.4 Projects completed by the UG/PG students (completed in May 2012)**

##### **(a) B. Tech. Projects completed**

S. No	Title	Submitted in	Guide
1	Case Study on Bearing Capacity and Design of Foundation	May 2012	Prof. S. K. Singh
2	Strength Characteristic of soil reinforced with JGT sheet.	May 2012	Dr. H.P. Singh
4	Study of Water Conveyance in Small Hyro- Power Project	May 2012	Dr. R. K. Prasad
5	Design of Trickling Filter to treat wastewater from Hostels of NERIST	May 2012	Dr. Ajay Bharti
6	Analysis of Gap Maintaining Behavior on Heterogeneous Traffic	May 2012	Mr. Dibyendu Pal
7	Evaluation of the Properties of Bituminous Concrete Through Marshall Stability Test	May 2012	Mr. K. J. Singh
8	Strength and Compressibility Behaviour of Cement Treated Expansive Soil	May 2012	Dr. M. Hussain
9	Rainfall Runoff Modelling of a Sub-Catchment of Loktak Catchment using SCS-CN Method	May 2012	Mr. K. J. Singh
10	Investigation on sand blended with fly ash and cement	May 2012	Dr. Ajanta Kalita

#### (b) M. Tech Projects Completed

S. No.	Name of Student	Year	Title of the Dissertation	Name of the Supervisor
1	Ms. Mongam Bole	2011-2012	“Quantification and Characterization of the Bio-Medical Waste in Arunachal State Hospital, Naharlagun”	Dr. Ajay Bharti
2	Ms. Hage Anka	2011-2012	“Landfill Site Selection in Itanagar Capital Complex Using GIS”	Dr. Ajay Bharti & Mr. K. J. Singh
3	Yanga Jeram	2012	“Strength Characteristic of fly ash reinforced with coir fiber”	Dr. H. P. Singh

#### 4.3.5 Short-term Courses/Seminars/Workshops Organized

Dr. Ajay Bharti & Mr. D. Pal Coordinated a TEQIP funded one week Faculty Development Programme (FDP) on “Advances in Traffic Flow and Environmental Management”, during April 17 – 21, 2012.

Mr. N. G. Sorum Coordinated a TEQIP funded one week Faculty Development Programme (FDP) on “Recent Advances in Pavement Materials and Design” during April 23-27, 2012.



#### 4.3.6 Short term courses/seminars/workshops attended by the faculty

Dr. S. Mishra Participated in short term course entitled “Remote Sensing and GIS application in Natural Resource Management”, organized by Agricultural Engineering Department during May 14-18, 2012.

Dr. R. K. Prasad Participated in short term course entitled “Remote Sensing and GIS application in Natural Resource Management”, organized by Agricultural Engineering Department during May 14-18, 2012.

Mr. Dibyendu Pal attended short term course on “Recent Advances: Pavement Materials and Design” held at NERIST, Itanagar during 23-27 April 2013.

Mr. Dibyendu Pal attended short term course on “Recent Advances: Pavement Materials and Design” held at NERIST, Itanagar during 23-27 April 2013.

Mr. Sorum, N. G. attended International Conference on “Advances in Civil, Arcitectural and Construction Engineering and Management” held at the Millennium Hilton Hotel, Bangkok, Thailand, July 4-6, 2012.

Dr. M. Hussain attended International Conference on Ground Improvement and Ground Control, held on 30 Oct.-2 Nov. University of Wollongong, Australia, Volume-II, pp-1095-1100.

Dr. H.P. Singh Participated and presented a paper in the International conference held at Vijayawada, Andhra Pradesh, India from 17-19 August, 2012.

Dr. H.P. Singh delivered a lecture as an invited speaker in the International conference held at Kottayam, Kerala, India from 26-29 October, 2012.

Dr. M. Hussain attended the Indian Geotechnical Conference during 15-17 Dec, 2012 at IIT Delhi, India.

Mr. K. J. Singh attended Faculty Development Programme on “Computational and Experimental aspects in Thermal Science” organized by Mechanical Engineering Department during Feb 27-March 2, 2012.

Mr. K. J. Singh attended Faculty Development Programme on “Remote Sensing and GIS application in Natural Resource Management”, organized by Agricultural Engineering Department during May 14-18, 2012.

Mr. K. J. Singh attended Faculty Development Programme on “Advances in Traffic Flow and Environmental Management” held at NERIST, Itanagar, Organised by Department of Civil Engineering during April 17-21, 2012.

Mr. K. J. Singh attended Faculty Development Programme on “Recent Advances in Pavement Materials and Design” held at NERIST, Itanagar, Organised by Department of Civil Engineering during April 23-27, 2012.

Ms Y. Tamut attended Faculty Development Programme on “Advances in Traffic Flow and Environmental Management” held at NERIST, Itanagar, Organised by Department of Civil Engineering during April 17-21, 2012.

Ms Y. Tamut attended Faculty Development Programme on “Recent Advances in Pavement Materials and Design” held at NERIST, Itanagar, Organised by Department of Civil Engineering during April 23-27, 2012.

Ms Y. Tamut attended Faculty Development Programme on “Personality Development” held at NERIST, Itanagar, Organised by Department of Management Studies during May 7-9, 2012.

Ms Y. Tamut attended Faculty Development Programme on “Remote Sensing and GIS Applications in Natural Resources Management” held at NERIST, Itanagar, Organised by Department of Agricultural Engineering during May 14-18, 2012.

Ms Y. Tamut attended Faculty Development Programme on “Advances in Computer Integrated Manufacturing and Robotics” held at NERIST, Itanagar, Organised by Department of Mechanical Engineering during May 26-30, 2012.

Ms. M. Puming attended FDP on “Advances in traffic flow and environmental management” held at NERIST, Itanagar, Organised by Department of Civil Engineering during April 17-21, 2012.

Ms. M. Puming attended FDP on “Recent Advances: Pavement materials and Design” held at NERIST, Itanagar, Organised by Department of Civil Engineering during April 23-27, 2012.

Ms. M. Puming attended Faculty Development Programme on “Personality Development” held at NERIST, Itanagar, Organised by Department of Management Studies during May 7-9, 2012.

Ms. M. Puming attended Faculty Development Programme on “Engineering Optimization” organized by Electrical Engineering Department held at NERIST during May 14 - May 18, 2012.

Ms. M. Puming attended Faculty Development Programme on “Advances in computer integrated manufacturing and robotics” Organised by Department of Mechanical Engineering at NERIST during June 26 – June 30 2012

Ms. M. Puming attended Faculty Development Programme on “Recent Advances in Tribology and Materials for Tribology Applications” Organised by Department of Mechanical Engineering at NERIST during April 10th-14<sup>th</sup>, 2013.

Dr. Ajanta Kalita attended Faculty Development Programme on “Advances in Traffic Flow and Environmental Management” held at NERIST, Itanagar, Organised by Department of Civil Engineering during April 17-21, 2012.

Dr. Ajanta Kalita attended Faculty Development Programme on “Recent Advances in Pavement Materials and Design” held at NERIST, Itanagar, Organised by Department of Civil Engineering during April 23-27, 2012.

#### 4.3.7 New Degrees/Professional Memberships obtained by the members of faculty

Ms. Ajanta Kalita was awarded Ph.D Degree at IIT Guwahati on 7 May 2012.

#### 4.3.8 Special achievements/awards/recognition earned by the members of faculty

**Prof S K Singh** is a member of the Advisory Committee of NERIST, which has been constituted as per rule 10 of MoA of NERIST. The Vice Chairman of UGC is the Chairman of this committee.

#### 4.3.9 Publications

##### (a) Referred Journals:

Maheshwari, B.K., Singh, H.P. and Saran Swam (2012). “Effects of reinforcement on liquefaction resistance of Solani sand”, ASCE Journal of Geotechnical and Geo-environmental Engineering, 138 (7), 831-840.

Singh, H.P., and Yachang, O. (2012). “Use of fly ash Reinforced with Jute Geotextile as a Pavement Subgrade”, International Journal of Earth Sciences and Engineering, 05(4), 562-567.

Singh, H.P. (2012).” Improvement in CBR value of Soil Reinforced with Jute Geotextile Layers”, International Journal of Earth Sciences and Engineering, 05(02), 1438 -1442.

Mishra, S. and Singh, K. K. (2012). “Energy Requirements in Buildings – Issues and Challenges” International Journal of Engineering Sciences Research-IJESR Vol 03, Special Issue 01; February 2012

Pal, Dibyendu (2012). “Analysis of the Capacity of Hilly Roads under Mixed Traffic Conditions-A Case Study” International Journal of Advances in Management, Technology & Engineering Sciences, (ISSN: 2249-7455), Vol. I, Issue 6(I), pp, 11-15.

Pal, D. and Jha, S.K., (2012). “Study of Acceleration Noise Behavior in heterogeneous Traffic Streams” International Journal of Engineering Sciences Research (ISSN 2230-8504), Vol. 03, Special Issue 01, pp, 622-626.

K. J. Singh & Shibayan Sarkar (2012). “Development of GIUH for the Catchment Contributing to Loktak Lake, North East India.” J Indian Soc Remote Sens, (DOI 10.1007/s12524-012-0219-2, Online )

### (b) Conference Papers

Baishya, S., A. Sarkar and A.K. Dey. Evaluation of Seismic Active Earth Pressure using Horizontal Slice Method and Log Spiral Failure, Paper accepted for 15th World Conference on Earthquake Engineering, Lisbon, Portugal, September, 2012.

Singh, H.P. (2012). Liquefaction Behaviour of Pond ash Improved with Stone-Sand Columns under Surcharge Loads” World conference on applied science and engineering held at Vijayawada, Andhra Pradesh, India from August 17-19.

Singh, H.P. (2012). Improvement in CBR value of Fly ash Reinforced with Coir-Fiber” 3rd International conference on Natural Polymer held at Kottayam, Kerala, India from October 26-29, Paper No. 118.

Pal, Dibyendu, (2012). “Analysis of the Capacity of Hilly Roads under Mixed Traffic Conditions-A Case Study” held at First Hotel, Bangkok, Thailand, March 2-3, 2012.

Hussain, M. and Dash, S.K. (2012) “Compaction characteristic of lime treated soils.” Proceedings of International Conference on Ground Improvement and Ground Control, held on 30 Oct.-2 Nov. University of Wollongong, Australlia, Volume-II, pp-1095-1100.

Hussain, M. and Dash, S.K.(2012) “Shrinkage behavior of soils.” Proceeding of the Indian Geotechnical Conference, 15-17 Dec, IIT Delhi, India, Volume-I, pp-388-391.

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

The Department has several interactions with state government/other agency officials like PWD, RWD, Water Resources Department, NEEPCO, NHPC, etc.

Ms Y. Tamut and Dr. R. K. Prasad Organised one day Industrial Tour for pre-final year students under IIIC(TEQUIP) to Lower Subansiri NHPC Hydro Electric Project, Gerukhamukh on 05/05/2012

#### 4.3.11 Consultancy Projects undertaken

The department has earned more than **Rs. 8.50 lacs** as consultancy fee during the year. The details are as follows

Sl No	Name of consultancy Work/Agencies	Amount	Detail of work	Faculty & Technical Staff involved
1	National Projects Construction Corporation Ltd.	5.67 lacs	Geotechnical Investigation and Allowable Bearing Pressure at Construction	Dr. H.P Singh and Dr. M. Hussain

			site for proposed Silver Jubilee Hall (Auditorium) for NERIST at Itanagar, Arunachal Pradesh.	
2	NERIST	2.39 lacs* (work done by without consultancy fee)	Geotechnical Investigation and Allowable Bearing Pressure at Construction site for proposed 24 no. class room for NERIST at Itanagar, Arunachal Pradesh	Mrs.D. Devi Dr. M. Hussain Dr. A. Kalita
3	NERIST	3.33 lacs* (work done by without consultancy fee)	Geotechnical Investigation and Allowable Bearing Pressure at Construction site for proposed boys hostel for NERIST at Itanagar, Arunachal Pradesh	Mrs.D. Devi Dr. M. Hussain Dr. A. Kalita
4	NPCC Ltd. West Zone , Guwahati	2.316 lacs	Topographical Survey in connection with the construction of Silver Jubilee Hall (auditorium) and the parking Place	Ms. Y. Tamut Dr. Ajanta Kalita Sri. P. Shivakumar
5	Assistant Engineer, Water Resource Sub-Division, Doimukh	Rs 2650/	Cube testing	Ms. Y. Tamut, Sri. A.S.R. Prasad Sri. M.C. Bora
6	Him Enterprise, Bank Tinali, Itanagar	Rs. 43,313/	Mix Design, M 30, M25	Dr. S. Mishra Mr. N. G. Sorum Mr. D. Pal
7	Todo Golo & Tajik Nabam	Rs. 9000/	Testing of Aggregates	Mr. N. G. Sorum Sri. A.S.R. Prasad Sri. M.C. Bor

#### 4.3.12 Achievement of students

The following is the list of students selected for placement in Campus Interviews. The number is likely to increase with more number of companies visiting in the next financial year.

**CAMPUS PLACEMENT DURING ACADEMIC SESSION 2012-13**

Sl.No	Name	Roll No	Company
1	Mr. Ramandeep	DE/11/CE/27	JINDAL STEEL & POWER
2	Mr. Amit Bhattacharjee	DE/11/CE/023	JINDAL STEEL & POWER
3	Mr. Jummy Taba	DE/11/CE/08	BHARTI INFRATEL LTD

**STUDENTS QUALIFIED FOR GATE 2013**

Sl.No.	Name	Roll No	Marks out of 100	Score (for 15 March 13 to 14 March 14)
1	Mr. Ramandeep	DE/11/CE/27	40	426
2	Mr. Todel Tayeng	DE/11/CE/004	32.33	332
3	Kapimang Pertin	DE/11/CE/10	26.00	261
4	Ramen Borah	DE/11/CE/02	24.67	247
5	Mr. Jacklin Jeke Nilling	DE/11/CE/009	21.33	209
6	Mr. Doyul Kenna O	DE/10/CE/102	20.00	194
7	Jummy Taba	DE/11/CE/08	20.00	194
8	Hage tsunami	DE/11/CE/17	19.33	187
9	Satyajit Debbarma	DE/10/CE/107	19.00	183

**4.3.13 Any Other Information**

Dr. Ajay Bharti is a Member in State Pollution Control Board, Arunachal Pradesh.

Dr. Ajay Bharti was a Member in State Level Scrutiny Committee constituted for review of applications from Gram Panchayats of Arunachal Pradesh for Nirmal Gram Puraskar

## 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 in modular pattern.

M.Tech in Computer Science and Engineering started in 2008-09

M.Tech in Information Technology started in 2011-12

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 CISR, MHRD, NEC, DoE etc.

The department has well equipped LAN connected laboratories System Lab, PC Lab, Microprocessor Lab, Hardware Lab, Networking Lab and Embedded Systems Lab with state-of-the art machines.

The department has 2MBPS leased line 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 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

#### PC Lab

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, Dbase, LOTUS, 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 III PC's (866MHz, 64MB RAM, 20GB HDD, CD ROM drive), Celeron PCs (300 Mhz, 32 MB RAM, 4.1 GB HDD), AMD-6 PCs (32 MB RAM, 4.1 GB HDD), Digital Cameras, Laserjet printers, Deskjet printers, Dotmatrix Printers etc.

### **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. However Practical classes for Diploma and Degree students are held here. Hands on exposure to various programming Software such as C, C++, FORTRAN etc and RDBMS software like Oracle and SQL Server, Visual Studio.NET are available in this lab., several HCL Infinity Global Line Servers, HP Compaq PIV and Pentium III PC's, Laserjet printers, Deskjet 840 printer, Line matrix printer, Dotmatrix printers, AS/A4 Multipen Plotter 4100, Scanners 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**

The System laboratory II is well equipped with a HCL Infinity Global Line Server running on Red Hat Linux 4.0 Enterprise Edition, a SUN ULTRA SPARC 10S SERVER and several HP Thin clients for working purely in UNIX/LINUX environment. 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..



## R & D Cell

This Cell has been developed to carry out researches that are funded by external agencies, through student projects and for faculty research. Three projects, one in Thrust Area and two in R & D scheme are presently being carried out in this cell. The cell is equipped a HP Proliant ML150 Server and a HP Laserjet 3015 multifunction device, Pentium IV PC (2.5 GHz, 256 DDDR SDRAM, 40 GB HDD, 17" Color monitor), a Pentium IV PC (1.5 GHz, 256 SD RAM, 20 GB HDD, 17" Color Monitor), a Pentium III PC (800Mhz, 20.4 Gb HDD, 256 SD RAM). It also has a HP – Color Laser jet (4550N Networking printer), Multipurpose Office Jet ( G55, Scanner cum copier cum printer).

## Embedded Systems Lab

Embedded Systems laboratory was set up with equipment like Microcontroller student Learning Kit, Code Warrior Developer Studio HCO8 Acad. Edition, Code Warrior Developer Studio HCS12(X) Acad. Edition, 16 Bit HCS12 Student Learning Kit, 16 Bit HCS12C32 Student Learning Kit, Platform Creation suite for Linux Embedded, ARM processor based 1MXL ADS with LCD.

## Network Lab

The department has set up Networking Lab and it has equipment like LAN T consisting LANT – NIU, LANT Software, LAN-T PS. It also has ISECURIT - a network and data security training system and a few numbers of PCs.

### 4.4.4 Projects Completed By the UG/PG/Ph.D Students

#### M.TECH

	Title of Project	Name of guide
1.	Efficient Localization techniques for wireless sensor networks	N. Marchang

#### DEGREE

	Title of Project	Name of guide
1.	Localization in wireless sensor networks	N. Marchang
2.	Fingerprint as Biometric System	M. Kathing
3.	DNA computing in Information Security System	M.Kathing
4.	Intrusion Detection in MANET	A. Taggu
5.	Mobility Pattern aware routing in VANET	A. Taggu
6	Image Compression Techniques	T. Tuithung
7	Study of Throughput in a Wireless with and without Network Coding	S. Borah
8	Pair-Wise and Multiple DNA and Protein Sequence Alignment	A.K.Patra
9	Data Mining based market basket Analysis	A.K.Patra

10	Cryptography and Information Security	M.Saikai
11	Wireless sensor networks	M.M.Singh

**DIPLOMA**

	Title of Project	Name of guide
1	Secure Localization in wireless sensor networks	N.Marchang
2	Web Based Tutorial	M.Kathing

**4.4.5 Short Term Courses/ Seminars/Workshops Conferences organized at NERIST**

- (a) Short Term Training Programme on “**Application & Operation of Computers for Office Staff**”, from 26<sup>th</sup> to 30<sup>th</sup> June 2012, organized by Dept of CSE, NERIST under Technical Education Quality Improvement Programme (TEQIP) Sponsored by MHRD-World Bank Project.
- (b) Faculty Development Programme on “**Research Issues and Prospects in Computer in Computer Science and Information Technology**”, organized by Department of Computer Science and Engineering, during May 1-5, 2012 under Technical Education Quality Improvement Programme (TEQIP) sponsored Sponsored by MHRD-World Bank Project,

**4.4.6 Short Term Courses/Seminars/Workshops/Conferences attended by the faculty**

- **Mrs. T.Tuithung, Associate Professor**

Faculty Development Programme on “**Research Issues and Prospects in Computer in Computer Science and Information Technology**”, organized by Department of Computer Science and Engineering, during May 1-5, 2012 under Technical Education Quality Improvement Programme (TEQIP) sponsored Sponsored by MHRD-World Bank Project.

- **Mrs. N. Marchang, Assistant Professor**

1. Faculty Development Programme on “**Research Issues and Prospects in Computer in Computer Science and Information Technology**”, organized by Department of Computer Science and Engineering, during May 1-5, 2012 under Technical Education Quality Improvement Programme (TEQIP) sponsored Sponsored by MHRD-World Bank Project.
2. Resource person for (and attended) TEQIP-sponsored Faculty Development programme on 'Advances in Computer Integrated Manufacturing and Robotics', NERIST, June 26-30, 2012.
3. Attended AICTE-sponsored Staff Development programme on "Soft Computing and Nano Technology in High Voltage Engineering", NERIST, Sept.17-28, 2012.

4. Attended 3rd One-day INDEST User Convention, NERIST, January 19, 2013.

- **S.J.Borah , Assistant Professor**

Faculty Development Programme on “**Research Issues and Prospects in Computer in Computer Science and Information Technology**”, organized by Department of Computer Science and Engineering, during May 1-5, 2012 under Technical Education Quality Improvement Programme (TEQIP) sponsored by MHRD-World Bank Project.

- **K.Legoh, Assistant Professor**

Faculty Development Programme on “**Research Issues and Prospects in Computer in Computer Science and Information Technology**”, organized by Department of Computer Science and Engineering, during May 1-5, 2012 under Technical Education Quality Improvement Programme (TEQIP) sponsored by MHRD-World Bank Project.

- **M.Kathing, Assistant Professor**

Faculty Development Programme on “**Research Issues and Prospects in Computer in Computer Science and Information Technology**”, organized by Department of Computer Science and Engineering, during May 1-5, 2012 under Technical Education Quality Improvement Programme (TEQIP) sponsored by MHRD-World Bank Project.

- **Workshop Attended**

1	Twelfth North East Workshop on "Computational Information Processing"	22 <sup>nd</sup> – 25 <sup>th</sup> February 2012	ECSU, Indian Statistical Institute, Kolkata & NERIST
2	FDP on “Research Issues and Prospects in Computer Science and Information Technology”	May 1-5, 2012.	TEQIP by Department of CSE, NERIST
3	FDP workshop on " Engineering Optimization"	14 <sup>th</sup> May to 18 <sup>th</sup> May, 2012	TEQIP by Dept of EE, NERIST, Arunachal Pradesh
4	FDP on "Advance in Integrated Manufacturing & Robotic"	26 <sup>th</sup> June-30 <sup>th</sup> June 2012	TEQIP by Dept of ME, NERIST, Arunachal Pradesh

- **M.Marjit Singh, Assistant Professor**

Faculty Development Programme on “**Research Issues and Prospects in Computer in Computer Science and Information Technology**”, organized by Department of Computer

Science and Engineering, during May 1-5, 2012 under Technical Education Quality Improvement Programme (TEQIP) sponsored by MHRD-World Bank Project.

- **A.K.Patra, Assistant Professor**

Faculty Development Programme on “**Research Issues and Prospects in Computer in Computer Science and Information Technology**”, organized by Department of Computer Science and Engineering, during May 1-5, 2012 under Technical Education Quality Improvement Programme (TEQIP) sponsored by MHRD-World Bank Project,

- **Workshop Attended**

1	Twelfth North East Workshop on "Computational Information Processing"	22 <sup>nd</sup> – 25 <sup>th</sup> February 2012	ECSU, Indian Statistical Institute, Kolkata & NERIST
2	FDP on “Research Issues and Prospects in Computer Science and Information Technology”	May 1-5, 2012.	TEQIP by Department of CSE, NERIST

- **Manjul Saikia, Assistant Professor**

- **Conference Attended**

Presented a paper entitled “Overview of Image Retrieval Methods on the Basis of Face Recognition” in a National Conference on Emerging Trends in Engineering, Technologies & Science for Sustainable Development (ETETSSD-2012) organized by Krishi Sanskriti during 05<sup>th</sup>-06<sup>th</sup> June 2012 at JNU Delhi.

- **Workshop Attended**

1. Twelfth North East Workshop on Computational Information Processing at NERIST during 22<sup>nd</sup> – 25<sup>th</sup> February 2012.
2. TEQIP Sponsored FDP on “Research Issues and Prospects in Computer Science and Information Technology” Organized by Department of CSE, NERIST during May 1-5, 2012.
3. TEQIP Sponsored FDP on “Remote Sensing and GIS Application in Natural Resource Management” Organized by Department of Agricultural Engineering, NERIST during 14<sup>th</sup>-18<sup>th</sup> May 2012.
4. INUP Familiarization Workshop on “Nanofabrication Technologies” for North-East Region, India organized by Department of EEE, IIT Guwahati and IISC Bangalore at IIT Guwahati during September 28<sup>th</sup> to 29<sup>th</sup> 2012.

- **Amar Taggu, Assistant Professor**

Faculty Development Programme on “**Research Issues and Prospects in Computer in Computer Science and Information Technology**”, organized by Department of

Computer Science and Engineering, during May 1-5, 2012 under Technical Education Quality Improvement Programme (TEQIP) sponsored by MHRD-World Bank Project.

- **Workshop Attended**

1	Twelfth North East Workshop on "Computational Information Processing"	22 <sup>nd</sup> – 25 <sup>th</sup> February 2012	ECSU, Indian Statistical Institute, Kolkata & NERIST
2	FDP on "Research Issues and Prospects in Computer Science and Information Technology"	May 1-5, 2012.	TEQIP by Department of CSE, NERIST
3	FDP on "Advance in Integrated Manufacturing & Robotic"	26 <sup>th</sup> June-30 <sup>th</sup> June 2012	TEQIP by Dept of ME, NERIST, Arunachal Pradesh

#### 4.4.7 New Degrees/Professional Memberships Obtained by the faculty

- **Mrs. N. Marchang, Assistant Professor**

IEEE Membership (member no. 92622528)

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

IEEE Membership (member no. 92622525)

#### 4.4.8 Achievements/Awards/Recognition earned by the faculty

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

IEI Young Engineers Award in the field of Computer Engineering in Twenty sixth National Convention of Computer Engineers organized by Assam State Centre, Guwahati on February 04-05, 2012.

#### 4.4.9 Publicatinos

##### a) Referred Journal

1. Ningrinla Marchang and Raja Datta, "Lightweight Trust-Based Routing Protocol for Mobile Ad Hoc Networks' . [Information Security, IET](#), Vol. 6 , [Issue 4](#), 2012, pp. 77-83.

2. M.Kathing , Pallabi Saikai and G. Janam "Face Detection using Skin Color Model and Between Eyes" . Internationa Journal of Computing, Communication and Networking (JCCN), Vol 1, No. 3, 2012, pp 102-103

#### b) Conference papers

1. Ningrinla Marchang and Nibedita Shial, "Multi-destination Route Request in AODV routing", In Proc. International Conference on Computing and Control Engineering (ICCCE-2012), Dr. M.G.R Educational and Research Institute University, Chennai, 12-13 April, 2012.
2. Margaret Kathing, M. Saikai and T.Tuithung, "Overview of Image Retrieval Methods on the Basis of Face Recognition" in a National Conference on Emerging Trends in Engineering, Technologies & Science for Sustainable Development (ETETSSD-2012) organized by Krishi Sanskriti during 05<sup>th</sup>-06<sup>th</sup> June 2012 at JNU Delhi.
3. Amar Taggu and Ani Taggu, "Wtracert: An Optimal Timer Based Traceroute implementation for Wireless Networks". IEEE Conference Wireless Days 2012, Nov 21st -23rd, Dublin, Ireland

#### 4.4.10 Achievement of Students

##### Placements

Sl. No.	Name of the student	Discipline	Company	Post Offered	Salary Package
01.	MR. EKALAYBE DE	CSE	MINDTREE	ENGINEER C1	Rs 3.2 lakhs
02.	MS. PALLABI SAIKIA	CSE	MINDTREE	ENGINEER C1	Rs 3.2 lakhs
03.	MR. ABHIJIT DAS	CSE	MINDTREE	ENGINEER C1	Rs 3.2 lakhs
04.	MR. SUMIT AURABH	CSE	MINDTREE	ENGINEER C1	Rs 3.2 lakhs

##### GATE Score

Sl. No.	Name of the student	Discipline	Percentile %
01.	MR. EKALAYBE DE	CSE	96.6
02.	MS. PALLABI SAIKIA	CSE	94.4
03.	MR. ABHIJIT DAS	CSE	88
04.	MR. KHODA HLAYANG	CSE	96

#### 4.5 DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

##### 4.5.1 A Brief Profile of the Department of Electronics and Communication Engineering

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 Information Technology (IT). 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 Engg and Information Technology and to meet the demand of man power in the technology development and support to the country. From July 2012 department have started two new PG programmes. The two programmes are M.Tech in VLSI and M.Tech in Electronics and Communication Engg, both full time and part time. The department of Electronics and Communication Engg also runs PhD (part time and full time) in the fields of Electronics and Communication Engg, VLSI and Information Technology. There are 11 regular faculty members in the department of which two are on QIP leave and pursuing Ph. D. at Jadavpur University and MNIT Allahabad, respectively.

#### 4.5.2 Academic Activities

The department conducts academic activities based on the modular patter of NERIST-certificate in Maintainace Engineering, Diploma and degree in Electronics and Communication Engg. The department had restarted M.Tech (IT) from August 2006 along with M.Tech part time and PhD programs. The department is starting M. Tech Electronics and Communication Engg and M.Tech in VLSI from the coming sesion. The department has organized workshops, seminars with technical collaboration by the faculty members /experts of other universities.

#### 4.5.3 Laboratories and Laboratory development

The department has 13 numbers of laboratories to conduct practical classes for various courses. The department has modernized the DSP laboratory with funds from MHRD. The department is also further developing the existing VLSI and Computer Networking laboratories. For VLSI laboratory already the purchase order of CADENCE software have been given with state of the art computing facility. The department has taken up steps to develop labs, both for M.Tech (VLSI) and M.Tech (ECE) 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.

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

##### **Under-graduate (B.Tech) Projects:**

*Transmission of Multimedia data through different fading channels* [Prof. Md. Anwar Hussain]

*Automatic Detection of Diabetic Retinopathy* [Mr. Madhusudhan Mishra]

*Implementation of Various Image quality Metrics* [Mr. A. Dinamani Singh]

*Microcontroller Based Pick and place Robot* [Mr. P.K. Dutta]

*Comparison and Analysis of a low Power 4-Bit full-Adder in 90 Nanometer Technology* [Mr. Manish Kumar]

*A comparative Analysis between SVD Based and NMF Based Wavelet Image Watermarking Techniques* [Mr. Swanirbhar Majumder]

*Solar T4acker using Microcontroller AT89C2051* [Mr. T. Sharan]

*Microcontroller Based Automated Railway Crossing Controller* [Mrs. Joyatri Bora]

*Performance Evaluation of dual Correlated EGC diversity receiver in Nakagami-m fading Channels with Arbitrary and non-Identical fading Parameters.* [Dr. Rupaban Subadar]



### Post Graduate (M.Tech) Projects

*Glaucoma Detection Using Fundus Image analysis* [Mr. M. Mishra]

*Capacity of Adaptive transmission and MIMO system over TWDP fading channels* [Dr. R. Subadar]

*Analysis of leakage power reduction in CMOS digital circuit using various techniques in 45 nm Technology* [Mr. M. Kumar]

*Channel capacity of MIMO system over Nakagami-m fading channel* [Mr. A. D. Singh]

*IRIS biometric based image water marking* [Mr. S. Majumder]

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

Department of Electronics and Communication Engineering organised a faculty development program on “Emerging Research Areas in Electronics and Communication Engg” under TEQIP during 15th to 19th May'2012. Prof. Dipankar Pal, Director NERIST, Prof. M. Bhunya, Dean of Tezpur University, Prof. J. Dutta HOD dept of ECE, Tezpur university, Dr. B. Deka, Tezpur University, Prof. U. Bhattachariya of RGU, Itanagar participated as resource person of the said course. Around 50 participants participated in the seminar from various departments.

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

##### Course attended by Mr. M. Mishra:

Sl. No.	Programme	Duration, Year and date	Organized by
1.	DIT workshop on "Speaker Verification: Development and Applications."	13 <sup>th</sup> -17 <sup>th</sup> Feb 2012	Dept of EEE and CSE, IIT Guwahati, Assam
2.	FDP on " Advances in Traffic Flow and Environmental Management"	17 <sup>th</sup> -21 <sup>th</sup> April, 2012	TEQIP & Dept of CE, NERIST, Arunachal Pradesh
3.	FDP on "Emerging Research Areas in Computer Science and Information Technology"	1 <sup>st</sup> - 5 <sup>th</sup> May 2012	TEQIP & Dept of CSE, NERIST, Arunachal Pradesh
4.	FDP on "Emerging Research Areas in Electronics and Communication Engineering"	15 <sup>th</sup> - 19 <sup>th</sup> May 2012	TEQIP & Dept of ECE, NERIST, Arunachal Pradesh
5.	AICTE Sponsored staff Development Programme on " Soft Computing and Nano Technology in High voltage Engineering"	17 <sup>th</sup> - 28 <sup>th</sup> Sept, 2012	Dept of EE, NERIST, Arunachal Pradesh
6.	QIP workshop on "Medical Image and Signal processing" (MISP 2012)	29 <sup>th</sup> -30 <sup>th</sup> Nov, 2012	Dept of EEE, IIT Guwahati

##### Course attended by S. Majumder:

1. TEQIP Faculty Development program on "Emerging Research Areas in Computer Science and Information Technology", 1st to 5th May'2012 by the Dept of Computer Science and Engg, NERIST
2. TEQIP Faculty Development program on "Emerging Research Areas in Electronics and Communication Engg", 15th to 19th May'2012 by the Dept of Electronics and Communication Engg, NERIST
3. INUP Familiarization Workshop on "Nanofabrication Technologies" for North Eastern Region, 28th to 29th September 2012, organized by Dept of EEE, IIT Guwahati and Center for Nanoscience and Engg, IISC , Bangalore at IIT Guwahati  
Course attended by A. D. Singh:
4. TEQIP Faculty Development program on "Emerging Research Areas in Computer Science and Information Technology", 1st to 5th May'2012 by the Dept of Computer Science and Engg, NERIST
5. TEQIP Faculty Development program on "Emerging Research Areas in Electronics and Communication Engg", 15th to 19th May'2012 by the Dept of Electronics and Communication Engg, NERIST

**Course attended by R. Subadar:**

1. TEQIP Faculty Development program on "Emerging Research Areas in Computer Science and Information Technology", 1st to 5th May'2012 by the Dept of Computer Science and Engg, NERIST
2. TEQIP Faculty Development program on "Emerging Research Areas in Electronics and Communication Engg", 15th to 19th May'2012 by the Dept of Electronics and Communication Engg, NERIST

**Course attended by R. K. Mangang:**

1. TEQIP Faculty Development program on "Emerging Research Areas in Computer Science and Information Technology", 1st to 5th May'2012 by the Dept of Computer Science and Engg, NERIST.
2. TEQIP Faculty Development program on "Emerging Research Areas in Electronics and Communication Engg", 15th to 19th May'2012 by the Dept of Electronics and Communication Engg, NERIST

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

- i. Mr. A. K. Ray completed his M. Tech from IIT Mumbai.
- ii. S. Majumder – Member IEEE.
- iii. Dr. Rupaban Subadar – Member IEEE.
- iv. Mr. M. Kumar – Member IEEE.
- v. Mr. A. D. Singh— Member IEEE

#### **4.5.8 Achievements/Awards/recognition by the faculty**

Mr. Madhusudhan Mishra received best paper award in the International Conference on Electrical, Electronics and Computer Science (ICEECS 2012), ISBN:978-93-81693-68-9, organized by IRD India at Vizag.

#### 4.5.9 Publications

1. A Simple Joint Routing and Scheduling Algorithm for a Multi-hop Wireless Network. Authors: Ishita Chakraborty, and Md. Anwar Hussain. IEEE International Conference on Computer Systems and Industrial Informatics ICCII12, Dubai, December 2012.
2. Performance Study of an ADHOC network with variation of Malicious Node Speed. Authors: Mozmin Ahmed, and Md. Anwar Hussain, World Academy of Science, Engineering and Technology, Jan-2013, Dubai.
3. Performance Study of Adhoc Network by Varying the Simulation Area and the Malicious Node Speed Authors: Mozmin Ahmed, and Md. Anwar Hussain, International Conference on Digital Information Processing and Communication, ICDIPC 2013, 30 Jan-1 Feb, 2013, Dubai.
4. Performance of a two input NAND gate using subthreshold leakage control technique. Journal of Electron Devices, Vol. 14, 2012, pp-1161-1169 Authors: Manish Kumar, and Md. Anwar Hussain.
5. "Binary Logo Watermarking Based on Multiresolution SVD", in pg 61, proceedings of International Conference on Computing and Control Engineering (ICCCE 2012), ISBN: 978-1-4675-2246-5, Chennai, India, April 2012 (S. Swarnalipi, S. Majumder, T. S. Das, S. K. Sarkar)
6. "Wavelet based Hybrid Image Compression using DCT, SVD and Global Thresholding-Huffman Encoding", in pg 229-235, proceedings of International Conference on Electrical Engineering and Computer Science (ICEECS 2012), ISBN-978-93-81-693-98-8, IPM Pvt Ltd, Interscience Campus, organized by IOAJ (A. Romita Devi, S. Majumder, M. Mishra, S. Sarkar, S. K. Sarkar)
7. "Real Time Speaker Recognition System using PCA and ICA", in pg 176-181, proceedings of Michael Faraday IET India Summit, Organized by Young Professional Section, IET Kolkata Local Network, Kolkata, India, November 25, 2012 (P. Saikia, D. Bora, A. F. Syiemlieh, S. K. Chaudhary, S. Majumder and P.K.Dutta)
8. "A Novel Watermarking using Multiresolution SVD", in pg 224-227, proceedings of Michael Faraday IET India Summit, Organized by Young Professional Section, IET Kolkata Local Network, Kolkata, India, November 25, 2012, ( S. Majumder, S. Swarnalipi, S. K. Sarkar)
9. "A Novel Watermarking using Multiresolution SVD", in pg 35-39, International Journal of Electrical, Electronics and Computer Engineering, ISSN 2277-2626, Special Edition for Best Papers of Michael Faraday IET India Summit-2012, MFIIS-12, December 2012, (S. Majumder, S. Swarnalipi, Souvik Sarkar, S. K. Sarkar)

10. "Word level detection of Galo and Adi language using acoustical cues", pg 10-13, Volume-1, Issue-1 of International Journal of Scientific Research in Computer Science and Engineering(IJSRCSE), ISSN: 2320 - 7639, Jan- Feb-2013 (Marpe Sora, Jyotismita Talukdhar, S. Majumder, P.H Talukdhar, U.Sharmah)
11. "Singular value decomposition and wavelet-based iris biometric watermarking", Published in IET International Journal of Biometrics, Received on 12th September 2012, Revised on 4th December 2012, Accepted on 22nd January 2013, doi: 10.1049/iet-bmt.2012.0052. (S. Majumder, K Jilen Kumari Devi, S. K. Sarkar)
12. Performance of SC receiver over TWDP fading channels, R. Subadar and A. D. singh, Accepted for publication in IEEE wireless communication letters.
13. PCA and LDA Based Approach to Glaucoma Classification from Colour Fundus Images, Page No 186-191,35th National System Conference, IIT Bhubaneswar, Macmillan Publishers Ltd, By Systems Society of India, M.Nath, M.Mishra, and S.Dandapat, 09<sup>th</sup> November, 2012.
14. A Comparative Study of Different Illumination Correction Techniques Using Colour Fundus Images: A Review for Early Detection of Diabetic Eye Diseases. International Conference on Electrical, Electronics and Computer Science (ICEECS 2012), ISBN:978-93-81693-68-9, organized by IRD India at Vizag, (M. Mishra, M. Sharma, S. Debnath, T. Esther Lotha and Benjungkumla) (Selected for the best paper award)

#### 4.5.10 Interaction of faculty/department with outside agencies

Our faculty members have a very good relationship with other organisations. Department of ECE have organised joint short term course in collaboration with Jadavpur University and Calcutta University in past. Also, our faculty members have attended short term courses, conferences and training program organised by IITs, IISc and other reputed institutes. The faculty members are also invited by NEHU, Shillong, Mizoram University and state public service commission as an expert for conducting examination/interviews.

#### 4.5.11 Achievements of Students

Our passed out students have been recruited by reputed companies in the telecom, energy and mining. Moreover, eight students have scored in GATE 2012 and pursuing higher studies in IITs and NITs.

#### 4.5.12 Any other information

**Mr. P. K. Dutta** and **Mr. T. Sharan** of our Department have been selected by the AICTE QIP committee to undergo PhD programmes in Jadavpur University and MNNIT Allahabad from July 2012 and they are currently undergoing their respective contact programmes with the respective institutions

## 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 follow a two-year modular structure of the institute in undergraduate programmes namely, Base module, Diploma module and Degree module. The intake for each module are admitted through NERIST Entrance Examination namely, NEE-I, NEE-II and NEE-III respectively. The Department is offering Postgraduate (M. Tech) programmes with specialization in Power System Engineering and Ph. D programmes to cater to the ever challenging needs of technical excellence in all areas of Electrical Engineering.

The Department has distinguished 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 for students and researches to learn and innovate. The Department also undertakes many research projects sponsored by government as well as 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 analyse, 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.

### Programmes

With the aim of providing sound knowledge and cutting edge technology in the areas of Electrical Engineering, the Department offers:

- (a) **M. Tech in Power System Engineering**  
Eligibility: As per institute norms.  
Intake: 10
- (b) **Ph. D in Electrical Engineering**  
Eligibility: As per institute norms.

### Availability of Ph. D supervision

Sl.	Name	Designation	Areas of specialization	No. of
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No.				seats
(a)	Dr. Shiv K. Bhagat Ph. D (IIT, Varanasi)	Associate Professor	Control Systems	6
(b)	Dr. Ram K. Mehta Ph. D (JU, Jadavpur)	Associate Professor	Control Systems	5
(c)	Dr. Om P. Roy Ph. D (ISM, Dhanbad)	Associate Professor	Microprocessor based Control & Instrumentation, Power System Reliability	4
(d)	Dr.SarsingGao Ph. D (IIT, Delhi)	Associate Professor	Electrical Machines, Energy & Distributed Generations	5
(e)	Dr.SaibalChatterjee Ph. D (JU, Jadavpur)	Associate Professor	High Voltage, Power System	3.5
(f)	Dr.Arvind K. Singh Ph. D (TU, Tezpur)	Assistant Professor	Power System, Electrical Machines & Drives	4

### i) Activities

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. Apart from imparting engineering education at undergraduate and postgraduate levels, the Department undertake consultancy and other forms of collaborative work with various organizations. A number of sponsored research projects have been accomplished and as many are going on as part of the Department's continued effort towards institute-industry interaction. The Department organizes conferences, workshops, seminars and symposia on a regular basis in various specialized areas of Electrical Engineering with participation of faculty members and professional engineers from all over the country.

### ii) Facilities

The Department has 12 well equipped laboratories and a library to facilitate students and faculty members to access books and journals/periodicals which are indispensable for Electrical Engineering professionals. Keeping pace with ever growing technological advancement, the Department has number of PC servers and workstations hosting several software packages and linked through a local area network (LAN). Uninterrupted internet connectivity is available for the students and faculty members.

### (iii) 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, 200 MHz 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 Servo Trainer Unit, AC Servo Motor Speed/Torque Control Unit, DC Motor Speed Control Unit, Magnetic Amplifier, SynchroTransmitter 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, PSCAD, 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.

### l. 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 has a printer, LCD projector and a Scanner to cater the needs of the students.

#### (iv) Faculty profile of the Department

Sl. No.	Name	Designation	Areas of specialization
1.	Dr. Shiv K. Bhagat Ph. D (IIT, Varanasi)	Associate Professor	Control Systems
2.	Dr. Ram K. Mehta Ph. D (JU, Jadavpur)	Associate Professor &HoD	Control Systems
3.	Dr. Om P. Roy Ph. D (ISM, Dhanbad)	Associate Professor	Microprocessor based Control & Instrumentation, Power System Reliability
4.	Dr.SarsingGao Ph. D (IIT, Delhi)	Associate Professor	Electrical Machines, Energy & Distributed Generations
5.	Dr.SaibalChatterjee Ph. D (JU, Jadavpur)	Associate Professor	High Voltage, Power System
6.	Mr.RadakBlange M. Tech (NERIST, Nirjuli)	Assistant Professor	Control Systems, Energy, Electrical Machines & Drives
7.	Mr. T. VimalPrakash Singh M. Tech (MNNIT, Allahabad)	Assistant Professor	Control Systems, VLSI Design
8.	Dr.Arvind K. Singh Ph. D (TU, Tezpur)	Assistant Professor	Power System, Electrical Machines & Drives
9.	Mr. M. Deben Singh M. Tech (TU, Tezpur)	Assistant Professor	Power Electronics, Digital Systems
10.	Mr.Adikanda K. Parida	Assistant Professor	Industrial Drives, Power

	M. Tech (MITS, Gwalior)		Electronics & Energy Audit
11.	Mr. Anu K. Das M. Tech (NIT, Silchar)	Assistant Professor	Power System Stability, FACTS & Renewable Energy
12.	Mr. N. Loyalakpa Meitei M. Tech (TU, Tezpur)	Assistant Professor	Energy Management
13.	Ms. Somila Hashunao M. Tech (JMI, Delhi)	Assistant Professor	Electrical Power System Management

**Contact** : Dr. R. K. Mehta  
: Head, Department of Electrical Engineering  
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#### 4.6.2 Academic Activities

**(a) Modification of existing courses / Course Structure:**

The courses offered in Base, Diploma and Degree has been modified and their syllabus also revised, which was implemented from July 2009 after approval of the Academic Council. The book list of all the courses has been updated to include the latest editions of the existing titles, and new titles published recently.

**(b) Introduction to new electives:**

1. Bio-medical Instrumentation
2. Optimization techniques and Engineering Applications
3. Electrical Machine design
4. Basics of Communication Engineering
5. Flexible AC Transmission System
6. Artificial Intelligence
7. Power System Reliability

**(c) Laboratory / workshop designed:**

The Department has designed and developed two labs namely Energy System Lab. and High Voltage Lab. during this period. The Department has developed a new "High Voltage Laboratory" and up gradation of PC and power system laboratories up to P.G. level under Project sanctioned by (FIST Scheme), Ministry of Science and Technology, Government of India. The department is also going to develop Bio-medical Instrumentation.

#### 4.6.3 Laboratory Development

**(a) List of newlyprocured equipments:**

Additional equipments have been procured for Energy System Lab, High Voltage Lab, Circuits & Measurement Lab, Control & Instrumentation Lab, Electrical Machine Lab, Power System & Protection Lab, Power Electronics Lab, Electrical PC Lab, Digital Electronics & Microprocessor Lab, Project & Research Lab, Electrical Maintenance, Electrical Workshop and for Information Security and Service Centre. Recently Fluke Power Analyzer and dSpace Software has been procured for Machine Lab while PSS®E Software has been procured for HV Lab.

#### (b) Laboratory manuals developed:

Laboratory manual has been prepared for High Voltage laboratory, Energy System Laboratory and Digital Electronics & Microprocessor Laboratory. The laboratory manuals and laboratory experiment sheets of other laboratories have been augmented to carry out practical classes in the laboratories.

#### 4.6.4 Achievements of faculty members

1. Dr. S. Chatterjee, Associate Professor has successfully coordinated IEEE International Conference on Power and Energy at NERIST (ICPEN) during Dec. 28-29, 2012.
2. Dr. S. Gao, Associate Professor has contributed in framing of syllabi for recruitment of Assistant Engineer (E & M) of the Dept. of Hydro Power Development, Govt. of Arunachal Pradesh.

#### 4.6.5 Projects completed by the B. Tech. students during 2012-2013

Sl.No	TITLE OF THE PROJECT	NAME OF THE GUIDE
1.	<i>Speed Control of Dc Motors using Microprocessor</i>	Dr. O. P. Roy
2.	<i>Reliability Evaluation of Power System</i>	Dr. O. P. Roy
3.	<i>Nano Technology in Power Systems</i>	Dr. S. Chatterjee
4.	<i>Controller Design via Pole Placement</i>	DR. S. K. Bhagat
5.	<i>PI Controller Design for Two Loop Missile Auto Pilot in Pitch Plane</i>	Dr. R. K. Mehta
6.	<i>Observer based Controller Design for Flexible Points</i>	Dr. R. K. Mehta
7.	<i>Condition Monitoring of Power/Distribution Transformer</i>	Dr. S. Chatterjee
8.	<i>Voltage Regulation of Asynchronous Generator using Switched Capacitors</i>	Dr. S. Gao

9.	<i>D-Q Modeling and Simulation of Electrical Machines</i>	Dr. S. Gao
10.	<i>Stability Analysis of Switching Power Supply- a Case Study</i>	Mr. M. D. Singh
11.	<i>Case Study – The Effect of Additive Property on Performance of Organic Bulk Hetero Junctions Solar Cells</i>	Ms. Somila Hashunao
12.	<i>Characterization and Modeling of Solar Cells</i>	Mr. A. K. Das
13.	<i>Modeling of Grid Management</i>	Dr. S. Chatterjee
14.	<i>Energy Analysis of DAC</i>	Mr. T. V. P. Singh
15.	<i>Installation and Design of Solar Panels with Monthly Adjustment of Tilt Angle</i>	Mr. N. L. Meitei

#### 4.6.6 M. Tech Theses submitted during 2012-2013

The following M. Tech Theses have been submitted under the guidance of

(1) Dr. Saibal Chatterjee:

- a. Electromechanical Analysis of a Bridge Configured Self-bearing Induction Machine by Ms. Dhritika Saikia.
- b. Electromechanical Design of Self-bearing Switched Reluctance Motor using Bridged Configured Winding by Ms. Firdausa Ahmed.
- c. Study of Probabilistic Nature of Breakdown of Air-gap against Uniform and Non-uniform Electric Field by Mr. Mudang Taro.
- d. Modeling of Bewley's Lattice Diagram using Matlab by Mr. Brajagopal Datta.

(2) Dr. R. K. Mehta:

- 4.6.6.1.1.1 Optimal Load-Frequency Control in Two Area Power Systems by Ms. Toko Nama.
- 4.6.6.1.1.2 An Integral with Feed Forward Controller for Primary Load-Frequency Controller Loop using Pole Placement Design by Mr. Lod Tapin.
- 4.6.6.1.1.3 Reduced Order based Observer based Load-Frequency Control by Mr. Pagge Rime.
- 4.6.6.1.1.4 Observer based Robust Load-Frequency Control by Mr. Rittu Angu.

(3) Dr. S. Gao:

Voltage and Frequency Control of Grid connected Permanent Magnet Synchronous Generator by Ms. Toko Chichi.

(4) Dr. S. K. Bhagat:

- a. Robust Control of Variable Speed Wind Turbine by Ms. Kirgam Jini.
- b. Tuning of PID Controllers for Stable/Unstable Time Delay Systems by Ms. Mini Riba.

(5) Dr. O. P. Roy and Dr. A. K. Singh:

Reactive Power Compensation of a Transmission Line using Matlab/Simulink by Mr. GyanDeori.

#### 4.6.7 Participation in Short Term Courses/ Seminars/Conferences

Dr.SarsingGao, Associate Professor has attended and presented a research paper in IEEE International Conference on Sustainable Energy Technologies (IEEE ICSET 2012) during Sept. 24-27, 2012 at Kathmandu, Nepal.

#### 4.6.8 Departmental Students Selected Through Campus Interview

1. KavitaYadav	DE/11/EE/002	M/s Bharti Infra Ltd.
2. OmkarMajumdar	DE/11/EE/011	M/s Bharti Infra Ltd.
3. Davish Meitei Thongam	DE/11/EE/006	M/s Bharti Infra Ltd.

#### 4.6.9 Departmental Students Qualified in GATE -2011

1. ApurvaAppan	DE/11/EE/007
2. Davish Meitei Thongam	DE/11/EE/006
3. Kumar Abhinav	DE/11/EE/010
4. KavitaYadav	DE/11/EE/002
5. RinaMoirangthem	DE/11/EE/012
6. Saurav Kumar Bharati	DE/11/EE/005
7. OmkarMajumdar	DE/11/EE/011
8. SaptaswaSarkar	DE/11/EE/001
9. DhruvajyotiSarmah	DE/11/EE/008

#### 4.6.10 Publications

- SarsingGao and Abhishek Kumar, "Mitigation of unbalanced currents in three-phase asynchronous generator supplying single-phase nonlinear loads", in Proc. IEEE ICSET, pp. 246-251, Sep. 2012.
- SarsingGao, "Estimation of global solar radiation using empirical correlation" International Journal of Engineering Sciences Research, vol. 3, Special Issue 1, pp. 571-574, Feb. 2012.
- S. K. Bhagat, "Balancing free Reduction Algorithm for Singularly Perturbed Stable/Unstable Systems", AMSE, Advances in Modeling Series-C, Automatic Control Theory and Applications, vol. 67, no. 2, pp. 45-49, 2012.
- S. K. Bhagat, "Robustness and Fragility Issues in Control System Design: A Survey", in Proc. Intl. Conference on Instr., Commun., Control and Automation, Kalasalingam Univ., Krishnankoot, Madurai, Tamil Nadu, Jan. 3-5, 2013.
- U. Sharma, S. Chatterjee, and K. Bhuyan, "Development of reference SFRA plot of transformer at design stage using high frequency modeling" in Proc. IEEE ICPEN, pp. 1-4, 2012.
- B. Datta, and S. Chatterjee, "A literature review on use of Bewley's lattice diagram", in Proc. IEEE ICPEN, pp. 1-4, 2012.

- g. F. Ahmed, D. Saikia, S. Chatterjee, H. Singh, P. Das, and K. Kalita, “*Self-bearing switched reluctance motor: A review*”, in Proc. IEEE ICPEN, pp. 1-6, 2012.

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

- a. Dr. S. Gao, Associate Professor is functioning as Head of Educational Technology Cell, Internet Section and ACCF of the Institute.
- b. Dr S Chatterjee, Associate Professor is functioning as Electrical Engineer of the Institute.
- c. Mr. T. V. P. Singh, Assistant Professor is functioning as Coordinator, DoE Centre of the Institute.
- d. Mr. M. Deben Singh, Assistant Professor is functioning as Warden PG Boys Hostel, Block-P of the Institute.
- e. Mr. B. K. Nair is associated with Electrical Maintenance section of the Institute.
- f. Mr. Mohan Das is associated with Electrical Maintenance section of the Institute.

### 4.7 DEPARTMENT OF MECHANICAL ENGINEERING

#### 4.7.1 A Brief Profile about the Department

Department of Mechanical Engineering is run by a mix of experienced as well as young motivated, well-qualified (M. Tech. and Ph. D. from reputed institutes in India and abroad like IITs, NITs, J.U., IT-BHU, BESU etc.) faculty members and experienced supporting staffs to generate human resources to cater the fast growing Industrial and academic need of the country at various levels for about 200 students (from 8 North Eastern states including Sikkim and all India). It offers courses to train the students in the art of servicing, maintenance and trouble shooting 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 PG students.

The department offers certificate course in three trades, namely, Refrigeration & Air Conditioning, Craftmanship & Automobile servicing trades, 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 combinedly. 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.

Sixteen laboratories and six workshops in the department are equipped with advanced equipments and machines. A list alongwith the major equipments in respective laboratories is appended as Appendix–A. The department possesses its owncomputational 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 as per the need of the curriculum to provide exposure to the industrial and practical environment. The departmental curriculum also includes compulsory vocational training for the students in certificate and degree modules.

A series of quality U.G. projects 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.

#### 4.7.2 Academic Activities

The department runs two PG programmes (i) M.Tech in Computer Integrated Manufacturing and Automation (CIMA) and (ii) M. Tech. in Thermo-Fluid Engineering during the academic year 2012-2013.

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 in this period under review. The curriculum has been approved of Academic Council and the new curricula have been implemented from the 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 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 equipments are carried out by the students under the supervision of faculty members and technical staff. 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 during the period.

**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.

#### 4.7.3 Workshops and Laboratory Development

Internal Combustion Engine being the important area for the Mechanical Engineering student, a separate IC Engine Laboratory has been established. New equipments has been procured and installed in the laboratory. A section in the lab is devoted to the development of bio-diesel laboratory under the supervision of Mr. P. Lingfa and Biplab Das. Four Stroke Single Cylinder Diesel Engine, Flash and fire point apparatus. Bomb Calorimeter, Viscometer, Two Stroke Petrol Engine etc. have been installed, besides existing equipments in the Internal Combustion Engine Lab.

An Audio-Visual lab (seminar hall) is under development and the equipments were indented on a priority basis during the year. Mr. Sunirmal Ray is the In-Charge for the Seminar Hall. Presently, this Audio visual lab is equipped with LCD projector, P-IV Computer, e-Learning CDs on various subject fields in mechanical engineering. It is proposed to equip the seminar hall with PA system and interactive board at the earliest.

Computational Fluid Dynamics lab is also under development under the supervision of Mr. Sunirmal Ray, since in engineering analysis of thermal fluid systems CFD techniques plays an important and major role now-a-days. In future, the lab can be used as a major R&D centre of the Institute. CADD lab is undergoing development by Mr. S. Mahto. Prof. M. Muralidhar from the Mechanical has been dealing the charge of Dean (Planning and Development) and TEQIP co-ordinator.

Mr. M. Chandrasekaran, AP, has developed Fluid Power System Lab. with induction of Pelton Turbine Test Rig, Reciprocating Pump Test Rig., PLC Trainer, Reynolds Apparatus, Metacentric apparatus, Reciprocating pump test rig, Rotational flow apparatus etc. Within the period under review, laboratory facility in the department has been augmented by introduction of cold storage plant, computerized refrigeration unit and turret lathe. The Computer and CFD lab are equipped with 25 Pentium-IV, Peripherals, Printers etc. during the year. Sunirmal Ray is the Lab. in-Charge of computer laboratory. Other laboratory facilities of the department is listed in Appendix-A.

#### 4.7.4 Projects completed by the UG Students (completed in May, 2012)

##### List of B. TECH. PROJECTS, 2012

S.No	Project Title Name(s) of Guide(s)
1	Studies on the performance of pulverized coal fired thermal power plant. <b>Mr. Sunirmal Ray</b>
2	Pipe network design for water distribution of a small urban areas (using EPAnet version 2) <b>Mr.M.Chandrasekaran</b>
3	Thermal analysis of Moist fin <b>Dr.A.Giri &amp; M.B.Das</b>
4	Design of a fixture to conduct test of Galling resistance <b>B.Das &amp; Dr. A.Giri</b>

	Studies on blending & properties analysis of Bio-diesel. <b>Dr.M.Muralidhar</b>
6	Estimate of maintenance of computer linked air conditioning unit. <b>Dr.M.P.Thaddues</b>
7	Fuzzy logic modelling of automated guided vehicles (AGVs) in Flexible manufacturing Systems. <b>M.Chandrasekaran</b>
	Design & development of Galling resistance test fixture as per ASTM G 196-08. <b>Mr. S.Singh</b>
	Synthesis, Characterization & analysis of metal matrix composites. <b>Dr. S.Samanta&amp; Dr. S. S. Gautam</b>
10	Development of pedal operated reciprocating water pump. <b>Mr. N.K.Rana&amp;Mr. K.K.Mandal</b>
11	Operation of a conventional machine using mechanism of a windmill. <b>Mr.N.Teyi &amp; Mr.S.Mahto</b>

## LIST OF M. TECH. (CIMA) PROJECTS, 2011-2012

Project No.	Project Title	Name(s) of Guide(s)	Allotted to	
			Roll No.	Name
CIMA/11/01	SHAPE OPTIMIZATION OF SINGLE LINK FLEXIBLE ROBOTIC MANIPULATOR	<b>Mr. S. Mahto</b>	MT/10/CIMA/005	ROSANG PONGEN
CIMA/11/02	STABILITY ANALYSIS OF WAVE BEARING IN TURBULENT REGIME CONSIDERING MICROPOLAR FLUID	<b>Dr. S. S. Gautam</b>	MT/10/CIMA/002	ROLIN SORUM **
CIMA/11/03	SURFACE ROUGHNESS MODELLING AND PARAMETER OPTIMISATION IN END MILLING OF Al-SiC <sub>p</sub> METAL MATRIX COMPOSITES USING SOFT COMPUTING TECHNIQUES	<b>Mr. M. Chandrasekaran &amp; Mr. A. Mandal</b>	MT(PT)/ME/09/1/01	D. DEVARASIDDAPPA
CIMA/11/04	DESIGN AND DEVELOPMENT OF WEB ENABLED MACHINING SYSTEM FOR COMMON MACHINE TOOL OPERATIONS	<b>Mr. A. Mandal &amp; Mr. M. Chandrasekaran</b>	MT/10/CIMA/006	SAI PRASAD OJHA
CIMA/11/05	STUDIES ON DESIGN OF AN INTELLIGENT MANUFACTURING SYSTEM AND ESTIMATION OF ITS MIQ	<b>Dr. M. Muralidhar</b>	MT/10/CIMA/003	RANBIR DUTTA

\*\* Incomplete

## 4.7.5 Short-term courses/ Seminars/ Workshops/ Conferences organized

1. **Mr. K.K. Mandal (ME)** and Dr. S. Chatterjee (EE) organized a workshop on Engineering Optimization during 14<sup>th</sup> to 18<sup>th</sup> May 2012 under TEQIP.
2. **Prof. M. Muralidhar** organized TEQIP sponsored Faculty Development Programme on “Advances in Computer Integrated Manufacturing and Robotics” during Dt.26-6-2012 to 30-6-2012.

#### 4.7.6 Short-term courses/seminars/Conferences attended by the faculty

##### **Mr. K.K. Mandal attended**

1. Short term courses on Advances in Traffic Flow and Environmental Management organized by Civil Engineering Department during 17<sup>th</sup> to 21<sup>st</sup> April, 2012.
2. Short Term course on Personality Development organized by Centre of management Studies during 7<sup>th</sup> to 9<sup>th</sup> May, 2012.
3. Short term course on Advances in computer integrated manufacturing and Robotics organized by Mechanical Department during 26<sup>th</sup> to 30<sup>th</sup> June, 2012.

##### **Dr. S.S. Gautam attended**

1. Name of the course: CAD Using CATIA (AICTE) Duration: One Week (18.02.2013 – 22.02.2013) Venue: NITTTR Chandigarh
2. Name of the course: Soft Computing and Nano Technology in High Voltage Engineering (AICTE) Duration: Two Week (17.09.2012 – 28.09.2012) Venue: NERIST
3. Name of the course: Advances in Computer Integrated Manufacturing and Robotics, Duration: One Week (26.06.2012 – 30.06.2012), Venue: NERIST
4. Name of the course: MATLAB for Mechanical Engineers (AICTE), Duration: One Week (28.05.2012 – 01.06.2012), Venue: NITTTR Kolkata
5. Name of the course: Workshop on Engineering Optimization, Duration: Oneweek (14.05.2012 – 18.05.2012), Venue: NERIST
6. Name of the course: Personality Development, Duration: One Week (07.05.2012 – 09.05.2012), Venue: NERIST

##### **Dr. S. Samanta attended**

1. NSS orientation course of 16th Orientation course held at Narendrapur Ramakrishna Mission Ashrama, WB from 24/02/13 to 02/03/13.

##### **Prof. M. Muralidhar**

1. Attended a five short term training programme sponsored by NPIU at IIM Lucknow Noida Campus for VCs, Directors and Deans, on Management Capacity Enhancement Programme for TEQIP Institutions during February 2013

#### 4.7.7 New Degrees / Professional Memberships obtained by the faculty

1. Mr. P. Lingfa is pursuing Ph.D program under QIP at I.I.T, Delhi
2. Mr. M. Dabi has Completed M. Tech. Programme at IIT, Guwahati under QIP
3. Mr. S. Singh joined as a Ph.D. program under QIP at I.I.T. Guwahati.
4. Mr. N.K. Rana has registered for Ph.D. at NERIST.

#### 4.7.8 Publications

## A. Journals

1. **Asis Giri, Biplab Das**, “A numerical study of entry region laminar mixed convection over shrouded vertical fin arrays”, *International Journal of Thermal Sciences*, Volume 60, October 2012, Pages 212–224.
2. **M. Chandrasekaran**, D. Devarasiddappa, M. Chandrasekaran, AmitavaMandal, “Artificial Neural network modeling for predicting surface roughness in end milling of Al-SiCp metal matrix composites and its evaluation”, **Journal of Applied Sciences**, 12 (10): 955-962, 2012. ISSN 1812-5654/ DOI: 10.3923/jas2012.955.962
3. **S.Samanta**, D.Datta and **S.S. Gautam**, “Evaluation of ultrasonic C-scan images by Fractal Dimension”, *Journal of world Academy of Science, Engineering and Technology*, 68, 2012, pp1406-10.
4. **S. Samanta, D. Dash, S.S. Gautam and M. Muralidhar**, “Mechanical Characterizations of Natural Fibre Reinforced Composite Materials”, *International Journal of advanced Materials manufacturing & Characterization*, Vol 3, issue 1(2013).
5. **Gautam, S. S.** and Ghosh, M. K, “Effect of Surface Waviness on Steady State Characteristics of Short Journal Bearings in Turbulent Flow,” ‘*Indian Journal of Tribology*,’ 2012, Vol. 6, No. 1, pp.9-16.

## B. Conferences/Proceedings

1. Manish sharma, Sumit Kumar, **M.Chandrasekaran**, “Parametric optimization for obtaining minimum surface roughness in an end milling process using taguchi design method and development of statistical regression modeling”, Published in 2<sup>nd</sup> international conference on Advance manufacturing and Automation (INCAMA 2013), Krishnan kovil, Tamilnadu Mar, 2013. pp 739-743.
2. T.J.Singh, S.Samanta, **M.Chandrasekaran**, “Modeling of Ultrasonic Imaging of an Impacted Composite Domain Using the Artificial Neural Network and its Evaluation”, Published in 2<sup>nd</sup> international conference on Advance manufacturing and Automation (INCAMA 2013), Krishnan kovil, Tamilnadu Mar, 2013. pp 86-91.
3. **M. Chandrasekaran**, D. Devarasiddappa, “Modeling for Surface Roughness prediction in cylindrical grinding of Al-SiCp metal matrix composites using artificial neural network and ANOVA analysis”, Published in theInternational Conference On Recent Advances in Material Processing Technology (RAMPT’13), Kovilpatti, Tamilnadu, 7-9 Jan, 2013.
4. S.Tamang, **M.Chandrasekaran**, S.Samanta, “ Application of computational methods in modeling and optimization of composite machining processes: A literature review, Published in the International Conference On Recent Advances in Material Processing Technology (RAMPT’13), Kovilpatti, Tamilnadu, 7-9 Jan, 2013.
5. D. Devarasiddappa and **M.Chandrasekaran**, “Development of surface roughness prediction model and parameters optimization in machining Al-SiCp metal matrix composites”, Published in the 4th International & 25th AIMTDR Conference, Jadavpur University, Kolkatta, 14-16th December, 2012.
6. Sai Prasad Ojha, **M.Chandrasekaran**, “ Design and Development of web enabled machining system for common machine tool operations”, Int. Conf. on Advances in Manufacturing Technology (ICAMT 2012), Kundrathur, Chennai, June 15-17, 2012, pp 128-131.

7. **M. Chandrasekaran**, D. Devarasiddappa, “Development of Predictive Model for Surface Roughness in end Milling of Al-SiCp Metal Matrix Composites using Fuzzy Logic”, World Academy of Science, Engineering and Technology, 68, 2012.
8. **D.Datta and S.Samanta**, “Fractal Dimension of Waveforms as a Useful Feature in Ultrasonic Imaging” , Proceedings of 18th World Conference on Non destructive Testing, held at Durban, South Africa, 16-20 April 2012, ISBN No:978-0-620-52872-6.
9. **S.Samanta and D.Datta** , “Imaging of Impacted Composite Armours using Data Clustering” , Proceedings of 18th World Conference on Non destructive Testing, held at Durban, South Africa, 16-20 April 2012, ISBN No:978-0-620-52872-6.
10. **S.Samanta, D.Datta and S.S. Gautam**, “Evaluation of ultrasonic C-scan images by Fractal Dimension”, Journal of world Academy of Science, Engineering and Technology, 68, 2012, pp1406-10.
11. **S. Samanta, D.Dash, S.S.Gautam and M.Muralidhar**, “Mechanical Characterizations of Natural Fibre Reinforced Composite Materials”, International Journal of advanced Materials manufacturing & Characterization, Vol 3, issue 1(2013).
12. **M.Muralidhar**, Production Aspects of Structural Steel Shop of Vizag Steel Plant: A Study, published and presented in National Conference on Advances in Welding technology, during 10-5-1013 t0 11-5-2013, Nerist, Itanagar.
13. **M.Muralidhar**, Studies on Casting Genome Analysis of Grey Iron Engine Block Casting, Invited lecture in 52<sup>nd</sup> International Foundry Conference, Slovenia during 12-14<sup>th</sup> Sept. 2012.
14. **M.Muralidhar**, An Over View of Global Foundry Industry from Art to Technology, published in Int. Conference on Casting, Rigor Technique to Art, May 18, 19<sup>th</sup> 2012, Romania
15. JoliAngu and **M.Muralidhar**, Design and development of Computer Integrated Systems for Tea Processing Equipment: A Study, published in ICMME 2013, Pune.

### C. Book Chapter

1. **M. Chandrasekaran**, M. Muralidhar, C.M. Krishna, U.S. Dixit, “Online Machining Optimization with Continuous Learning”, 2012, In: Davim JP (ed) Computational methods for optimizing manufacturing technology: models and techniques. IGI Global, Hershey.

#### 4.7.9 Interaction of faculty/department with outside agencies

Faculty members are engaged in joint research with faculty members from Jadavpur University (Sunirmal Ray, AsisGiri), IIT Guwahati (M. Chandrasekaran, S. Mahto), Bengal Engineering and Science University (S. Samanta)

#### 4.7.10 Achievements of Students

Thirty percent students are qualified for GATE qualified and they will be taking admission in various institutes like IITs’ and NITs’. Debasmita Bal score 98.46 percentile in gate. Due to global economic recession, about 20% placement record has been achieved by the department through

Campus interview in various reputed organizations. Some students have also competed successfully for jobs in public sector companies. Many small devices are designed and models/prototypes are fabricated by the students as project work. A bio reactor, Solar power plant, IC engine run by Compressed air were designed and manufactured under projects by the students.

**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.

□ Laboratory Instruction sheets are being prepared by Sunirmal Ray. Preparation of accreditation form have been initiated by Dr. Asis Giri, HOD (ME) in view of the forthcoming NBA accreditation of the department.



**APPENDIX – A : LIST OF LABORATORIES AND MAJOR EQUIPMENTS**

Sl. NO	Name of Laboratory	Major Equipments	Broad Field / Area
1.	Gas Dynamics	Wind Tunnel, Air Flow rig, Smoke tunnel, Nozzle testing apparatus, Compressor, Three component balance, Data Acquisition system	Fluid and Thermal engineering
2.	HMT & Thermal Engg.	Multipurpose air duct, Fluidized bed apparatus, Conductivity apparatus, Convection & radiation apparatus, Computer linked boiling apparatus	
3.	C.F.D.	PC & related software (Under development)	
4.	Fluid Power & Automation	Centrifugal & reciprocating pumps, Pelton wheel, Metacentric height apparatus, Hydraulic trainer, Simulators, Francis & Kaplan Turbines	
5.	IC Engine	2-stroke & 4-stroke Petrol & diesel engines	
6.	Bio-Diesel	Reactors	
7.	R&AC	Computer linked R & AC units, Vapour compression unit, Gas charger, Ice maker, Refrigerator	
8.	Dynamics & Kinematics	Universal Vibration testing apparatus, Cam analysis machine, Reciprocating & rotating mass balancing units, Gyroscope, Governor apparatus, Function generator, Digital Oscilloscope, Acoustic Insulation Test Apparatus with Amplifier	Applied Mechanics & Design
9.	Strength of Material	UTM, Torsion testing unit, Impact testing unit, Fatigue testing unit, Hardness tester, Lens Polariscope with analyzer, Polariscope and other accessories	
10.	Tribology	Hertzian Contact Apparatus, Air Bearing Apparatus, Multi Purpose Friction & Wear Tester	
11.	CADD	PC & related software	
12.	Industrial Engg.	Protek Digital Micrometer, Stop Watch, Anthropometer, Vibration Meter, DSP 80 Sound Level	Industrial Engg. & CIM
13.	CIM & Robotics (Tool Room)	Duet CNC-Cum Milling M/C , MaxTurn CNC Production CNC M/c with external turning carbide tool holder, MaxMill CNC Production Milling M/c with Tooling & Holder Adaptors	
14.	Computer Lab.	PC & related software	Others
15.	Metrology & Material Sc.	Measuring Instruments, Microscopes, Pit Furnace, Profile projector, Polishing Machine	
16.	Audio-Visual (Seminar hall)	LCD Projector, Digital Camera, e-Learning CDs on various subjects	
17.	Workshops	Different metal forming and metal removing machines & tools related to Carpentry & Pattern shop, Machine & maintenance shop, Fitting shop, Welding shop, Forging shop and Sheet Metal shop	Manufacturing & Production

## 4.8 DEPARTMENT OF CHEMISTRY

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

The Department undertakes chemistry teachings of Under-Graduate courses at all three levels of study in Engineering & Technology streams, i.e. Base/ Diploma/ Degree modules, and that in Degree module of Forestry stream. It has started Post-Graduate Programme in M.Sc. (Chemistry) from the session 2009-2010. And accordingly, admission process of 4<sup>th</sup> batch M.Sc (previous) students was conducted in July, 2012 through M.Sc (Chemistry)-Written Test. Eight candidates have got admission in M.Sc Chemistry for the session 2012-13. Activities of the Department in Research & Development have been continuing as usual. Instrumentation facilities worth mentioning here, that are in working conditions, are Digital Conductivity meters, Polarimeters, Digital pH meters, Differential Scanning Calorimeter (DSC), FTIR, Rotary evaporator, Melting Point apparatus, etc. For Ph.D admissions, interview was held in the Department itself; and two students got their admissions in July 2012. As such, there are five Ph.D students at present in the Department - one of them is likely to submit his Ph.D thesis before the end of the session 2012-13. For effective teaching in both Undergraduate and Postgraduate levels, the Department have engaged 2-3 Guest Lecturers in each semester of the session to meet the faculty requirement of teaching loads besides nine regular faculty members (at present). Systematic approach was made to engage theory and practice classes regularly. Notwithstanding, all the courses were fully covered in time. Test and practical examinations were conducted successfully. Results of Semester examination, supplementary examination, make up test, quizzes, and summer courses examination of all the courses were prepared in time and submitted to the Controller of examinations.

Contributions of the faculty members in the Institute administration were appreciable. 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 and has submitted his reports. The Second senior-most faculty of the Department, Prof. H. S. Yadav has been functioning as Dean (Administration). Prof. M. F. Hussain has been appointed as Head of the Department of Chemistry. He, in his capacity as Chairman, NERIST Entrance Examination (NEE), conducted the entrance examination-2012 successfully. He was also Chairman (nominee) for Vidyalaya Management Committee (VMC), K. V. NERIST till the mid of August 2012. Prof. K. D. Ram was the Chairman, Central Time-Table Committee (CTTC) till the start of the session 2012-13. At present, Dr. Ram is looking after the Central Research Facility (CRF) of the Institute.

The faculty members of the Department have been actively participating in Departmental administration also. Prof. H. S. Yadav is the Faculty in-charge of Chemistry Lab-II and PG Lab-I; Prof. P. K. Tripathy is Faculty in-charge of the Departmental Library as well as representative of the Department to the Central Library Committee; Dr. N. Deb is Faculty representative of the Department to the Board of Postgraduate studies; Dr. A. K. Gupta is Faculty in-charge of PG Lab-II; Dr. K. T. Kamal is Faculty in-charge of Chemistry Lab-I; and Mr. N. G. Singh is Faculty in-charge of PG Lab-III along with Instrumentation, Computation and internet facility Labs.

The Department has Board of Studies (BOS) to revise the existing syllabi and to frame new syllabi reconstituted in 2010 (for 03 years). There other committees for the Department to look after the needs of the Department. Faculty members of the Department have actively been involved in research works and research publications in national as well as in International Journals. A brief

description is given below to highlight the efforts of the faculty members made during the reporting period:

Prof. M. Husain:

- 1- Attended 5<sup>th</sup> Seminar on 'Hydrocarbon Industry Growth: Prospects and challenges in North East', conducted by Indian Oil- Guwahati Refinery and Petrotech from 21-22 Jan, 2013.
- 2- Completed two M.Sc (chemistry) Projects entitled
  - i) Preparation of 5 $\alpha$ -cholestan-6-one oxime (May 14, 2002), and
  - ii) Preparation of some cholesterol Derivative (May 14, 2012).

Prof H. S. Yadav:

Research Publications:-

- 1- New Insights into the Chemistry of Oxovanadium(IV) Complexes with Tetradentate Macrocyclic Ligands. Sanjay Singh, Hardeo S. Yadav, Ashok K. Yadava and Devendra P. Rao *Biointerface Res. Appl. Chem.*, 3(1), 484-490, 2012.
- 2- Oxovanadium(IV) complexes with Schiff base: Synthesis, characterization and antifungal studies.  
Probin Bora and Hardeo S. Yadav  
*Journal of Chemistry and Chemical Sciences*, Vol.2, 116-123, 2012.
- 3- Synthesis, Characterization and antifungal studies of oxovanadium(IV) complexes with tetradentate Schiff base ligands.  
Probin Bora and Hardeo S. Yadav  
*International Journal of Chemical Sciences*, 10(4), 1969-1976, 2012.
- 4- Synthesis and Characterization of Oxovanadium(IV) complexes having Diacetyl as precursor molecule.  
Probin Bora and Hardeo S. Yadav  
*International journal of chem. Tech research*, 4(4), 1428-1432, 2012.
- 5- Synthesis of oxovanadium(IV) complexes with tetraaza coordinating ligands  
Sanjay Singh, Hardeo S. Yadav, Ashok Kumar Yadava, Davendra Pratap Rao  
*E-Journal of Chemistry*, revised, August, 2012.
- 6- Synthesis and Spectroscopic Studies on Macrocyclic Complexes of dioxomolybdenum(VI) with Furil as Precursor.  
D. P. Rao, H. S. Yadav, A. K. Yadava, S. Singh and U. S. Yadav.  
*E-Journal of Chemistry*, 9(2), 497-503, 2012.
- 7- Synthesis, Structure and Characterization of Novel Square Pyramidal VO(IV) Complexes with O/N Donor Ligands.  
A. K. Yadav, H. S. Yadav, U. S. Yadav and D. P. Rao.  
*J. Turkish Chem. Soc.*, Accepted, 2012(doi: 10.3906/kim-1201-54).

- Prof. Yadav was Selected for Exchange of Scientists Program by Indian National Science Academy, New Delhi, with Hungarian Academy of Science and worked with Prof. Joo Ferenc, Homogeneous Catalysis Group and Prof. Imre Toth, University of Debrecen, Hungary from Oct., 2012 to Dec., 2012. <sup>205</sup>Tl(III)- NMR Studies were performed on Thallium(III) complex with 1,4,7,10-Tetraazacyclododecane diacetate in cis-configuration. Catalytic reactions were carried out for hydration of terminal alkynes and coupling reactions using water soluble Pd-Salan complex and other related derivatives using following substrates: Phenylacetylene, 2-Propyne-1-ol, 3-Phenyl-2-propyne-1-ol, 1-Hexyne, 1-Phenyl-1-hexyne, 1-Octyne.

During the visit, he delivered two lectures also - one at the Department of Chemistry, Szeged University on Nov. 22, 2012 and another at the department of Inorganic and Analytical Chemistry on Dec. 7, 2012 about the role of promoters in oxidative transformations of alkoxyarenes within green chemistry domain at Szeged and Synthetic routes for K- group vitamins and their possible role in cancer therapy at Debrecen, respectively.

- For the Institute (i.e., NERIST), he examined and submitted report on old pending case of Cable related matter, and the report of which was accepted by the CA.

He participated in CAS Up-gradation Meeting of Faculty Members and also submitted a report to resolve old cases concerning CAS.

At present, five Research scholars are under his supervision for their Ph.D degrees besides his involvement in wide academic domain of the UG/PG Teaching assignments of the Department.

Prof. P. K. Tripathy:

M.Sc Projects completed under his supervision:

- 1- Arylsulphonyl chloride as a Cyclocondensing Agent in one flask synthesis of Unsaturated aziactone by Ms. Limi Goswami (Roll. No. MS/10/CH/006).
- 2- One flask synthesis of Dehydroamino acid, its ester and anilide using 2-Phenyl-4(3-Nitrophenyl) methylene-2-oxazolin-5-one as synthon by Ms. Somadrita Borthakur (Roll. No. MS/10/CH/005).

- Prof. Tripathy Attended Workshop on:

Third one-day Indest user convention (E-Journals User Training Workshop) organized by the AICTE-INDEST user Committee, NERIST, Nirjuli, Arunachal Pradesh held on 19<sup>th</sup> January, 2013.

Prof. M. F. Hussain:

Industry-Institute interaction program:-

- Attended 5<sup>th</sup> Seminar on 'Hydrocarbon Industry Growth: Prospects and Challenges in North East,' conducted by Indian oil- Guwahati Refinery and Petrotech from 21-22 Jan, 2013.
- Being Chairman (Nominee) of KV NERIST, he has brought forth an amicable solution for class -I admissions of about 14 NERIST Employees' Wards after much persuasions to the MHRD, Govt. of India and the KV Sangathana, New Delhi.

Prof. K. D. Ram:

Member, Scientific Advisory Board, Ayurveda Regional Research Institute, Itanagar.

Dr. N. Deb:

Attended Workshop:-

"Third One-Day INDEST user convention (E-Journals user Training Workshop" on 19<sup>th</sup> January 2013 organized by the AICTE-INDEST user committee NERIST, Nirjuli.

- His publication in referred journals is:

"Some heterobimetallic oxalate coordination precursors of lanthanum(III) of the type,  $M_3[La(C_2O_4)_3(H_2O)_m]_2 \cdot 2H_2O$  (M=Mn(II), Co(II), Ni(II) and Cu(II)): An investigation on the solid-state pyrolytic decomposition."

Nidhuban Deb, J. Therm. Anal. Cal. (Springer), 107 (2012) 561-571.

Dr. K. T. Kamal:

Attended Short-term courses/seminars/workshops/conferences:-

- 1- Attended faculty development programme on “Personality development” sponsored by NERIST TEQIP during 7<sup>th</sup> May to 9<sup>th</sup> May 2012 organized by centre for Management studies, NERIST.
- 2- Attended faculty development programme on “Emerging Research areas in Electronics and communication engineering” sponsored by TEQIP NERIST organizes by Department of Electronics and Communication Engineering from 15<sup>th</sup> to 19<sup>th</sup> May 2012.
- 3- Attended a Seminar on “Hydrocarbon Industry Growth: Prospects and Challenges in North-East”. From 21<sup>st</sup> to 22<sup>nd</sup> Jan’2013, at Guwahati, Assam.

- Her Publication is:

Synthesis of some Novel dicoumarol derivatives.

Tabassum Ara, Khaliqz Zaman Khan, Khalida Tasneem

Journal of Pharmacy Research 6(2013) 373-377.

Mr. N. G. Singh:

Attended:

- 1- Poster Presentation: “National conference on Frontiers in Chemical Sciences” Organized by Department of Chemistry, Manipur Univ. 20-21 March 2012.
- 2- Poster Presentation: DAE-BRNS, 4<sup>th</sup> Interdisciplinary Symposium on material Chemistry, Division, Bhaba Atomic Research centre, Mumbai, India.
- Life Membership: Society of Material Chemistry, Chemistry Division Bhaba Atomic Research Centre, Mumbai.

## 4.9 DEPARTMENT OF PHYSICS

### 4.9.1 Brief profile of the Department

The Department of Physics has **Three** Professors, **Two** Associate Professors, and **Three** 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, 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, **Four** research projects funded by DST (2), CSIR (1) and IGNCA (1) are ongoing one of the faculty members is associated with a project funded by Institute of Plasma research, Gandhinagar as external coordinator.

**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. Recently project under **FIST program** by DST, New Delhi worth Rs. 1.43 Crore has been sanctioned to the department.

**07 Ph.D. degrees** have been awarded by various universities; NEHU, Shillong, Tezpur University, Tezpur, North Orissa University, Baripada and NERIST, Nirjuli. Currently **Twelve** more students are working for their Ph.D. degrees in the department.

### 4.9.2 Academic activities

(A) The Department of Physics, fully aware of its role in training students according to their needs in physics education, 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:

Module	Course Code	L-T-P-Cr	Title of the course
Base	PH1101	4-0-2-5	Physics- I
Base	PH1201	4-0-2-5	Physics- II
Diploma	PH3101	4-0-2-5	Physics-III
Diploma	PH3201	3-0-2-4	Physics for CS, EC & EE
Diploma	PH3202	3-0-2-4	Physics for AE, CE & ME
Degree	PH3203	4-0-2-5	Comprehensive physics (Applied Science stream)
Degree	PH4301	4-0-2-5	Comprehensive physics (Bridge course)
Degree	PH5101	3-0-2-4	Modern physics

(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:

Module	Course Code	L.T. P .Cr.	Title of the course
M.Sc.	PH-7101	4-0-0	Classical Mechanics
-do-	PH-7102	4-0-0	Mathematical Physics
-do-	PH-7103	4-0-0	Computational Physics & Programming
-do-	PH-7104	4-0-0	Quantum Mechanics-I
-do-	PH-7151	0-0-6	General Physics Lab.(Expts related to G.Phy.)
-do-	PH-7152	0-0-6	Computer Lab.(Exercise related to operating system and programming)
-do-	PH-7201	4-0-0	Electrodynamics
-do-	PH-7202	4-0-0	Electronics
-do-	PH-7203	4-0-0	Atomic Molecular & LASER Physics
-do-	PH-7204	4-0-0	Quantum Mechanics-II
-do-	PH-7251	0-0-8	Optics & General Physics Lab.(Expts. Related to optics & other general expts not covered in General Physics Lab.)
-do-	PH-7252	0-0-8	Electronics Lab. (Expts related to the theory paper on Electronics)

### 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 3101  
 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 are being conducted in this laboratory.

**Physics Laboratory 4 :** Solid State Physics Laboratory for M. Sc. students

**Physics Laboratory 5 :** Electronics Laboratory for M. Sc. Students



**(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) 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 pyknometer 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

**(ii) Solid State Ionics Research Laboratory:** A solid state ionics research laboratory for batteries sensors and supercapacitors 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).

**(iii) 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., Banglore, 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 / electrodeposition 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.

(iv) **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

(v) **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 indigenously 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.

(vi) **LASER RAMAN spectroscopy laboratory** under Dr.Th G.Devi, is being set up.

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

Dr. Tado Karlo delivered an Invited Talk entitled “Sustainable energy and climate change: A regional perspective” in International Seminar & Workshop on energy, sustainability and development (ISWESD-2012) during 12-14 Oct 2012, Sibsagar College, Sibsagar, Assam

Dr. Tado Karlo attended 1st International Conference on Power and Energy in NERIST (ICPEN) during Dec 28-29, 2012 at NERIST, Nirjuli.

Dr. A. Pandey attended 1st International Conference on Power and Energy in NERIST (ICPEN) during Dec 28-29, 2012 at NERIST, Nirjuli.

Dr. Th. Gomti Devi attended Faculty Development Programme on Personality Development held at NERIST, 7-9<sup>th</sup> May, 2012.

Dr. Th. Gomti Devi attended Workshop on Engineering Optimization held at NERIST, 14-18<sup>th</sup> May, 2012.

Dr. Th. Gomti Devi attended Third one-day INDEST user convention (E-Journals user training workshop) organized at NERIST held on 19<sup>th</sup> January 2013.

#### 4.9.5. New Degrees/Professional Memberships obtained by the faculty

Dr. M. Sengupta, Associate Professor has become Life member of Indian Association of Physics Teachers, Kanpur.

#### 4.9.6 Achievements/awards/recognition earned by the faculty

Dr. P.R. Alapati continued as Executive council member of PANE.

Dr. Tado Karlo, Member, Asian Highway Committee, Government of India.

#### 4.9.7 Publications

##### (a) Referred Journal

##### (i) Prof. P. R. Alapati

1. Temperature dependence of Tilt angle in Smectic C phase of CB.O9O.6

T.K. Ghosh, P. R. Alapati and B. Gogoi, Journal of Laser and Optical Science **2(1)**, 31 (2012).

2. Solvent dependent frequency shift and Raman noncoincidence effect of S=O stretching mode of Dimethyl Sulfoxide in liquid binary mixtures

Ganesh Upadhyaya, Th. Gomti Devi, R.K. Singh, A. Singh and P. R. Alapati, SPECTROCHIMICA ACTA Part A **239** (2013.).

3. Phase Transition studies in symmetric dimeric liquid crystals: a density study

P. Pardhasarathi, D. Madhavi Latha, P.V. Datta Prasad, G. Padmaja Rani, P.R. Alapati and V.G.K.M. Pisipati, Journal of Thermal Analysis and Calorimetry **111**, 1483 (2013).

4. Optical studies of a liquid crystalline compound 6O.6

T. Kiranmala Devi, P.R. Alapati, Basana Chowdhuty and Ayon Bhattacharjee, IQUID CRYSTALS (In Press)

##### (ii) Dr. Tado Karlo

1. Influence of substrate properties on the efficiency of Dye sensitized solar cells

Lakshmi K. Singh, T. Karlo and A. Pandey, International Journal of Innovative Research and Development **1(7)**, 269 (2012).

2. On the structural, Thermal and Optical properties of titanium dioxide (TiO<sub>2</sub>) Nanoparticles

Lakshmi K. Singh, T. Karlo and A. Pandey, Indian Journal of Science and Technology **6(S3)**, 55 (2013).

##### (iii) Dr. Arvind Pandey

1. Structural and electrical studies of  $\text{Ba}_5\text{LaTi}_3\text{V}_7\text{O}_{30}$  compound, *Journal of Electroceramics* **28(4)** 268 (2012).
2. Influence of substrate properties on the efficiency of Dye sensitized solar cells  
Lakshmi K. Singh, T. Karlo and A. Pandey, *International Journal of Innovative Research and Development* **1(7)**, 269 (2012).
3. On the structural, Thermal and Optical properties of titanium dioxide ( $\text{TiO}_2$ ) Nanoparticles  
Lakshmi K. Singh, T. Karlo and A. Pandey, *Indian Journal of Science and Technology* **6(S3)**, 55 (2013).
4. Synthesis, Structure and Electrical conductivity of Li-substituted  $\text{Bi}_4\text{V}_2\text{O}_{11}$  Solid Electrolyte  
Juganand Sut, Lakhinath Borah and A. Pandey, *International Journal of Innovative Research and Development* **1(7)**, 181 (2012).

(iv) **Dr.Th. Gomti Devi:**

1. Solvent dependent Raman band shape analysis on C=O containing molecules: Vibrational relaxation study, *Spectrochimica Acta* **91A**, 106, 2012.
2. Solvent dependent frequency shift and Raman noncoincidence effect of S=O stretching mode of Dimethyl sulfoxide in liquid binary mixtures, Ganesh Upadhyaya, Th. Gomti Devi, R.K. Singh, A. Singh and P. R. Alapati, *Spectrochimica Acta* **109A**, 239, 2013.

**(b) Conference papers:**

- (i) Pomegranate Dye as a Green Energy Material Lakshmi K. Singh, T. Karlo and A. Pandey, *IEEE Explorer DOI* 10.1109/ICPEN2012.6492312 (2012). ICPEN (2012).
- (ii) Solvent dependent study of S=O stretching mode of Dimethyl sulfoxide in liquid binary mixtures: A Raman spectroscopic study, 13-17<sup>th</sup> August, 2012
- (iii) Study of vibrational and reorientational relaxation on binary mixtures of N, N-Dimethylformamide, 13-17<sup>th</sup> August, 2012
- (iv) Raman spectroscopic study of S=O stretching mode of Dimethyl sulfoxide in liquid binary mixtures, 17-19<sup>th</sup> December, 2012

**4.9.8 Interaction of faculty/department with outside agencies**

Dr. T Karlo, Associate. Professor has evaluated 35 International projects of International Fund for Agricultural Development (IFAD), a United Nations Agency. He Worked as Project Officer, National Technical Manpower Information System under Instt. of Applied Manpower Research, Govt. of India, New Delhi.

Also Dr. T. Karlo, Associate. Professor worked with Tebtebba Foundation, Philippine on Climate Change Mitigation Research.

#### 4.9.9 Achievements of students

1. Mr, Lakhinath Borah was awarded Ph.D. degree by NERIST under supervision of Dr. A. Pandey in 2012.
2. Ms. Kiran Kathayat was awarded Ph.D. degree by North Orissa University, Baripada under joint supervision of Dr. A. Panigrahi, Dr. S. Kar and Dr. A. Pandey in 2012.
3. Mr. Hage Doley, M.Sc. (Physics) student of the department cleared UGC-CSIR joint entrance examination under LS (Lectureship) category.
4. Mr. Binod Gogoi, Research scholar under the supervision of Prof. P. R. Alapati has cleared NET for Lecturership.
5. Ms. Lakshmi K. Singh, Research scholar under supervision of Dr. T. Karlo and Dr. A. Pandey cleared UGC-SET, 2012 examination.

#### 4.9.10 Any other relevant information

**The Department of Physics was awarded project in 2012 under FIST program by DST, New Delhi and sanctioned a total grant of Rs. 1.43 Crore.**

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

Sl.No.	Name & Designation	Qualification & University	Specialization
1.	Dr. A .Chatterjee Professor	<b>Ph.D.(1978)</b> Calcutta University	(i)x-ray crystallography (ii)Bimolecular structure
2.	Dr. Rajendra Prasad Professor	<b>Ph.D. (1972)</b> B.H.U., Varanasi	Exptl Nuclear Physics and Theor Plasma Physics
3.	Dr. P. R. Alapati Professor	<b>Ph.D. (1988)</b> Nagarjuna	Condensed Matter Physics (Liquid Crystals)
4.	Dr. Manan Sengupta( <b>HOD</b> ) Associate Professor	<b>Ph.D. (1986)</b> Calcutta University	Theoretical Physics
5.	Dr. Tado Karlo Associate Professor.	<b>Ph.D. (1997)</b> Delhi University	Mathematical Physics
6.	Dr. Arvind Pandey Assistant Professor	<b>Ph.D. (2000)</b> Univ. of Rajasthan	Condensed Matter Superconductivity, Solid state Ionics
7.	Dr. Th. Gomti Devi Assistant Professor	<b>Ph.D. (2005)</b> NEHU, Shillong	Condensed matter Physics (laser Physics)
8.	Dr. Kamal Saharia Assistant Professor	<b>Ph.D,2009</b> <b>Gauhati University.</b>	Theoretical Plasma Physics

#### 4.10 DEPARTMENT OF MATHEMATICS

#### 4.10.1 A Brief Profile of the Department

The Department of Mathematics has Four Professors, One Associate Professor and three Assistant Professors out of which one is under QIP leave. The department offers 29 & 17 courses in 1<sup>st</sup> and II<sup>nd</sup> Semester at different level (Base, Diploma, Degree Modules and M.Sc. respectively). Most of these courses are multi-sectional. In addition to the above class load, a few of the regular courses are also offered during evening hours especially for the weaker students. One course of Mathematics is being offered for each of the five M.Tech. Courses and one open elective for all Engineering Departments at the U. G level.

#### 4.10.2 Academic Activities

M.Sc Syllabus is under revision.

#### 4.10.3 Laboratories and Laboratory Development

Lab work sheet designed for both UG & PG courses and Numerical Computation Laboratory is now fully established.

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

##### **P.K. Das**

- (i) One student Miss Juthika Mahanta completed her Ph.D (Area: Fuzzy Topology, title -“A study on some topological aspects of Fuzzy sets, Rough sets and soft sets,” duration 3 years.
- (ii) Completed one research project from NBHM.

##### **B.K. Singh**

- (i) M.Sc Project : Yater Tato  
Topics : Normal Distribution
- (ii) One student Mr. Sanjib Choudhury completed his Ph.D.- entitled “ Study of Some General Classes of Estimators for Estimating Population Mean Using Auxiliary Information in Sample Surveys”.

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

##### **L.K. Arora**

“Emerging trends in Ramanujan’s Mathematics and its applications in the field of a Hyper geometric series. (The National Academy of science, India (Allahabad Chapter) held during December, 22-24, 2012.

##### **B.K. Singh**

- i) “Computational & Experimental aspects in Thermal Science”, during the period 27<sup>th</sup> Feb. to 2<sup>nd</sup> March, 2012. in departmental of Mechanical Engineering, NERIST, sponsored by ICSSR-NERC.
- ii) “Research Issue and Prospects in Computer Science and Information Technology”, during the period 1-5 May,2012 sponsored by TEQIP
- iii) “Remote Sensing and GIS Application in Natural Resources Management”, during the period 14 –18, May 2012 sponsored by TEQIP

**M.M. Dixit**

- (i) Training Programme on Integral transforms, Distribution theory and Applications July-22-21, 2012, B.H.U. Varanasi
- ii) Faculty development programme on “Advances in Traffic flow and Environmental Management” during April 17-21, 2012, NERIST, Nirjuli.
- iii) Faculty development programme on “Workshop on Engineering optimization” during May 14-18, 2012 NERIST, Nirjuli.

**4.10.6 New Degrees/Professional Memberships obtained by the faculty****P.K. Das**

Life member of INDIAN Mathematical Society

**L.K. Arora**

Life member of India Science Congress Association

**J.Borah**

Life member of INDIAN Mathematical Society

**4.10.7 Publications****(a) Refereed journal**

**P.K. Das & R. Borgohain** “An application of fuzzy set in multicriteria decision making”, International Journal for Computer applications 8(#12),2012,33-37.

Juthika Mahanta & **P.K. Das**,”On fuzzy g\*s-closed sets,” International Journal for Computer Applications,” 43(#2),2012, 17-21.

B. Chetia & **P.K. Das**,”Some results on Intuitionistic Fuzzy soft matrix theory”. Advances in Applied Science & Research, 3(#1),2012,412-423.

B. Chetia & **P.K. Das**,”Intuitionistic fuzzy parameterized soft set theory and its applications in decision making problem. Mathematical Forum, 24(xxiv) 2042,cc-77.

B.K. Dutta and **L.K. Arora**, Some multiple integral transforms of multidimensional polynomial and I-function, Thai J. Math., 10(2), 2012, 351-362.

B.K. Dutta and **L.K. Arora**, Approximate solution of inhomogeneous fractional differential equation, Adv. Nonlinear Anal., 2012,335-353. [doi:10.1515/anona-2012-0011].

B.K. Dutta and **L.K. Arora**, On Hyers-Ulam stability for fractional differential equation of Caputo derivative, J. Rajasthan Acad. Phy. Sci., 11(4), 2012, 397-404.

B.K. Dutta and **L.K. Arora**, On the existence and uniqueness of solutions of a class of initial value problems of fractional order, Math. Sci., 7(17),2013. [doi:10.1186/2251-7456-7-17].



B.K. Dutta and **L.K. Arora**, Hyers-Ulam stability of a class of nonlinear fractional differential equation, Rev.Bull. Calcutta Math. Soc.,2013.

Sanjib Choudhury and **B.K. Singh**, (2012) “A class of Chain ratio-product type estimator with two auxiliary variables under double sampling scheme”, Journal of the Korean Statistical Society, Volume 41, Issue 2, pp.247-256. ISSN N: 1226-3192.

**B. K. Singh** and Sanjib Choudhury , (2012) “Dual to Product Estimator for Estimating Population Mean in Double Sampling” International Journal of Statistics and Systems. Volume 7, Number 1, pp.31-39. ISSN No.0973-2675.

Sanjib Choudhury and **B.K. Singh** (2012) “Study of a General Class of Estimators for estimating population mean in Two-Phase Sampling” International Journal of Statistics and Analysis, Volume 2, Number 1, pp.35-51

Sanjib Choudhury and **B.K. Singh**, (2012) “ An Efficient Class of Dual to product-cum-Dual to Ratio Estimator of Finite Population Mean in Sample Surveys”, Global Journal of Science Frontier Research Mathematics and Decision Sciences, Volume 12, Issue 3, Version 1, pp.25-33. Online ISSN:2249-4626 & Print ISSN: 0975-5896.

**B.K. Singh** and Sanjib Choudhury, (2012) “Double Sampling Product-Cum-Dual to Ratio Estimators for Finite Population Mean in Sample Surveys”, International Journal of Scientific & Engineering Research, Volume 3, Issue 4, pp.398-354. ISSN No: 2229-5518.

**B.K. Singh** and Sanjib Choudhury, (2012) “ Exponential Chain Ratio and Product type Estimators for Finite Population Mean under Double Sampling Scheme”, Global Journal of Science Frontier Research Mathematics and Decision Sciences Volume 12, Issue 6, Version 1.0, pp 13-24. Online ISSN: 2249-4626 & Print ISSN: 0975-5896.

Sanjib Choudhury and **B.K. Singh**, (2012) “ An Efficient Class of Ratio-Cum-Dual to Product Estimator of Finite Population Mean in Sample Surveys”, Global Journal of Science Frontier Research Mathematics and Decision Sciences, Volume 12, Issue 12, Version 1.0, pp1-11.

Sanjib Choudhury and **B.K. Singh**, (2012) “ A Class of Chain Ratio-Cum-Dual to Ratio type Estimator with two Auxiliary Characters under Double Sampling in Sampling in Sample Surveys”, STATISTICS IN TRANSITION- new series, Vol,13 No.3, pp.519-536.

**M.M. Dixit**: Continuity of the Bessel wavelet transform on certain Beurling-type function spaces, Prasad et al. Journal of inequalities and Applications 2013, 2013:29.

**M.M. Dixit**: The continuous fractional Bessel Wavelet transformation, Prasad et al. Prasad et al. Boundary value problems 2013,2013:40.

**M.M. Dixit**: Pseudo-differential operators involving Hankel-Clifford transformation, Asian – European Journal of Mathematics, Vol 5, No.3(2012), 1250040-1-1250040-15

#### 4.10.8 International of faculty/department with outside agencies

**Prof. P.K. Das:** Member, Board of Management, CIT, Kokrajhar.

### 4.11 DEPARTMENT OF HUMANITIES & SOCIAL SCIENCES

#### 4.11.1. A Brief of the 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 Sciences (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 was 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 Post Graduate Programme 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 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, 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 Organizational Behavior, etc. leading to Ph. D. degrees. A developing technical mind must also acquire sensitivity to 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 technopreneure are armed with the quality of vision and personality which will enable them to use their skills in bridging the techno-social gap and establish a strong interface between science, technology and society.

#### 4.11.2 Academic Activities

##### Laboratories and Laboratory Development

##### Communication Skills Development Laboratory

Department of HSS has developed Language and communication Skills Development Laboratory recently under MHRD MODROB Scheme under the leadership of **Dr. 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.

Department of HSS is also developing Language Laboratory under AICTE MODROB Scheme under the leadership of **Dr. 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 New Degrees/Professional Memberships obtained by the faculty

##### **Life membership awarded to Dr. 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 Arunachal Pradesh, ITANAGAR

##### **Mr. Raju Barthakur**

- Lifetime Membership awarded to Mr. Raju Barthakur by Assam Science Society, Guwahati.
- Life time membership awarded to Mr. Raju Barthakur, Membership of Forum on Contemporary Theory, Baroda.

#### 4.11.4 Publications

##### **(a) Refereed Journal**

“Diversification of rural occupations for economic development of Arunachal Pradesh” in *‘Interdisciplinary Journal of Management and Behavioural Sciences (IJMBS)’* in Oct-Dec. 2012

##### **Papers published in Edited Books published by International Publishers**

- (i) “Investment on Social Sector and Economic Development in North East India: An Analysis” in a book ‘STRATEGIC FRAMEWORK OF INFRASTRUCTURE FINANCING’ ISBN NO: 978-81-924302-1-8; Publisher: Bloomsbury Publications, in 2012.
- (ii) “A study on the Supply Chain involved in Marketing of Traditional Jewellery in Arunachal Pradesh” in a book ‘MANAGEMENT RESEARCH: CURRENT TRENDS & PRACTICES, ISBN NO: 9789381505489, Wisdom Publications, in 2012.
- (iii) “A Study on Human Capital Development for Diversification of Rural Economic Activities in North East India” in a book ‘Emerging Issues in Management and Behavioural Sciences’ Bharti Publications, Delhi, ISBN: 978-93-81212-17-2, in 2012

## Conference papers

### Papers presented in Conferences/Seminars, etc.

- (i) “A study on Human Capital Development for diversification of rural economic activities in North East India” in an International Conference held at New Delhi on 3<sup>rd</sup> June, 2012 organized by ‘Society of Business and Management Professionals, New Delhi’
- (ii) “A study on the Supply Chain involved in Marketing of Traditional Jewellery in Arunachal Pradesh” in an International Conference held at New Delhi during 1-2 December, 2012 organized by ‘Society of Management and Behavioural Science, New Delhi’
- (iii) “Diversification of rural occupations for economic development of Arunachal Pradesh” in an International Conference held at Jaipur on 09-10, February, 2013, organized by ‘Society of Business and Management Professionals, New Delhi’

### 4.11.5 Attended workshops

“Intellectual Property Rights” on 23 March, 2012, organized by MHRD IPR Chair Tezpur University and NERIST.

### Delivered Expert talks

- (i) “Bio-diesel: An Economic Benefits” workshop organized by the ‘Dept. of Mechanical Engineering, NERIST’ in April 2012.
- (ii) “Importance of thrift and credit Co-operative Societies for Economic Development of poor households” seminar organized by ‘The Arunachal State Co-operative Union, Itanagar, A.P.’ on 19 November, 2012.

### 4.11.6 Ph. D. Supervision

“Prospect of Intra-horticultural shift for Economic Growth of farmers: A case study of Tinsukia district of Assam” by Ms. Swapnali Baruah, Degree awarded by NERIST in October, 2012.

### 4.11.7 Interaction of faculty/department with outside agencies

Dr. B.D. Nayak, Arunachal State Co-operative Union, Naharlagun, Itanagar, A. P. and NABARD, Itanagar, A. P

Additional responsibilities taken up by the Faculty Members of the Department

Dr. P. Parida		➤ Controller of Examination
Mr. R. Prasad		➤ In-charge Communication Lab.
Dr. S. Sinha	-	➤ Head of the Dept.,

Mr. Raju Barthakur	-	<ul style="list-style-type: none"> <li>➤ In-charge Departmental Discussion Hall.</li> <li>➤ Member of Library Advisory Committee.</li> </ul>
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## 4.12 CENTRE FOR MANAGEMENT STUDIES

### 4.12.1 A Brief Profile of the Centre

Centre for Management Studies (CMS) came in to existence on 4th November, 2009 as an independent center 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 the year 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 objective 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 i.e. Human Resource Management, Marketing Management, System Management, Finance and Entrepreneurship. Besides a full time MBA programme, other activities of the centre are as follows:

- Ph D program in Management.
- Management Development Programs (MDPs) for Executives, government officers.
- Personality Development Programs (PDPs) for different target groups.
- Unit based Programs for industrial units at their locations.
- Motivational workshops.
- Consultancy in diverse areas of Management.

To promote intellectual and professional activities in the Centre, The Management Forum of NERIST (MaFoN), a body comprising of students 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 2012-13 are as follow:

- Dr. S.S. Khanka, Professor, NIFM, Faridabad
- Dr. Sanjay Mukherjee, Professor, RGIIM, Shillong
- Prof P.B. Sarmah, Assistant Professor, RGU, Doimukh
- Mr. K. D. Vizo, Director, NEE-II, BSNL
- Mr Samarjit Chakraborty, NEEPCO

The approach to develop managers with all round personality is paying the dividend and so far, 3(three) batches of students passed out from the centre have been well received by the industry.

### 4.12.2 Academic activities of the Centre

## Centre offers

- Two years MBA Program: 26 and 27 numbers of students enrolled for 1<sup>st</sup> year, and 2<sup>nd</sup> year respectively; Total 17 numbers of courses floated for the Session January-May and 18 numbers in July to December by the Centre.
- Ph.D. Program in Management. (04 numbers of students enrolled under Prof. R. M. Pant).
- Centre has already got approval for three year part time MBA program.
- Centre also offers two open elective courses for B. Tech students of all branches.

## 4.12.3 Departmental administrative responsibilities details

- *Mr. S. Choudhury* is the 'Computer Lab In charge.' CMS has computer lab with 18 computers and other accessories.
- *Mrs. B.L. Sarmah* is in charge of 'Departmental Library'. The library contains 153 numbers of Books. The departmental library also brings 3 news papers (The Arunachal Times, The Economic Times, The Time of India), as well as 5 Periodicals (4ps Business and Marketing, Business Today, Business and Economic, Forbes India, The Rural Marketing Journal).
- *Ms. J. Sorokhaibam* is the 'T&P Counselor' of CMS. Name of companies where the summer internship was arranged for 2011-13 MBA batch- IOCL, Merck, Powergrid, ITC, GAIL, NEEPCO, BSNL, Airtel and SHCIL.

## 4.12.4 Dissertation reports completed by PG students

Sl. No	Roll No.	Dissertation Title	Supervisor name
1	MBA/11/002	A Man power analysis of the planning department, Govt. of Arunachal Pradesh with special focus on HR policy implementation.	Ms J. Sorokhaibam
2	MBA/11/003	A study of job satisfaction amongst the regular employees of Satyam Ispat Ltd.	Mrs B.L. Sarmah
3	MBA/11/004	Impact of work-Life Balance on performance.	Mrs B.L. Sarmah
4	MBA/11/005	A study of the new Agro dryer and it's impact on rural economy.	Mrs. B.L. Sarmah
5	MBA/11/006	Preference Analysis of Long Distance Inter-State Public Transportation System.	Mr. S. Choudhury
6	MBA/11/007	Application of creation and retention strategy as Human capital management.	Mrs B.L. Sarmah
7	MBA/11/008	Bank financial risk capitalization and operating efficiency of co-operative bank - a case study on Arunachal Pradesh State cooperative Apex bank limited.	Mr. S. Choudhury
8	MBA/11/009	Study of business strategies of coaching centre in capital complex of Arunachal Pradesh.	Mr. S. Choudhury
9	MBA/11/013	Homestay: Sirro: A model for sustainable cottage tourism in Arunachal Pradesh.	Mrs B.L. Sarmah
10	MBA/11/015	A study on the Grievance handling mechanism at	Mrs B.L. Sarmah

		Satyam Ispat Ltd.	
11	MBA/11/016	An analysis of counterfeit market of spurious products in FMCG sector in Harmoti and Banderdewa.	Ms J. Sorokhaibam
12	MBA/11/018	A comparative study of performance managing in two premier Institutions in Arunachal Pradesh i.e. NERIST viz-Aviz Rajiv Gandhi University.	Ms J. Sorokhaibam
13	MBA/11/020	Emerging women entrepreneurship in capital complex of A.P: A case study on Yankee beauty parlor.	Mr. S. Choudhury
14	MBA/11/024	To study the management of poultry farms and its contribution to the economy of the state with special reference to Imphal and Thoural Districts of Manipur State.	Ms J. Sorokhaibam
15	MBA/11/025	An analysis of HRD policies and practices in insurance sector- A case study of LIC and SBI in capital complex, Itanagar.	Ms J. Sorokhaibam
16	MBA/11/026	A comparative study on quality of working life of faculty members in RGU and NERIST, the two premier Institutions in the State of Arunachal Pradesh.	Ms J. Sorokhaibam
17	MBA/11/028	A study on prospects and problems of micro-Entrepreneurs located in and around capital complex, Arunachal Pradesh with special reference to PMEGP.	Ms J. Sorokhaibam
18	MBA/11/030	CRM at Maxmart, Naharlogun, Arunachal Pradesh.	Mrs B.L. Sarmah

#### 4.12.5 Short term course/ seminars/workshop/conferences organized by the faculty

- TEQIP sponsored FDP on “Personality Development Program” by Mrs. B.L.Sarmah.

#### 4.12.6 Short term course/workshop attended by the faculty

*Mr. S. Choudhury*

- Workshop on mathematical finance held at IIT Guwahati, organized by Department of Mathematics, IIT Guwahati (October 29 to November 03, 2012).

*Mrs. B .L. Sarmah*

- Faculty Development programme on Quantitative Research Tools organized during January 28<sup>th</sup> to February 2<sup>nd</sup>, 2013 at the Department of Business Administration, Tezpur University.

#### 4.12.7 New degrees/ professional membership obtained by the faculty

- Membership in IEEE by Mr. S.Choudhury.
- Member of the Rural Marketing Association of India. By Mrs B.L. Sarmah.

#### 4.12.8 Ph.D. Thesis evaluated/ external expert



- Ph D Thesis Evaluated: 03 Nos by Prof. R. M. Pant.
- Acted as Ph D External Expert for Viva Voce: 03 Nos by Prof. R. M. Pant.

#### 4.12.9 Papers presented in Conferences, Seminars, Workshops, Symposia

*Prof. R.M.Pant*

- Pant R M, 'Entrepreneurship for Economic Development: Reflections from North East India', published in the proceedings of the 1<sup>st</sup> International Conference IFpvs-2013, NIFTEM, Sonapat(Haryana).

#### **Invited Lectures/ Key note speakers**

- Delivered 'Key Note Lecture' in International Conference organized by IASCIT in Kochi (Oct 20-21, 2012) and also Chaired a Technical session.
- Attended 'Key Note Speaker's Meet in Hongkong( Dec27-31, 2012).
- Delivered 'Key Note Lecture' in International Conference organized by NIFTEM Sonipat (Jan, 2013).
- Delivered an 'Invited Lecture' on the occasion of Tourism Day at Directorate of Tourism, Itanagar, on 'Eco-Tourism'.
- Acted as Resource Person in TEQUIP Sponsored FDP on 'Personality Development', conducted by CMS, NERIST.

*Mr. S.Choudhury*

- "A Study on online purchasing: an analysis and evaluation of emerging trend in Arunachal Pradesh." At International Conference on marketing paradigms in emerging economies (ICOM)-2012 organized by Faculty of Management Studies, Banaras Hindu University, from December 4-5, 2012.
- "From landline to mobile number portability- a competitive environmental analysis of Arunachal Pradesh" at International conference at IIT Delhi organized by IIT Delhi, IIM Lucknow, & GVSU, USA during December 21-23, 2012.
- "Destination branding: Potentiality of Arunachal Pradesh through Hydroelectric projects" at 65<sup>th</sup> All India commerce conference during November 9-11, 2012.

**Invited Lectures/ Key note speakers:** Acted as Resource Person in TEQUIP Sponsored FDP on 'Personality Development', conducted by CMS, NERIST.

*Mrs B.L. Sarmah*

- A paper on 'Natural Resource Management and sustainability issues: A case study of Capital complex area of Arunachal Pradesh' at the third International Conference on Sustainability based on theme: Ecology, Economy and Ethics, organized by the Indian Institute of Management, Shillong from March 6<sup>th</sup> to 8<sup>th</sup>, 2013.
- A paper on 'A study on the supply chain involved in the marketing of tribal jewellery of Arunachal Pradesh' at the 6<sup>th</sup> International Conference on Management and Behavioral

Sciences from 1<sup>st</sup> to 2<sup>nd</sup> December, 2012 organized by Society of Management and Behavioral Sciences (SMBS) at Ahmedabad (Gujarat).

**Invited Lectures/ Key note speakers:** Acted as Resource Person in TEQUIP Sponsored FDP on 'Personality Development', conducted by CMS, NERIST.

#### 4.12.10 Book chapters/Articles in Periodicals

*Prof. R.M.Pant*

- Upadhyaya N and Pant R M, '*People's participation and role of civil societies during Earthquakes*', published in "New Dimensions of Disaster Management in India" ed. Mishra, Anjuli and Singh A K, Serials Publications, New Delhi (2013).
- "*A Study on online purchasing: an analysis and evaluation of emerging trend in Arunachal Pradesh.*"- Integrated marketing communication A Research agenda (ISBN: 978-93-81563-24-3).

*Mr. S. Choudhury*

- "*A Study on online purchasing: an analysis and evaluation of emerging trend in Arunachal Pradesh.*"- Integrated marketing communication A Research agenda (ISBN: 978-93-81563-24-3).
- "*ICT-towards sustainable development of NER*" 21<sup>st</sup> Eastern panorama (April 2013/vol XXII, No 01, RNI No. 53820/92).

*Mrs. B.L. Sarmah*

- 12/2012; ISBN: 978-93-81505-48-9 in book: Management Research: current trends and practices. Chapter: *A study on the supply chain involved in the marketing of tribal jewellery of Arunachal Pradesh*, Publisher: Wisdom publication, Editors: Dr. Sunil Kumar and Prof. Bhavesh Lakhani, pp.367-373.
- Published Article on *NEDFI's initiative on Water Hyacinth craft project in North- East India*, (page no.7 to 9), Vol-7, Issue-1, March -2013. The Rural Marketing Journal, New Delhi.

#### 4.12.11 Achievement of students

- Ms. Jinu Phukan, & Ms. Upasana Baiung received scholarship from EXIM bank, Mumbai.
- Final placement of Mr. R. Debnath, & Ms. Upasana Baiung in PRADAN.
- Mr. Ambrish Sharma won Case study competition held at management festival of Royal School of Business at Guwahati.
- Two final year students of MBA Mr. Mudang Tagiya, Ms. Upasana Baiung have qualified UGC-NET.

#### 4.12.12 Departmental Infrastructure development

- One new class room was constructed for part time MBA program

## SECTION – 5 CENTRAL FACILITIES, SERVICES AND ACTIVITIES

### 5.1 CENTRAL LIBRARY

- |                           |   |  |                          |       |                           |     |           |       |                |     |                       |     |                   |     |           |     |         |            |  |    |  |
|---------------------------|---|--|--------------------------|-------|---------------------------|-----|-----------|-------|----------------|-----|-----------------------|-----|-------------------|-----|-----------|-----|---------|------------|--|----|--|
| 1.                        | <b><u>Staff structures</u></b>  | <table style="width: 100%; border-collapse: collapse;"> <tr><td style="padding-left: 20px;">a) Librarian</td><td style="text-align: right;">-01</td></tr> <tr><td style="padding-left: 20px;">b) Asstt. Librarian</td><td style="text-align: right;">-02</td></tr> <tr><td style="padding-left: 40px;">c) Sorter</td><td style="text-align: right;">-01</td></tr> <tr><td style="padding-left: 40px;">d) Ministerial</td><td style="text-align: right;">-02</td></tr> <tr><td style="padding-left: 40px;">e) Projector Operator</td><td style="text-align: right;">-01</td></tr> <tr><td style="padding-left: 40px;">f) Xerox Operator</td><td style="text-align: right;">-02</td></tr> <tr><td style="padding-left: 40px;">g) Helper</td><td style="text-align: right;">-02</td></tr> <tr><td style="padding-left: 40px;">h) Peon</td><td style="text-align: right;"><u>-02</u></td></tr> <tr><td></td><td style="text-align: right;">13</td></tr> </table> | a) Librarian             | -01   | b) Asstt. Librarian       | -02 | c) Sorter | -01   | d) Ministerial | -02 | e) Projector Operator | -01 | f) Xerox Operator | -02 | g) Helper | -02 | h) Peon | <u>-02</u> |  | 13 |  |
| a) Librarian              | -01   |  |                          |       |                           |     |           |       |                |     |                       |     |                   |     |           |     |         |            |  |    |  |
| b) Asstt. Librarian       | -02   |  |                          |       |                           |     |           |       |                |     |                       |     |                   |     |           |     |         |            |  |    |  |
| c) Sorter                 | -01   |  |                          |       |                           |     |           |       |                |     |                       |     |                   |     |           |     |         |            |  |    |  |
| d) Ministerial            | -02   |  |                          |       |                           |     |           |       |                |     |                       |     |                   |     |           |     |         |            |  |    |  |
| e) Projector Operator     | -01   |  |                          |       |                           |     |           |       |                |     |                       |     |                   |     |           |     |         |            |  |    |  |
| f) Xerox Operator         | -02   |  |                          |       |                           |     |           |       |                |     |                       |     |                   |     |           |     |         |            |  |    |  |
| g) Helper                 | -02   |  |                          |       |                           |     |           |       |                |     |                       |     |                   |     |           |     |         |            |  |    |  |
| h) Peon                   | <u>-02</u>  |  |                          |       |                           |     |           |       |                |     |                       |     |                   |     |           |     |         |            |  |    |  |
|                           | 13  |  |                          |       |                           |     |           |       |                |     |                       |     |                   |     |           |     |         |            |  |    |  |
| 2.                        | <b><u>Books &amp; Journal</u></b>   | <table style="width: 100%; border-collapse: collapse;"> <tr><td style="padding-left: 20px;">a) Books as on 31.3.13 =</td><td style="text-align: right;">59829</td></tr> <tr><td style="padding-left: 20px;">b) Journals as on 31.3.13</td><td></td></tr> <tr><td style="padding-left: 40px;">Indian</td><td style="text-align: right;">– 136</td></tr> </table>  | a) Books as on 31.3.13 = | 59829 | b) Journals as on 31.3.13 |     | Indian    | – 136 |                |     |                       |     |                   |     |           |     |         |            |  |    |  |
| a) Books as on 31.3.13 =  | 59829   |  |                          |       |                           |     |           |       |                |     |                       |     |                   |     |           |     |         |            |  |    |  |
| b) Journals as on 31.3.13 |   |  |                          |       |                           |     |           |       |                |     |                       |     |                   |     |           |     |         |            |  |    |  |
| Indian                    | – 136   |  |                          |       |                           |     |           |       |                |     |                       |     |                   |     |           |     |         |            |  |    |  |
| 3.                        | <b><u>E-Resources/Journals</u></b>  | <p>Being a core member of INDEST consortium, the faculty members &amp; students of NERIST is entitled to receive the following E-resources:</p> <ol style="list-style-type: none"> <li>1. ACM Digital Library,</li> <li>2. ASCE Journals online,</li> <li>3. ASME Journals online</li> <li>4. IEL Online,</li> <li>5. Nature,</li> <li>6. Pro Quest Science,</li> <li>7. Springer Verlag's Link</li> <li>8. Science Direct</li> </ol>  |                          |       |                           |     |           |       |                |     |                       |     |                   |     |           |     |         |            |  |    |  |
| 4.                        | NERIST library has subscribed E- resources, JSTOR website through INFLIBNET.  |  |                          |       |                           |     |           |       |                |     |                       |     |                   |     |           |     |         |            |  |    |  |
| 5.                        | <b>Book Bank:</b> In addition to above a Book Bank has been established in central library. It was funded by NEC initially. Later NERIST has provided the required funds for upgrading the collection with new editions and as per new syllabus. The students will get a set of text books. |  |                          |       |                           |     |           |       |                |     |                       |     |                   |     |           |     |         |            |  |    |  |

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

1. Base Module	: 10457 vols.
2. Diploma Module	: 11769 vols.
3. Degree Module	: 11399 vols.
4. Degree Forestry	<u>: 2001 vols.</u>
Total=	<b>35626 vols.</b>

6. **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 = 509
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	

7. **Book exhibition:** Book exhibition is being organised by the Central library NERIST every year. Reputed publisher/Suppliers from different parts of India displayed their books in the exhibition.

8. **Library Automation:** MHRD approved scheme “**Modernization and removal of Obsolescence**” is under progress and likely to be completed soon. It is partially Operational (OPAC).

9. **Indian Standards:** Library posses full set of Indian Standard on CD ROM.

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

11. **A-V Materials:** 139 nos. DVD “Video Training Programme” has been purchased for different departments.

12. Institutional member: 1.Indian Liquid crystal society, Bangalore, 2. Kaziranga Wild life Society, Assam, 3. Association of Indian Universities, N.Delhi

1. Library Timings : 9 a.m. to 8 p.m. (Mon-Fri)
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 to each students
- b) Diploma Module 4 cards to each students
- c) Degree Module 5 cards to each students
- d) M. Tech. 6 cards to each students
- e) MBA 6 cards to each students

3. Average circulation Issue/Return

400 – 600 books per day at the beginning of the semester (6 days) and renewal of 400-600 books per day after one month. 60-100 books issue/return per day on an average.

4. Newspaper 9 daily

**List of INDEST Committee Members**

SI	Name	Port folio
1.	Dr. S.K.Singh	Chairman
2.	Prof. P.K.Tripathy	Member
3.	Dr. Saibal Chatterjee	Member
4.	Dr. A. Bandyopadhyay	Member
5.	Mr. Raju Barthakur	Member
6.	Mr. Amar Taggu	Member
7.	Mr. S. Majumder	Member
8.	Mr. N.G. Sorum	Member
9.	Mr. Biplab Das	Member
10.	Mr. J. Borah	Member
11.	Mr. S. Choudhury	Member
12.	Dr. Arvind Pandey	Member
13.	Dr. Suresh Kr. Singh	Member Secretary

## 5.2 TRAINING & PLACEMENT CELL

### 5.2.1 Profile of the Section

Since its inception in 1991, T & P Cell is instrumental in counselling 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. The workshops are also organized by the Cell for the pre final and final year students providing them with the substantial exposure in the areas pertaining to their recruitment and selection and facilitate their entry into leading and highly professional organizations.

### Status report regarding activities

#### 5.2.2 Training

This Cell organized Industrial Training for a period of 30 days to the B.Tech. pre-final year students of AE,CS, EE, ECE & ME and 45 days for Civil Engineering & MBA students during 1st June to 30th June,2012 & 1<sup>st</sup> June to 15<sup>th</sup> July'12 respectively, which is a compulsory requirement in partial fulfillment of the requirements of their curriculum. Some of the organization where NERIST students have gone for their training during summer 2012 are: IOC, OIL, ONGC, Gammon India Ltd., HCL, BSNL. DRDO, IIT (Bombay, Guwahati & Kgp.), NHPC, SAIL, AIR (New Delhi), SAIL, IISc. (Bangalore), NTPC (Koldam), NRFMT & TI (Budni & Hissar), DEL, DRDO, MEC (Shillong), Bhilai Steel Plant, Tata Motors, NF Rly., NERIM, NEWALM, ICAR (Shillong), CIAE (Bhopal), Power Grid Corporation of India td., CPWD, etc.

#### 5.2.3 Placement

This Cell also arranged in- campus and off- campus (Pool Campus) Interviews for the final year B.Sc./ M.Sc. (Forestry), B. Tech./M.Tech. and MBA students. All facilities were provided to officials of companies to conduct campus interview at NERIST. Arrangements were also made for conducting Pool campus interview at AEC, Guwahati & JEC, Jorhat also. Some of the prominent organizations that conducted campus/pool campus interviews and selected our students during the period are: Samundra Institute of Maritime Studies, SRIJAN, MindTree, Indian Army, Jindal Steel & Power, Bharti Inratel Ltd., etc.

#### 5.2.4 Highlights

This Cell organized a Workshop (on-line) through Spoken Tutorial, in collaboration with IIT, Bombay, w.e.f. 9<sup>th</sup> to 20<sup>th</sup> August'12 for our final year students, on Python, PHP & MySQL, Linux, Scilab etc. Under this workshop the students were trained to learn the latest softwares as above by the able guidance of faculty members from IIT, Mumbai (on-line).

This Cell organized a Faculty Development Programme (FDP) on IBM Project "Praviin" to teach and train our faculty as well as Research Scholars on **DB2** w.e.f. 10<sup>th</sup> to 12<sup>th</sup> August'12.

### 5.4 SPONSORED RESEARCH AND INDUSTRIAL CONSULTANCY (SRIC)

#### 5.4.1 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 Professor as Coordinator. One P.A 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 Engg., Mechanical Engineering etc are being dealt by the Finance Section.

#### 5.4.2 Status Report regarding activities

Presently about 45 Nos of projects are going on by various departments at NERIST. Each project is being run by a P.I and other office functionaries as per guidelines of the sponsoring agency.

### 5.5 CONTINUING EDUCATION PROGRAMME CELL (CEP)

#### 5.5.1 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.

### 5.5.2 Status report regarding activities

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

## 4.6 KENDRIYA VIDYALAYA, NERIST

### 5.6.1 Achievement of KV in 2012-13 with details

- (a) Five students secured CGPA 10 in class X.
- (b) Result of Class X is 100% & Class XII is 100%.
- (c) Master Rajshekhar Verma of class VI secured Second position in NSTSE at national level.
- (d) Master Kumar Ashutosh of Class X secured Second Rank in National Mathematics Quiz by KVS.
- (e) Master Kumar Ashutosh of class X secured 91% marks in Green Olympiad by KVS.
- (f) Three students of this Vidyalaya secured certificates of merit at State level.
- (g) Three students secured gold medals and two students secured silver medals in NSTSE at State Level.
- (h) Two scouts and two guides secured Rajya Puraskar Certificates.
- (i) Smt. Madhulika Madhu, TGT(Skt.) obtained KVS Regional Incentive Award.
- (j) Smt. Madhulika Madhu, TGT(Skt.) obtained KVS Divisional Award of Bharat Scouts & Guides.
- (k) 20 students got admission in different reputed engineering colleges.
- (l) 06 students got admission in different reputed medical colleges.

### 5.6.2 Strength of this Vidyalaya is: 448(230 Boys & 218 Girls) as on 30/05/2013

Staff Sanctioned: 30.

### 5.6.3 Vidyalaya had participated in Drawing & Handwriting Competition, which was organized by "STUDENTS DEVELOPMENT SOCIETY" Maharashtra in 2012

- Mousami Barman Class X got 1<sup>st</sup> position in drawing competition & won cash prize of Rs.5000/-



- Vidyalaya got “BEST SCHOOL AWARD 2012”
- Ms. Yogai Bangyang TGT (Art) won “BEST TEACHER AWARD 2012”.
- Om Prakash, Offg. Principal got “BEST PRINCIPAL AWARD 2012”.

**5.6.4** Two teachers of this Vidyalaya obtained the Regional Level Science Award.

## **5.7 NERIST K.G. SCHOOL**

NERIST K.G. School was established in the year 1992 with the aim of providing pre-school education and promotes healthy peer-group activities among the children of the Institute as well as nearby areas. Basic infrastructures like building, furniture etc. are being provided by the Institute.

The Management Committee is responsible for running the school. The Committee is headed by a Chairman/Chairperson nominated by the Director, NERIST. The school is self financing for its recurring expenditure and running on no-profit no-loss basis. The source of income is collection from the students by way of admission/monthly tuition fee etc.

## **5.8 CENTRAL AUTOMOBILE WORKSHOP**

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

The Central Automobiles Workshop was initially developed and it was kept under the control of Mechanical Engineering and Electrical Engineering Department. The shop was developed as a part of curricula requirement. However, this workshop has been transferred to and functioning under the control to Mechanical Engineering at present. As the Institute requirements for vehicle servicing and maintenance started growing, the transport section provides better service round the clock for institute as well as for student, staff and other official works of the Institute.

### **5.8.2 Status report regarding activities**

The Transport Section is one of the most important supporting departments of the Institute, which runs fleet of vehicles for official purposes. The various services offered by transport section at present are as follows:

- a) Providing vehicles for in and off campus official duty;
- b) Providing School Bus service to the wards of NERIST employees;
- c) Providing vehicle to the employees and students under staff welfare and Student's welfare Scheme for religious and social functions on payment basis;
- d) Providing vehicles for campus interview, seminars, conferences, Short term course, short term training programmers, Study tours and workshops organized by faculty of various departments;
- e) Providing vehicle to various departments for conducting of Practical Training to different module students including field visits, industrial visits in and off campus for student's development;

- f) Providing vehicles to NCC cadet/NSS for attending camps and awareness camping etc.;
- g) Providing ambulance service for students and employees for emergency medical treatment; and
- h) Providing vehicles to security patrolling duty for maintaining the safe environment in the campus particularly during night time.

## 5.9 **NERIST HEALTH UNIT**

### Present manpower:

Medical Officer	2	
Pharmacist	1	
Staff Nurse	1	
Lab. Technician	1	Contract basis
Dresser	1	
Lab. Helper	1	
Helper	3	2 Contract basis.
Peon	1	
Ambulance Diver	1	

### Present Facility:

Only OPD facility with daytime observation.

Emergency attending of patient on oncall basis.

Normal routine pathological examination facility which include RMT, Widal, Hb%, Urine Hcg, HbsAg, RBS, ABO Rh Grouping etc during OPD hours.

### Future plan:

- a) Future plan should be making existing Ultrasound machine, X-Ray machine, ECG and auto analyzer functional for optimum utilization of resource and also upgrading the present Laboratory facility with biochemistry and Elisa.
- b) Making 24hours medical facility by keeping indoor patients.
- c) Providing Routine vaccination facility for new born infants and children below 5 years of age after re starting the cold chain system.
- d) Providing Specialist facility in Medicine, Gyneae and Pediatrics, Ophthalmology and Dental.

### Financial involvement:

- a). Recruitment of more Medical Officers, Paramedical Staff and Office staff for round the clock working of Hospital.
- b) Purchase of investigation equipments and hospital furniture
- c) Construction of Buildings for patient wards, Isolation ward, laundry and kitchen.

For the future plans detailed project report may be obtained from expert.

#### Additional Man Power for future Plan for 24 hours Service:

	<u>Present</u>	<u>Required</u>
Medical Officer (Female)	2	0
Medical Officer (Male)	:- 0	2
Staff Nurse	:- 1	5
Ward Boy (Helper)	:- 2	4
Lab Technician	:- 1	2
Lab Helper	:- 1	2
X-ray Technician	:- 0	1
Ultrasonologist	:- 0	1
Sweeper	:- 1	2
L D C	:- 0	1
U D C	:- 0	1
Pharmacist	:- 1	0
Receptionist	:- 0	1

## 5.10 CENTRE FOR APPROPRIATE TECHNOLOGY & RURAL DEVELOPMENT

### 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 programmed in future.

#### 5.10.2 List of Committee Members

Dr. S.K. Shrivastava	Head of the Centre
Dr. P.R. Gajurel	A.P. (Forestry)
Dr. P. Anand Kumar	A.P. (Agril. Engg.)
Ms. B.L. Sarmah	A.P. (CMS)
Ms. Mudo Punning	A.P. (Civil Engg.)

## SECTION – 6 MANPOWER

### I Teaching (Faculty)

Department wise break-up of faculty as on 31.03.2013 is given below:

1.	Forestry	13
2.	Agriculture Engineering	13
3.	Civil Engineering	17
4.	Computer Science & Engineering	09
5.	Electrical Engineering	13
6.	Electronics & Communication Engineering	11
7.	Mechanical Engineering	15
8.	Physics	09
9.	Chemistry	09
10.	Mathematics	08
11.	Humanities & Social Sciences	05
12.	Centre for Management Studies	04

**Total (I) = 126**

List of faculty members along with their terminal degrees and specializations is given in Annexure - III

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

The break- up of Officers, Technical, Ministerial and Group-C staff in position as on 31.03.2013 is given below:

#### (i) Officers

a	Group 'A'	10
b	Group 'B'	04

**Total = 14**

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

a	Group 'A'	-
b	Group 'B'	15
c	Group 'C'	67

**Total = 82**

**(iii) Ministerial Staff**

a	Group 'B'	14
b.	Group 'C'	63

**Total = 77**

**(iv) Non Ministerial Staff-Group -C**

a	Lab Attendants/Helpers/Pump Attendants/Project Operator	42
b	Security Guards	10
c	Malis, Labourers & Sweepers	18
d	Peons	30
e	Cook & Cook Helpers	68
	<b>Total</b>	<b>168</b>

**Total (II) = 341**  
**GRAND TOTAL (I+II) = 467**

## 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 basically a residential technical institute shaping the future of its students through integrated personality development along with technical knowledge acquisition. The Hostel Management Council is a Council of Wardens supported by a set of committed and efficient administrative staff working full time for administration of the hostels.

NERIST has 8 hostels, 7 for boys and 1 for girls. While there is one hostel (Block H) for the male-students pursuing post graduate studies, PG Girls' Hostel (Block I) is still under construction. Pending completion of this hostel for the girls, the PG girls are being given temporary accommodation in a block of four-flats with spacious compound and in four Type-V Duplex Quarters lying contiguous to the UG Girls' Hostel.

Each of the hostels is provided with Wi-Fi Connection, Mess, Common Room with TV and indoor-games facilities like Table Tennis, Carrom, Chess, etc. The Boys' Hostel Complex has outdoor sports facilities like Lawn Tennis Court, Basketball Court, Volleyball Court and one Indoor Badminton Stadium. The Girls' Hostel Compound is provided with outdoor Basketball and Badminton Courts.

#### 7.1.2 Status of Hostels

**Chief Warden:** Mr. D. Jhajharia

Hostel Block	Capacity	Residents	Warden	Caretaker
<b>A</b>	124	112	Mr. U. Singh	Mr. P. Das
<b>B</b>	124	105	Dr. D. Pal	Mr. T. Mathew
<b>C</b>	124		Mr. A.K. Das	Mr. P. Burman
<b>D</b>	124	107	Mr. B. Das	Mr. A. Gogoi
<b>E</b>	250	222	Mr. N.G. Sorum Mr. N.L. Meitei	Mr. V. P. Manikuttan
<b>F</b>	250	228	Mr. A. D. Singh Mr. U. Singh	Mr. D. Shongmu
<b>G</b>	305	304	Dr. (Ms.) A. Bhadra Ms. Y. Tamut Ms. J. Bora	Ms. M. Roychoudhury
<b>H</b>	250	143	Mr. M. D. Singh	Mr. E.N.V. Nair

#### 7.1.3 Highlights



As in previous years, Hon'ble Supreme Court order was complied with by constitution of an Anti-Ragging Squad and a Committee headed by the Director. The Squad of 26 faculty members, including the Wardens, made regular visits to the hostels between 8 PM and 12 AM for 20 days w.e.f. 20/07/2012, after admission of new students to check the menace of ragging.

The Independence and Republic Days were celebrated in all the hostels by hoisting of the National Flag by Chief Warden and Wardens.

## 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 2012-13, total students enrolled is given below:

Cadets Enrolled	SD ( Boys )	SW ( Girls )
1 <sup>st</sup> Year	63	26
2 <sup>nd</sup> Year	91	18
3 <sup>rd</sup> Year (Given extension)	8	5
Total	162	49

### Man power status

	PRESENT	REQUIREMEN T	DEFICIENC Y
ANO/CTO	02	02	NIL
Supporting staff	02	04	02

### Infra-structure

	PRESENT	REQUIREMENT	DEFICIENC Y
Office	02	01	NIL
Store room (Big )	01	02	01

### Budget allocation

During the session 2012-2013 a total of Rs.1,02,208.00 (Rupees one lakh two thousand two hundred and eighty) was spent, towards the Independence parade, Republic day parade, two camps expenditure, Imprest, washing and refreshment allowance for the students were incurred.

### 7.2.2 STATUS REPORT REGARDING ACTIVITIES for the period 01-04-2012 to 31-03-2013

**i) Parades Conducted**

Total 31 parades

**ii) Ceremonial Drill participated**

(i) Independence Day (15-08-2012) : 49 SD &amp; 24 SW Cadets

(ii) Republic Day (26-01-2013) : 51 SD &amp; 22 SW Cadets

**iii) Camps Attended by the NCC cadets (Total 3 camps)**

(i) CATC Camp at Hanshora, North Lakhimpur, Assam w.e.f. 21-12-2012 to 31-12-2012

(ii) No of students : 26 SD + 2 SW

**iv) ED Grades**

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

Course	SD (Boys)	SW (Girls)	Total
ED-2288	32 Cadets	5 Cadets	<b>37</b>
ED-4288	15 Cadets	5 Cadet	<b>20</b>
ED-6288	15 Cadets	7 Cadet	<b>22</b>
Total	62	17	<b>79</b>

**7.2.3 Highlights**i) List of "C" Certificate Exam Passed during **2012-13**: 8(SD)**List of SD Boys "C" Certificate Exam Passed**

Sl No	Regt. No	Name of Cadet	Rank	Date of Enrol.
1	APSD/09/12042	Mr. Rajkishor Thakur	LCPL	July 2009
2	APSD/09/12048	Mr. Ankit Kumar Pandey	LCPL	July 2009
3	APSD/09/12094	Mr. Kiran Chamuah	LCPL	July 2009
4	APSD/10/12112	Mr. Saurabh Ch. Das	LCPL	July 2010
5	APSD/10/12121	Mr. Pankaj Bhandari	LCPL	July 2010
6	APSD/10/12123	Mr. Sandeep Kumar Ravi	LCPL	July 2010
7	APSD/10/12139	Mr. Sourav Kumar	LCPL	July 2010
8	APSD/10/12149	Mr. Manish Singh	LCPL	July 2010

ii) List of B Certificate passed during **2012-13**: 8 5 (SD + 3 SW)  
SD Boys

Sl No	Regt. No	Name of Cadet	Rank	Date of Enrol.	Year of Trg.
1	APSD/10/12130	LomgpoCheda	cadet	July 2010	Second
2	APSD/10/12153	VikasGoutam	cadet	July 2010	Second
3	APSD/10/12144	SudhanshuBhaskarRao	cadet	July 2010	Second
4	APSD/11/12074	Mr. TakuRaji	cadet	July 2011	First
5	APSD/09/12080	Mr Lenin Tayeng	cadet	July 2009	First

### SW Girls

Sl No	Regt. No	Name of Cadet	Rank	Date of Enrol.	Year of Trg.
1	AP/GP/SW/11/13038	Ms. Anjali S	cadet	July 2011	First
2	AP/GP/SW/11/13042	Ms. Sraboni Roy	cadet	July 2011	First
3	AP/GP/SW/11/13043	Ms. Bijoya Das	cadet	July 2011	First

iii) List of C appeared / result waiting : 26(24SD +2SW)

iv) List of B certificate appeared and result waiting : 3(2SD +1SW)

## 7.2 NATIONAL SERVICE SCHEME (NSS)

### 7.2.1 A Brief Profile of the Section

The NSS Cell in NERIST is managed by a Programme Co-Ordinator with the active participation and support of Programme Officers and group leaders. This year, 1016 students were enrolled as NSS Volunteers. The Cell has one Group 'C' and one Group 'D' employees to assist in the office work.

1. Total No. of Volunteers enrolled : 1016 Nos.
2. Male : 780 Nos.
3. Female : 236 Nos.
4. No. of Male Volunteers (APST) : 127 Nos.
5. No. of Female Volunteer (APST) : 35 Nos.
6. Name of NSS Programme Co-Ordinator : Dr. (Mrs) T.Tuithang
7. No. of trees planted during the year 2011-12 : 250 Nos.

### 7.2.2 Status Regarding Activities

NSS activities for the academic session 2012-13 took off with an orientation programme for the newly admitted volunteers on 18.08.2012. Using audiovisual demonstrations, volunteers were 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 Dr.P.R.Alapati, Dean (SA) about the aims and objectives of NSS.

Regular activity was organized on 01.09.2012, 23.2.2013 in NERIST campus. Approximately 400 number of volunteers participated in it. Campus cleaning which was undertaken along with plantation of 250 saplings at the Degree block. The National Service Scheme Cell of NERIST observed the NSS day on 24.09.2012. 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. She also stated that keeping the all round developments and changes taking place around us the horizon of NSS needs to be enlarged.

A Massive Blood donation camp was organised by NSS cell, NERIST, Nirjuli (A.P) in coordination with Naharlagun General Hospital and Medical Health Unit, NERIST, on 12.10.2012, 05.01.2013, and 02.03.2013. About 104 Blood donors, Programme Officer and Prof. Binay Singh, Director, NIRD, Guwahati, donated blood, out of which 20 were girls. The Blood donation camp was followed by a lunch party at NERIST Guest house for Doctors, Technicians, Medical Staff and Programme officers.

#### List of NSS Committee

1. Dr (Mrs). T. Tuithang	Coordinator (NSS)
2. Dr. S.J. Bora	Asstt. Coordinator
3. Dr.A. Pandey	Programme Officer
4. Mr. R. Subedar	Programme Officer
5. Shri S. Samanta	Programme Officer
6. Mrs. M. Kathingh	Programme Officer
7. Dr. P.R. Gujeral	Programme Officer
8. Shri A.D. Singh	Programme Officer
9. Dr. A. Kumar	Programme Officer
10. Mr. Nabum Taye	Programme Officer
11. Mr. Manish Kumar	Programme Officer
12. Mr. Anu Das	Programme Officer
13. Miss Ajanta Kalita	Programme Officer
14. Mr. N.L. Meitei	Programme Officer

## 7.3 ESTATE OFFICE

### 7.3.1 Profile of the Section

The Estate Office has been established to look after day to day estate matter of the institute, dealing with matters like land encroachment, illegal construction, Liaisoning with the external agencies like Deputy Commissioner Papum Pare, Deputy Commissioner Capital, Land & Revenue/Records officers of the state, 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 entire campus and day-to-day record keeping works, like House allotments, and issue of furniture to quarters etc.

**Strength of existing staffs other than Estate Officers is:**

1. Peon 01 nos.
2. TS employee 01 nos.
3. Hand receipt employee 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.

### 7.3.2 Status Report Regarding Activities

**1. Court case matter related to 240 acres land.**

- a) Encroachment at 240 acres (Hill- top) and notices issued to encroachers by the Additional District Magistrate cum Estate Officer, Govt. of Arunachal Pradesh, Itanagar. First hearing was conducted on 30<sup>th</sup> June, 2009 to 31<sup>st</sup> August 2009 and the case is still pending in the same court. The present status of 240 acres (Hill -top) land is that the entire 240 acres has been encroached by the outsiders and institute's authority needs to pursue the matter to Chief estate officer-cum- Additional District Magistrate, Itanagar for early disposal of the case civil Appeal No. ADM/EO/CC-02/09 pertaining to encroachment at the 240 acres land. The district authorities may be asked to demarcate the boundary of the area for construction of the boundary walls around the area.

**2. Matter related to 2.75 Acres land along NH 52- A Road**

- a) A Notice No.LRB-096083/2001/279 since dated 23.05.2011 was received from Executive Magistrate Itanagar capital complex, Itanagar, Govt. of Arunachal Pradesh in which NERIST was accused of grabbing land along NH 52 opposite to the GREF office, 2.75 acres land, by complainants Shri Takam Pario and others and Institute's authority was asked to appear in the court on 31.05.2011.

In this matter the court, in its order No. LRB-096083/2011 dated 1.06.2011, has directed that status quo be maintained by both the parties in the said location till the settlement of the case.

**3. Matter related to 64 acre land.**

- a) A letter bearing No. CEO/ICC/JUD/602/12/2203-05, dated 30.10.2012 was received from the Chief Estate Officer- cum-ADM, Capital complex Itanagar for illegally

occupying the NERIST quarter (Vety. old qtr.) no. T. /IV/01 by Shri Nabam Rebia, Kiyate, Sagalee, Dist. Papum Pare, Arunachal Pradesh. The Chief Estate Officer- cum-Additional District Magistrate, Itanagar served order to illegal occupant Shri Nabam Rebia, for vacation of the said qtr.

In this regards, necessary vacation notices were served to Shri Nabam Rebia by this office to vacate the NERIST Govt. qtr. from the forceful occupation.

In this matter as per order no CEO/ICC/JUD/602/12, dated 30.10.2012, the case has now been settled by the same court and the said quarter has been occupied by Smt. Joram Maya Peon, Library section NERIST.

**4. Matter related to Institute canteen/ shop.**

- a) NERIST boys' hostel PCO has been converted and rechristened as coffee-corner-cum stationary shop.

**5. List of committee members, if any**

- a) Estate officer of this office is member of many important Committees like House Allotment Committee, Space allotment Committee, Eviction Committee, Condemnation Committee etc.

## **7.4 EDUCATIONAL TECHNOLOGY CELL**

Educational Technology Cell was established as an MHRD project with an objective to improve the teaching learning process. The Cell has one seminar hall equipped with modern facilities like Audio-Video equipments, Digital Camera, LCD Projectors, Video Conferencing system, Panaboard, etc. Apart from this, the ET Cell looks after the Local Area Networking (LAN) of the Institute, comprising of 1500 nodes spreading various departments, Sections, Hostels and Residential area Wi-Fi. The LAN is connected to Internet through 16 Mbps bandwidth Leased Line from BSNL and 150 Mbps bandwidth from NKN to provide faster network access.

This Section has newly installed IBM X3550 M4 Server and TREND MICRO Interscan Messaging Security Virtual appliance.

## SECTION – 8 FUNDS 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 2012-2013, the Institute had an unspent balance of Rs.753.30 lakhs. During the year, the Institute received Rs.4340.00 lakhs as grant-in-aid and Rs.229.06 as IRG. This included grant-in-aid of 0.00 lakhs sanctioned at the fag-end of 2011-2012 but received in 2012-2013. The unspent balance as on 31.03.2013 is Rs.643.73 lakhs which shall be utilized during 2013-14. Brief break-up of fund received and expenditure incurred is given as under:-

Details of account	HEAD			Grand Total (2+3+4)
	PLAN (Capial)	PLAN (General	NON- PLAN	
(1)	(2)	(3)	(4)	(5)
Previous balance	72.27	109.17	571.86	753.30
Fund received during 2012-13	529.45	50.55	3760.00	4340.00
IRG 2012-13	--	--	229.06	229.06
Expenditure incurred during 2012-13	569.02	117.19	3992.42	4678.63
Unspent Balance as on 31.03.2013	32.70	42.53	568.50	643.73

The detailed information related to the accounts of the Institute for the year 2012-13 and the audited accounts of the Institute is given in Annexure-XII.



## Annexure-I

**MEMBERS of NERIST SOCIETY as on 31.03.2013**

1. Gen. (Retd.) J.J. Singh, PVSM, AVSM, VSM H.E. the Governor of Arunachal Pradesh	-	President
2. The Hon'ble Minister, (Higher/Technical Education), Govt. of Assam	-	Member
3. The Hon'ble Minister (Higher/Technical Education), Govt. of Arunachal Pradesh	-	Member
4. The Hon'ble Minister (Higher/Technical Education), Govt. of Manipur	-	Member
5. The Hon'ble Minister (Higher/Technical Education), Govt. of Meghalaya	-	Member
6. The Hon'ble Minister (Higher/Technical Education), Govt. of Mizoram	-	Member
7. The Hon'ble Minister (Higher/Technical Education), Govt. of Nagaland	-	Member
8. The Hon'ble Minister (Higher/Technical Education), Govt. of Sikkim	-	Member
9. The Hon'ble Minister (Higher/Technical Education), Govt. of Tripura	-	Member
10. The Addl. Secretary (T), MHRD, New Delhi	-	Member
11. The Financial Adviser, IFD, MHRD, New Delhi	-	Member
12. Shri M.P. Bezbaruah, Chairman, BoM, NERIST	-	Member
13. Dr. Kamal Kant Dwivedi, Scientist 'G', DST, Technology Bhawan, New Mehrauli Road, New Delhi-16	-	Member
14. Prof. S.S. Mantha, Vice Chairman, AICTE, 7 <sup>th</sup> Floor, Chander Lok Building, Janpath, New Delhi-01	-	Member
15. Dr. (Mrs.) Seema Bawe, Head, Department of Computer Sciences, Thapar Institute of Engineering & Technology, Patiala, Punjab	-	Member
16. Shri Tsetan Chombey Kee, Village – Sela, Dist. Tawang, Arunachal Pradesh – 790 104	-	Member
17. Prof. Dipankar Pal, Director, NERIST	-	Member
18. Dr. R.P. Bhattacharjee, Registrar, NERIST	-	Non-member Secretary

## Annexure-II

**MEMBERS of NERIST BOARD OF MANAGEMENT as on 31.03.2013**

1. Shri M.P. Bezbaruah, DW-323, Niravana Country, South City II, Gurgaon – 122 018	-	Chairman
2. Prof. Dipankar Pal, Director, NERIST	-	Member
3. The Commissioner/Secretary (Higher/Technical Education), Govt. of Assam	-	Member
4. The Commissioner/Secretary (Higher/Technical Education), Govt. of Arunachal Pradesh	-	Member
5. The Commissioner/Secretary (Higher/Technical Education), Govt. of Manipur	-	Member
6. The Commissioner/Secretary (Higher/Technical Education), Govt. of Meghalaya	-	Member
7. The Commissioner/Secretary (Higher/Technical Education), Govt. of Mizoram	-	Member
8. The Commissioner/Secretary (Higher/Technical Education), Govt. of Nagaland	-	Member
9. The Commissioner/Secretary (Higher/Technical Education), Govt. of Sikkim	-	Member
10. The Commissioner/Secretary (Higher/Technical Education), Govt. of Tripura	-	Member
11. Lt. Gen. D.D.S. Sandhu, Vice Chancellor, Kurushetra Univ., Kurushetra, Haryana	-	Member
12. The Financial Adviser, IFD, MHRD, New Delhi	-	Member
13. Shri Dalip Kapur, Dy. Secretary (T), MHRD, New Delhi	-	Member
14. Mr. Prasant Bora, Manager (Engineering), IOCL, Silchar, 1 <sup>st</sup> Floor Jagannath Apartment, Hospital Road, Silchar – 788 005, Assam	-	Member
15. Prof. R.M. Pant, Dean (Acad), NERIST	-	Member
16. Prof. M. Muralidhar, Dean (P&D), NERIST	-	Member
17. Prof. P.R. Alapati, Dean (SA), NERIST	-	Member
18. Prof. M. Hussain, Deptt. of Chemistry, NERIST	-	Member
19. Dr. P. R. Parida, Asso. Prof. Deptt. of HSS, NERIST	-	Member
20. Dr. B.K. Singh, Asstt. Prof., Deptt. of MA, NERIST	-	Member
21. Dr. R.P. Bhattacharjee, Registrar, NERIST	-	Non-Member Secretary

## Annexure-III

**MEMBERS OF NERIST FINANCE COMMITTEE AS ON 31.03.2013**

- |     |  |   |                                    |
|-----|--|---|------------------------------------|
| 1)  | Shri M.P. Bezbaruah, Chairman, BoM, NERIST                                     | - | Chairman                           |
| 2)  | Shri Ankur Garg, 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                             |
| 6)  | Additonal Secretary & FA MHRD, Govt. of India, New Delhi                       | - | Member                             |
| 7)  | Shri Dalip Kapur, Dy. Secretary (T), MHRD, New Delhi                           | - | Member                             |
| 8)  | Prof. Dipankar Pal, Director, NERIST   | - | Member                             |
| 9)  | Dr. R.P. Bhattacharjee, Registrar, NERIST                                      | - | Member                             |
| 10) | Dy. Registrar (Fin), NERIST  | - | Ex-officio<br>Non-Member Secretary |

## Annexure-IV

**MEMBERS OF ACADEMIC COUNCIL AS ON 31.3.2013**

1.	Prof. Dipankar Pal, Director, NERIST	-	Chairman
2.	Prof. H.S. Yadav, Dean (Admn.)	-	Member
3.	Prof. R.M. Pant, Dean (Acad)	-	Member
4.	Prof. M. Muralidhar, Dean (P&D)	-	Member
5.	Prof. P.R. Alapati, Dean (SA)	-	Member
6.	Prof. Sukumar Nandi, Dean(Academic Affairs), IIT Guwahati	-	Member
7.	Prof. M. Bhuyan, Dean, School of Engg., Tezpur Univ.	-	Member
8.	Prof. H.N. Sarma, Dean, Faculty of Life Science, RGU, Doimukh, AP	-	Member
9.	Prof. S.S. Sarkar, Hed, Deptt. of Business Administration, Tezpur University, Assam	-	Member
10.	Prof. N.N. Patwari, Dean(Engg.), Gauhati University, Jalukbari, Assam	-	Member
11.	Principal, Rajiv Gandhi Polytechnic, Itanagar, AP	-	Member
12.	Er. Arung Siram, DGM, BSNL, Itanagar	-	Member
13.	Prof. J. Choubey, Deptt. of Mathematics	-	Member
14.	Prof. S.K. Singh, Deptt. of Civil Engg	-	Member
15.	Prof. Mubarak Husain, Deptt. of Chemistry	-	Member
16.	Prof. P.K. Das, Deptt. of Mathematics	-	Member
17.	Prof. R. Prasad, Deptt. of Physics	-	Member
18.	Prof. L.S. Yadav, Deptt. Agril. Engg.	-	Member
19.	Prof. H.S. Yadav, Deptt. of Chemistry	-	Member
20.	Prof. R.M. Pant, Centre for Management & Studies	-	Member
21.	Prof. M. Muralidharan, Deptt. of Mech. Engg	-	Member

22.	Prof. A. Chatterjee, HoD(Physics)	-	Member
23.	Prof. P.K. Tripathy, HoD(Chemistry)	-	Member
24.	Prof. L.K. Arora, HoD (Maths)	-	Member
25.	Prof. M.L. Khan, HoD(Forestry)	-	Member
26.	Prof. Anwar Hussain, Deptt. of ECE	-	Member
27.	Prof. M.F. Hussain, Deptt. of Chemistry	-	Member
28.	Prof. K.D. Ram, Deptt. of Chemistry	-	Member
29.	Prof. (Mrs.) P. Rethy, Deptt. of Forestry	-	Member
30.	Prof. Binay Singh, Deptt. of Forestry	-	Member
31.	Prof. P.R. Alapati, Deptt. of Physics	-	Member
32.	Prof. P.P. Dabral, Deptt. of AE	-	Member
33.	Prof. V.K. Dhar, Deptt. of Physics	-	Member
34.	Prof. S.K. Pandey, Deptt. of Mathematics	-	Member
35.	HoD, Agricultural Engineering	-	Member
36.	HoD, Civil Engineering	-	Member
37.	HoD, Computer Sc. and Engg.	-	Member
38.	HoD, Electrical Engineering	-	Member
39.	HoD (ECE)	-	Member
40.	HoD, Mechanical Engineering	-	Member
41.	HoD, Physics	-	Member
42.	HoD, Chemistry	-	Member
43.	HoD, Mathematics	-	Member
44.	HoD, Forestry	-	Member
45.	HoD, Humanities & Social Sciences	-	Member
46.	HoC, Centre for Management & Studies	-	Member
47.	HoC, CATRD	-	Member

48. Dr. P.R. Parida, Associate Professor, HSS	-	Member
49. Dr. M. Sengupta, Associate Professor, Physics	-	Member
50. Dr. C.L. Sharma, Associate Professor, Forestry	-	Member
51. Mr. S.J. Bora, Asstt. Pofessor, CSE	-	Member
52. Smt. M. Kathing, Asstt. Professor, CSE	-	Member
53. Dr. B.K. Singh, Asstt. Professor, Maths	-	Member
54. Dr. R.P. Bhattacharjee, Registrar, NERIST	-	Non- Member Secretary

## Annexure-V

**MEMBERS OF BUILDING AND WORKS COMMITTEE ON 31.03.2013**

- |   |                           |
|---|---------------------------|
| 1. Prof. Dipankar Pal, Director, NERIST               | : Chairman                |
| 2. Secretary, Education, Govt. of A.P                 | : Member                  |
| 3. Chief Engineer (WZ), APPWD, Govt. of A.P           | : Member                  |
| 4. Prof.M. Muralidhar, Dean (P&D), NERIST             | : Member                  |
| 5. Dr. R.K. Prasad, HoD (Civil Engg.), NERIST         | : Member                  |
| 6. Ar. Dawa Tsering, Sr.Architect, PWD, Govt. of A.P  | : Member                  |
| 7. Er. Jilek Hiri, Executive Engineer (Civil), NERIST | : Non-Member<br>Secretary |



## Annexure-VI

**INSTITUTE ADMINISTRATION AS ON 31.03.2013**

1.	Director	-	Prof. Dipankar Pal
2.	Deans :		
	Administration	-	Prof. H.S. Yadav
	Academic	-	Prof. R.M. Pant
	Student's Affairs	-	Prof. P.R. Alapati
	Planning & Development	-	Prof. M. Muralidhar
3.	Registrar	-	Dr. R.P.Bhattacharjee
4.	Deputy Registrars:		
	Academic	-	Shri Mai Ranjit
	Finance	-	Shri P.K.Sarkar
5.	Assistant Registrars:		
	Administration	-	Shri K.K.Rajesh
	Store & Purchase	-	Shri Gautam Kr Roy
6.	Medical Officers:	-	Dr P.Camdir Tok Dr.Susmita P Taggu
7.	Librarian	-	Shri Ashim Kr. Gupta
8.	Assistant Workshop Superintendent	-	Shri Harshendra Mishra
9.	Security Officer	-	Shri Passang Simi
10.	Liaison Officer, SC/ST	-	Shri N.G.Sorum
11.	Executive Engineer	-	Shri Jilek Hiri
12.	Estate Officer	-	Shri Kapang Lego
13.	Vigilance Officer	-	Prof. P.R. Alapati
14.	Sports Officer	-	Shri B.S. Raja
15.	Hindi Officer	-	Shri Ratan Singh
16.	Head of the Departments:		
	Forestry	-	Dr. C.L. Sharma
	Agricultural Engineering	-	Dr. P.P. Dabral
	Civil Engineering	-	Dr. R.K. Prasad
	Computer Science & Engg.	-	Shri S.J. Borah
	Electrical Engineering	-	Dr. R.K. Mehta
	Electronics & Communication Engg.	-	Dr. R. Subadar
	Mechanical Engineering	-	Dr. Asis Giri
	Physics	-	Prof. M. Sengupta
	Chemistry	-	Prof. M.F.Hussain
	Mathematics	-	Prof. L.K. Arora
	Humanities & Social Science	-	Dr. (Ms) S. Sinha
	Centre for Management Studies	-	Shri S. Choudhury
17.	Head of Centre (CATRD)	-	Dr. S.K.Shrivastava

18.	Chairman:		
	NEE Committee	-	Shri Sunirmal Roy
	HMC	-	Mr. D. Jhajharia
	Gymkhana	-	Mr. Nabum Teyi
	Telecom	-	Shri M. Mishra
	TPT	-	Dr. S. Samanta
	Library	-	Prof. S.K.Singh
	HAC	-	Dr Rajendra Prasad
19.	Training & Placement i/c	-	Dr. S. Baishya.
20.	ET Cell i/c	-	Dr. Sarsing Gao
21.	Coordinators:		
	SRIC	-	Dr. N. Deb
	NSS	-	Dr. (Mrs.) T.Tuithung
	CEP	-	Dr. C.L. Sharma
	CRF	-	Dr. P.P. Dabral
	ACCF	-	Dr. Saibal Chatterjee
	DOE	-	Shri T.V.Singh
22.	Controller of Examination	-	Dr. P. Parida
23.	Secretary NEE Committee	-	Shri Mai Ranjit
24.	NCC Officer	-	Dr. P. Anand Kumar

## Annexure-VII

**MEMBERS OF LIBRARY COMMITTEE AS ON 31.03.2013**

1.	Dr. S.K.Singh	:	Chairman
2.	Dr. Tado Karlo	:	Member
3.	Dr. P.K. Tripathy	:	Member
4.	Dr. M.M. Dixit	:	Member
5.	Dr. Awadhesh Kumar	:	Member
6.	Mr. Anu Kumar Das	:	Member
7.	Mr. Manish Kumar	:	Member
8.	Mr. M.M. Singh	:	Member
9.	Mr. D. Pal	:	Member
10.	Dr. A. Bandyopadhyay	:	Member
11.	Mr. Raju Barthakur	:	Member
12.	Mr. S. Samanta	:	Member
13.	Shri A.K. Gupta	:	Member-Secretary

## Annexure-VIII

**MEMBERS OF NEE COMMITTEE AS ON 31.3.2013**

- |                              |   |                  |
|------------------------------|---|------------------|
| 1. Shri Sunirmal Ray         | - | Chairman         |
| 2. Shri Mai Ranjit, Dy. Reg. | - | Member Secretary |
| 3. Dr. Arvind Pandey         | - | Member           |
| 4. Dr. M.M. Dixit            | - | Member           |
| 5. Shri S. Majumdar          | - | Member           |
| 6. Shri Biplab Das           | - | Member           |

## Annexure-IX

**MEMBERS OF HOSTEL MANAGEMENT COUNCIL AS ON 31.3.2012****Chairman**

Mr. Deepak Jhajharia

**Wardens**

a)	Mr. Nabam Teyi	Hostel Block – A
b)	Mr. D. Paul	Hostel Block – B
c)	Shri A.K. Das	Hostel Block – C
d)	Mr. Nabam Teyi	Hostel Block – D
e)	Mr. N. G. Sorum	Hostel Block – E
	Mr. N.L. Meitei	———— do ———
f)	Mr. Ukil Singh	Hostel Block – F
	Mr. A.D. Singh	———— do ———
g)	Dr. Aditi Bhadra	Hostel Block – G
	Ms. Y. Tamut	———— do ———
	Mrs. Archana Kumari	----- do -----
h)	Mr. M. D. Singh	Hostel Block - P

Annexure-X

## NERIST ENTRANCE EXAMINATION

### 1. Admission notice

The admission Notice was released to newspapers on 21.12.2011. The admission notice included details of all the three NEEs.

The admission notification was published in the following newspapers:

- |     |  |               |
|-----|--|---------------|
| 1.  | Arunachal Times, Itanagar                                    | on 21.12.2011 |
| 2.  | Assam Tribune, Guwahati                                      | -do-          |
| 3   | All editions of Hindustan Times viz :<br>(Education Horizon) | -do-          |
| 4.  | Arunachal Front  | -do-          |
| 5.  | Shillong Times   | -do-          |
| 6.  | Sikkim Express   | -do-          |
| 7.  | Nagaland Post  | -do-          |
| 8.  | Tripura Times  | -do-          |
| 9.  | Mizoram Post   | -do-          |
| 10. | Sangai Express, Imphal                                       | -do-          |

Copy of admission notification was also sent along with 50 copies of advertisement poster to the Directorates of all eight North Eastern states except Arunachal Pradesh for wide publication through local dailies.

Date of Issue of Application form : 02.01.2012 to 24.02.2012

Last date of receipt of application form : 05.03.2012

### Details of applications

Entrance Exam	Application received	Admit card issued	Application rejected
NEE – I	6806	6776	30
NEE – II	5417	5417	-
NEE – III	917	917	-
<b>TOTAL =</b>	<b>13140</b>	<b>13110</b>	<b>30</b>

**Date of Examination : 28.04.2012 - NEE – II & III**

**29.04.2012 - NEE - I**

### Number of candidates admitted & appeared (Centre-wise) NEE-2012

Name of centre	NEE-I		NEE-II		NEE-III		Total	
	Admitted	Appd.	Admitted	Appd.	Admitted	Appd.	Admitted	Appd.
Agartala	576	516	255	230	94	88	925	834
Aizwal	57	51	59	52	32	30	148	133
Dibrugarh	289	255	132	73	39	33	460	361
Gangtok	85	80	117	106	14	14	216	200
Ghy. (NERIM)	546	454	1286	1144	173	151	2005	1749
Imphal ((DMC)	384	348	403	365	33	31	820	744
North Lakhimpur	232	206	100	77	05	02	337	285
Kohima	269	226	423	385	30	24	722	635
Shillong	237	212	385	283	61	48	683	543
Silchar	99	90	123	120	31	29	253	239

NERIST mainblock	1200	1103	1200	1122	405	332	2805	2557
NERIST (Management Centre)	130	116	130	125			260	241
KV NERIST	120	112	120	109			240	221
NERIST, Degree block	350	331	350	325			700	656
V.K.V. Nirjuli	150	135					150	135
G.H.S.Kankarnallah	400	366	334	301		1	734	668
K.V. No.1 Naharlagun	1000	905					1000	905
K.V. No.2, Itanagar	652	575					652	575
<b>Total</b>	<b>6776</b>	<b>6081</b>	<b>5417</b>	<b>4817</b>	<b>917</b>	<b>783</b>	<b>13110</b>	<b>11681</b>

\*Allowed to appear for the examination from other centre(s).

**Candidates admitted and appeared in NEE-2012 (State - wise)**

Name of state	Module						Total	
	NEE-I		NEE-II		NEE-III		Appld.	Apprd.
	Appld.	Apprd.	Appld.	Apprd.	Appld.	Apprd.		
Arunachal	3775	3428	2016	1810+60(V)	333	283	6124	5581
Assam	1054	937	1588	1383+23(V)	243	194	2885	2537
Manipur	403	366	403	379+12(V)	33	29	839	786
Meghalaya	209	184	385	251+8(V)	61	61	655	504
Mizoram	53	45	59	56+7(V)	42	40	154	148
Nagaland	264	220	423	376+4(V)	30	30	717	630
Sikkim	47	45	117	73+11(V)	14	13	178	142
Tripura	551	497	255	222+8(V)	94	79	900	806
All India	405	348	166	126+4(V)	57	45	628	523
PD	15	11	05	04	10	9	30	24
<b>Total</b>	<b>6776</b>	<b>6081</b>	<b>5417</b>	<b>4817</b>	<b>917</b>	<b>783</b>	<b>13110</b>	<b>11681</b>

(V) = Vocational

**DETAILS OF NUMBER OF CANDIDATES APPEARED IN NEE-III, 2012**



Name of centre	AE	CE	CSE	ECE	EE	ME	TOTAL
<b>Agartala</b>	<b>05</b>	<b>23</b>	<b>16</b>	<b>11</b>	<b>17</b>	<b>16</b>	<b>88</b>
<b>Aizwal</b>	<b>00</b>	<b>06</b>	<b>06</b>	<b>09</b>	<b>01</b>	<b>08</b>	<b>30</b>
<b>Dibrugarh</b>	<b>01</b>	<b>05</b>	<b>01</b>	<b>03</b>	<b>07</b>	<b>16</b>	<b>33</b>
<b>Gangtok</b>	<b>00</b>	<b>01</b>	<b>02</b>	<b>05</b>	<b>04</b>	<b>02</b>	<b>14</b>
<b>Guwahati</b>	<b>04</b>	<b>29</b>	<b>41</b>	<b>26</b>	<b>18</b>	<b>33</b>	<b>151</b>
<b>Imphal **</b>	<b>00</b>	<b>07</b>	<b>05</b>	<b>09</b>	<b>07</b>	<b>03</b>	<b>31</b>
<b>Lakhimpur</b>	<b>00</b>	<b>01</b>	<b>01</b>	<b>00</b>	<b>00</b>	<b>00</b>	<b>02</b>
<b>Kohima</b>	<b>00</b>	<b>08</b>	<b>10</b>	<b>02</b>	<b>00</b>	<b>04</b>	<b>24</b>
<b>Shillong</b>	<b>1</b>	<b>20</b>	<b>11</b>	<b>3</b>	<b>09</b>	<b>04</b>	<b>48</b>
<b>Silchar</b>	<b>00</b>	<b>07</b>	<b>00</b>	<b>09</b>	<b>01</b>	<b>12</b>	<b>29</b>
<b>Itanagar</b>	<b>10</b>	<b>183</b>	<b>46</b>	<b>14</b>	<b>55</b>	<b>25</b>	<b>333</b>
	<b>21</b>	<b>290</b>	<b>139</b>	<b>91</b>	<b>119</b>	<b>123</b>	<b>783</b>

**DETAILS OF NUMBER OF CANDIDATES APPEARED IN NEE-II,2012 (Vocational)**

Name of centre	AE	CE	ECE	EE	ME	TOTAL
<b>Agartala</b>	<b>02</b>	<b>03</b>	<b>01</b>	<b>-</b>	<b>02</b>	<b>08</b>
<b>Aizwal</b>	<b>-</b>	<b>-</b>	<b>01</b>	<b>-</b>	<b>01</b>	<b>02</b>
<b>Tinsukia</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>00</b>
<b>Gangtok</b>	<b>-</b>	<b>01</b>	<b>-</b>	<b>05</b>	<b>01</b>	<b>07</b>
<b>Guwahati</b>	<b>01</b>	<b>03</b>	<b>05</b>	<b>-</b>	<b>06</b>	<b>15</b>
<b>Imphal</b>	<b>01</b>	<b>04</b>	<b>03</b>	<b>02</b>	<b>04</b>	<b>14</b>
<b>Tezpur</b>		<b>03</b>	<b>01</b>	<b>01</b>	<b>-</b>	<b>05</b>
<b>Kohima</b>	<b>02</b>	<b>08</b>		<b>01</b>	<b>-</b>	<b>11</b>
<b>Shillong</b>	<b>02</b>	<b>04</b>	<b>01</b>	<b>04</b>	<b>04</b>	<b>15</b>
<b>Silchar</b>	<b>-</b>	<b>02</b>	<b>-</b>	<b>01</b>	<b>-</b>	<b>03</b>
<b>Itanagar</b>	<b>10</b>	<b>27</b>	<b>06</b>	<b>05</b>	<b>09</b>	<b>57</b>
<b>Total</b>	<b>18</b>	<b>55</b>	<b>18</b>	<b>19</b>	<b>27</b>	<b>137</b>

**RESULT ANNOUNCEMENT**

- 1) Result approved on : 08.05.2012  
 2) Declaration on notice boards : 08.05.2012  
 3) Result given in NERIST website : 08.05.2012  
 4) Result sent to all the Directorates of Higher Education of Eight NE states through email: 08.05.2012

Candidates selected (state and category wise) : 2012

Name of state & category	MODULE				Grand total
	NEE-I	NEE-II		NEE-III	
		Technology	Forestry		
<b>PRC</b>	<b>14</b>	<b>05</b>	<b>02</b>	<b>07</b>	<b>28</b>
PHYSICALY DISABLED	<b>06</b>	<b>02</b>	<b>01</b>	<b>01</b>	<b>10</b>
<b>Arunachal pradesh</b>	<b>20</b>	<b>08</b>	<b>03</b>	<b>07</b>	<b>38</b>
<b>Assam</b>	<b>20</b>	<b>08</b>	<b>03</b>	<b>06</b>	<b>37</b>
<b>Manipur</b>	<b>20</b>	<b>08</b>	<b>03</b>	<b>06</b>	<b>37</b>
<b>Meghalaya</b>	<b>20</b>	<b>08</b>	<b>03</b>	<b>05</b>	<b>36</b>
<b>Mizoram</b>	<b>20</b>	<b>08</b>	<b>03</b>	<b>06</b>	<b>37</b>
<b>Nagaland</b>	<b>20</b>	<b>08</b>	<b>03</b>	<b>06</b>	<b>37</b>
<b>Sikkim</b>	<b>18</b>	<b>07</b>	<b>03</b>	<b>05</b>	<b>33</b>
<b>Tripura</b>	<b>20</b>	<b>08</b>	<b>03</b>	<b>07</b>	<b>38</b>
<b>All India</b>	<b>20</b>	<b>08</b>	<b>03</b>	<b>06</b>	<b>37</b>
<b>Total</b>	<b>198</b>	<b>78</b>	<b>30</b>	<b>62</b>	<b>368</b>

**Candidates wait-listed (state & category-wise) 2012**

Name of state & category	MODULE				Grand total
	NEE-I	NEE-II		NEE-III	
		Technology	Forestry		
<b>PRC</b>	<b>14</b>	<b>05</b>	<b>02</b>	<b>07</b>	<b>28</b>
PHYSICAL HANDICAPPED	<b>5</b>	<b>00</b>	<b>01</b>	<b>01</b>	<b>07</b>
<b>Arunachal pradesh</b>	<b>20</b>	<b>08</b>	<b>03</b>	<b>07</b>	<b>38</b>
<b>Assam</b>	<b>20</b>	<b>08</b>	<b>03</b>	<b>06</b>	<b>37</b>
<b>Manipur</b>	<b>20</b>	<b>07</b>	<b>03</b>	<b>05</b>	<b>36</b>
<b>Meghalaya</b>	<b>20</b>	<b>08</b>	<b>03</b>	<b>03</b>	<b>34</b>
<b>Mizoram</b>	<b>19</b>	<b>08</b>	<b>03</b>	<b>05</b>	<b>35</b>
<b>Nagaland</b>	<b>20</b>	<b>08</b>	<b>03</b>	<b>03</b>	<b>34</b>
<b>Sikkim</b>	<b>10</b>	<b>07</b>	<b>03</b>	<b>00</b>	<b>20</b>
<b>Tripura</b>	<b>20</b>	<b>08</b>	<b>03</b>	<b>06</b>	<b>37</b>
<b>All India</b>	<b>20</b>	<b>08</b>	<b>03</b>	<b>05</b>	<b>36</b>
<b>Total</b>	<b>188</b>	<b>76</b>	<b>30</b>	<b>48</b>	<b>342</b>

**COUNSELLING SCHEDULE**

1	09.07.2012 (Monday)	Selected List of NEE – I (Base) (Excluding Arunachal Pradesh)
2	10.07.2012 (Tuesday)	Waiting List of NEE – I (Excluding Arunachal Pradesh)
3	11.07.2012 (Wednesday)	Selected & Waiting List of NEE – I <b>(for the candidates of Arunachal Pradesh state Quota)</b>
4	12.07.2012 (Thursday)	Selected List of NEE –II & III (Excluding Arunachal Pradesh)

5	13.07.2012 (Friday)	Waiting List of NEE-II & III (Excluding Arunachal Pradesh)
6	14.07.2012 (Saturday)	Selected & Waiting List of NEE – II & III (for the candidates of Arunachal Pradesh state Quota)

**Candidates admitted in the year 2012 (State and category wise):**

Name of State & category	Module											
	NEE-I			NEE-II (Technology)			NEE-II (forestry)			NEE-III		
	Selecte d	Wait	Total	Selected	Wait	Total	Selecte d	Wait	Total	Selecte d	Wait	Total
PRC	07	07	14	01	01	02	00	-	00	03	01	04
PD	05	01	06	02	-	02	01		01	01		01
Arunachal	20	11	31	05	00	05	03	-	03	03	03	06
Assam	15	03	18	02	03	05	01	01	02	05	02	07
Manipur	11	05	16	04	02	06	01	-	01	04	02	06
Meghalaya	17	03	20	03	02	05	01	02	03	04	-	04
Mizoram	15	05	20	05	03	08	03	-	03	04	02	06
Nagaland	18	02	20	04	01	05	01	-	01	02	01	03
Sikkim	11	02	13	01	02	03	02	-	02	04	-	04
Tripura	12	04	16	03	02	05	-	01	01	06	01	07
All India	17	03	20	06	01	07	03	-	03	05	-	05
<b>Total</b>	<b>148</b>	<b>46</b>	<b>194</b>	<b>36</b>	<b>17</b>	<b>53</b>	<b>16</b>	<b>04</b>	<b>20</b>	<b>41</b>	<b>12</b>	<b>53</b>

**CANDIDATES ADMITTED IN BASE MODULE (NEE-I) AS PER COUNSELLING  
REPORT – 2012 (Branch wise) :**

DISCIPLINE	PD	PRC	AP	AS	MN	MG	MZ	NL	SK	TR	AI	TOTAL
AE	01	03	13	02	00	04	04	04	01	00	04	36
CE	02	02	04	04	04	04	04	04	04	04	04	40
EC	01	03	06	04	04	04	04	04	00	04	04	38

<b>EE</b>	<b>01</b>	<b>03</b>	<b>04</b>	<b>04</b>	<b>04</b>	<b>04</b>	<b>04</b>	<b>04</b>	<b>04</b>	<b>04</b>	<b>04</b>	<b>40</b>
<b>ME</b>	<b>01</b>	<b>03</b>	<b>04</b>	<b>04</b>	<b>04</b>	<b>04</b>	<b>04</b>	<b>04</b>	<b>04</b>	<b>04</b>	<b>04</b>	<b>40</b>
<b>TOTAL</b>	<b>06</b>	<b>14</b>	<b>31</b>	<b>18</b>	<b>16</b>	<b>20</b>	<b>20</b>	<b>20</b>	<b>13</b>	<b>16</b>	<b>20</b>	<b>194</b>

**CANDIDATES ADMITTED IN DIPLOMA MODULE (NEE-II) AS PER COUNSELLING REPORT – 2012 (Branch wise ) :**

DISCIPLINE	PD	PRC	AP	AS	MN	MG	MZ	NL	SK	TR	AI	TOTAL
<b>AE</b>	-	-	01	-		01	01	01				<b>04</b>
<b>CE</b>	01	01	01	01	01	01	01	01	01	01	01	<b>11</b>
<b>CS</b>				01	02	-	03	-	-	01	03	<b>10</b>
<b>EC</b>	-	-	01	01	01	01	01	01	-	01	01	<b>08</b>
<b>EE</b>	01	-	01	01	01	01	01	01	01	01	01	<b>10</b>
<b>ME</b>	-	01	01	01	01	01	01	01	01	01	01	<b>10</b>
<b>FO</b>	01	-	03	02	01	03	03	01	02	01	03	<b>20</b>
<b>TOTAL</b>	<b>03</b>	<b>02</b>	<b>08</b>	<b>07</b>	<b>07</b>	<b>08</b>	<b>11</b>	<b>06</b>	<b>05</b>	<b>06</b>	<b>10</b>	<b>73</b>

**CANDIDATES ADMITTED IN DEGREE MODULE (NEE-III) AS PER COUNSELING REPORT – 2012 (Branch wise):**

DISCIPLINE	PD	PRC	AP	AS	MN	MG	MZ	NL	SK	TR	AI	TOTAL
<b>AE</b>	01	-	-	-	-	-	-	-	-	-	-	<b>01</b>
<b>CE</b>	-	02	01	01	01	01	01	-	01	01	01	<b>10</b>
<b>CS</b>	-	01	02	02	01	01	03	01	-	01	02	<b>14</b>
<b>EC</b>	-	01	-	02	01	-	01	01	-	01	01	<b>08</b>
<b>EE</b>	-	-	02	01	01	02	-	-	02	03	-	<b>11</b>
<b>ME</b>	-	-	01	01	02	-	01	01	01	01	01	<b>09</b>
<b>TOTAL</b>	<b>01</b>	<b>04</b>	<b>06</b>	<b>07</b>	<b>06</b>	<b>04</b>	<b>06</b>	<b>03</b>	<b>04</b>	<b>07</b>	<b>05</b>	<b>53</b>

**Branch wise admission in NEE-2012**

Branch	NEE									Grand Total		
	I			II			III					
	M	F	Total	M	F	Total	M	F	Total	M	F	Total
AE	22	14	36	03	01	04	01	-	01	26	15	41
CE	31	09	40	08	02	10	10	-	10	49	11	60
CS	-	-	-	08	02	10	12	02	14	20	04	24
ECE	30	08	38	03	05	08	06	02	08	39	15	54
EE	31	09	40	10	01	11	10	01	11	51	11	62
ME	39	01	40	10	-	10	09	-	09	58	01	59
FO	-	-	-	11	09	20				11	09	20
<b>Total</b>	153	41	194	53	20	73	48	05	53	254	66	320

**SUMMARY OF NEE-2012**

POSITION	NEE-I	NEE-II	NEE-III	Total
No. of application forms issued	13184			13184
No. of application received	6806	5417	917	13140
No. of application rejected	30	-	-	30
No. of admit cards issued to candidates	6776	5417	917	13110
No. of candidates appeared	6081	4817	783	11681
No. of candidates selected (Technology)	198	78	62	338
No. of candidates selected (Forestry)		30		30
No. of candidates waitlisted (Technology)	188	76	48	312
No. of candidates waitlisted (Forestry)		30		30
No. of candidates attended counseling of selected list(T)	148	36	41	225

No. of candidates attended counseling of wait list (T)	46	17	12	75
No. of candidates attended counseling of selected (FO)		16		16
No. of candidates attended counseling of wait list (FO)		04		04

### HIGHLIGHTS OF NEE-2012

Sl.No.	Events	2011	2012	Remarks
01.	Number of applicants	12119	13140	<b>Increased by 1021 Nos.</b>
02.	No. of candidates appeared	10757	11681	<b>Increased by 924 Nos.</b>
03.	No. of candidates taken admission through counseling	NEE-I 193 NEE-II 68 <u>NEE-III 59</u> 320	NEE-I 194 NEE-II 73 <u>NEE-III 53</u> 320	<b>Marginal increase in NEE-II &amp; NEE-III due to filling up of other state vacancies from Arunachal Pradesh extended wait list.</b>
04.	No. of male candidates got registered	263	254	<b>Decreased by 09 Nos.</b>
05.	No. of female candidates got registered	57	66	<b>Increased by 09 Nos.</b>
06.	The most preferred branch	CE with 65 Nos.	CE with 61 Nos.	<b>Decreased By 4 noS.</b>
07.	Less preferred branch	CS with 15 Nos.	CS with 24 Nos.	<b>Increased By 9 Nos.</b>

08.	No. of students admitted from selected list	208	241	<b>Increased by 33 Nos.</b>
09.	No. of students admitted From wait list	112	79	<b>Decreased by 33 Nos.</b>

Adoption of OMR application forms and answer sheets has helped the NEE Cell to publish the NEE result in time as per the schedule. Applications forms were made available to the applicants by the Axis Bank Branches throughout the country at major places of choice and as well as the Directorates of Higher & Technical Education of 8 NE states. For up to date information, NERIST website was used for benefit of the applicants and general public.

Thus, the total process of NEE-2012 was completed successfully.



## LIST OF FACULTY AS ON 31.03.2013

Name of the faculty members	Date of joining	Specialization
<b>A.I.1 Department of Applied Science (Forestry)</b>		
<b>Professor</b>		
Dr. (Mrs.) P.Rethy, Ph.D	31.03.09	Biosystematics
Dr. Binay Singh, Ph.D	31.03.09	Horticulture
Dr. M.L. Khan, Ph.D &(HoD)	31.03.09	Biodiversity Conservation & Silviculture
<b>Associate Professor</b>		
Dr. C.L. Sharma, Ph.D	02.08.07	Wood Science
Dr. (Mrs.) Mary P.P., Ph.D	31.03.09	Fish Microbiology
Dr. (Mrs.) M. Sharma Ph.D	31.03.09	Wood Science
Dr. (Mrs.) K. Shrivastava, Ph.D.	31.03.09	Microbial Aerobiology& Plant Pathology
<b>Assistant Professor</b>		
Dr. P.R. Gajurel, Ph.D	20.06.06	Botany Taxonmy
Dr. L.B. Singha, Ph.D	23.06.06	Botany Taxonmy
Dr. O.P. Tripathi, Ph.D	26.06.06	Forest Ecology
Shri Gobinda Pangging, M.Sc	23.06.06	Forestry Economics & Mngt
Dr. Awadhesh Kumar, Ph.D.	29.06.06	Wild life Biology
Dr. K.Suresh Kr. Singh, Ph.D	13.07.06	Social Microbial Ecology
<b>A.I.2 Department of Agricultural Engineering</b>		
<b>Professor</b>		
Dr. L.S. Yadav, Ph.D	09.10.98	Farm Machinery and Power
Dr. P.P. Dabral, Ph.D & (HoD)	31.03.09	Process & Food Engg.
<b>Associate Professor</b>		
Dr. K.N. Dewangan, Ph.D.	09.12.09	Farm Machinery & Power
Shri S.K. Shrivastava, M.Tech.	26.12.01	Soil & Water Conservation
Shri D.K. Shyamal, M.Tech.	31.12.01	Post Harv Proc. & Food Engg
<b>Assistant Professor</b>		
Shri Deepak Jhalaria, M.Tech	02.08.07	Water Resource Engg
Shri Ukil Singh, M.Tech	04.07.06	Farm Machinery & Power
Shri Pankaj Kr. Pandey, ME	17.07.06	Irrigation & Water Mangt
Dr. P.K.Pranab, Ph.D.	18.07.06	Farm Machinery & Power
Shri Thaneswar Patel, M.Tech	24.07.06	Farm Machinery & Power
Dr. Aditi Bhadra, Ph.D.	28.08.06	Soil & Water Consvrn. Eng.
Dr. P. Anand Kumar, Ph.D.	28.08.06	Post Harvest Engg.
Dr. Arnab Bandopadhyay, Ph.D.	01.02.10	Thermal & spatial trends of ref. Evaportranspiration
<b>A.I.3 Department of Civil Engineering</b>		

**Professor**

Dr. S.K. Singh, Ph.D	26.04.97	Geotechnical Engg.
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**Associate Professor**

Dr. R.K. Prasad, Ph.D & (HoD)	10.12.09	Water Resource Engg.
Dr. S. Baishya, Ph.D	31.03.09	Geotechnical Engg.
Dr. S. Misra, Ph.D	31.03.09	Town Planning
Shri S.K. Sahu, M.Tech	31.03.09	Hydraulic & Water Resource Engg.
Dr. H.P.Singh, Ph.D.	31.03.09	Soil Mechanics & Foundation Engg.

**Assistant Professor**

Ms. Y. Bidyalaxmi Devi, M.Tech	20.06.06	Env. Science & Engg.
Ms. Mudo Puming, M.Tech	26.06.06	-
Smt. Dipika Devi, M.Tech	18.07.06	Soil Mechanics & Foundation Eng.
Dr. Ajay Bharti, Ph.D.	26.09.06	Environmental Engg.
Shri K. Kiran Singh, B.Tech	23.01.09	-
Shri Monowar Hussain, M.Tech	21.12.09	Soil Mechanics & Foundation Engg.
Ms. Yamen Tamut, 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
Ms. Ajanta Kalita, ME	09.02.10	Soil Mechanics & Foundation Engg.
Shri Dibendu Pal, M.Tech	09.02.10	Transportation System. Engg.

**A.I.4 Department of Computer Science & Engineering****Associate Professor**

Dr. (Mrs.) T. Tuithung, Ph.D.	31.03.09	Image Processing
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**Assistant Professor**

Dr. Ningrinla Marchang, Ph.D.	02.08.07	Database Management Systems
Shri Satyajyoti Borah, M.Tech(HoD)	31.03.09	Image Processing
Shri Kapang Legoh, M.Tech	31.03.09	-
Ms. Margaret Kathing, M.Tech	03.12.09	-
Shri Marjit Singh, M.Tech	02.01.07	-
Shri Aswani Kr. Patra, B.Tech	23.01.09	-
Shri Manjul Saikia, M.Tech	11.07.07	-
Shri Amar Taggu, M.Tech	11.12.09	-

**A.I.5 Department of Electrical Engineering****Associate Professor**

Dr. O.P. Roy, Ph. D	02.08.07	Electric Drive, Micro.
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Dr. S. Chatterjee, Ph. D.	09.12.09	High Voltage Engg.
Dr.R.K. Mehta, Ph.D. & HoD	10.12.09	Control Engg
Dr. Sarsing Gao, Ph. D.	02.08.07	Alternative Hydro-Energy System
Shri T.V. Prakash Singh, M.E	02.08.07	Control and Instrumentation
<b>Assistant Professor</b>		
Dr. S.K.Bhagat, Ph.D	31.03.09	Control System
Dr. Arvind Kr. Singh, Ph.D.	02.08.07	Power System
Shri Radak Blange, M.Tech	31.03.09	Control Engg.
Shri Deben Singh, M.Tech	20.06.06	Electronic Design & Tech.
Shri Adikanda Parida, M.E	17.07.06	Industrial System & Drives
Shri Anu Kr. Das, M.Tech	12.01.07	Power & Energy system Eng.
Shri N.L. Meitej, M.Tech	24.12.09	-
Ms. Somila Hashunao, M. Tech	15.01.10	-

### 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

Shri R. Subadar, M.Tech & (HoD)	02.08.07	Design and Technology
Shri Tripurari Sharan, M.Tech	31.03.09	-
Shri A. Dinamani Singh, M. Tech	20.06.06	-
Ms. Joyatri Bora, M.Tech	22.06.06	Electronics Design & Tech.
Shri Ashok Kr. Ray, B.Tech	03.07.06	-
Shri S. Majumdar, M.Tech.	14.07.06	Instrumen. & Control Engg.
Shri Pranab Kr. Dutta, M.Tech	24.07.06	Electronics Design & Tech.
Shri Madhusudan Mishra, M.Tech	24.07.06	-
Shri Manish Kumar, M.Tech	09.03.07	-
Shri Rushni Kima Mangang, ME	23.02.10	Applied Electronics

### A.I.7 Department of Mechanical Engineering

#### Professor

Prof. M. Muralidhar, Ph.D	31.03.09	Foundary Engg.
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#### Associate Professor

Dr. Asis Giri, Ph.D. & HoD	22.12.09	
Shri S. Ray, M.E	02.08.07	Fluid Mechanicis & Hydraulics Engg
Shri Pradip Lingfa, M.Tech	31.03.09	Energy Studies
Shri M. Chandrasekharan, M.Tech	31.03.09	Production Engg & System
Shri S. Mahto, M.Tech	31.03.09	CIDM

#### Assistant Professor

Dr. M.P. Thaddeus, Ph.D.	19.09.94	Industrial Engg.
Shri Kajal Kr. Mandal, M.Tech	02.08.07	Production Technology
Shri Sandeep Singh, M.Tech	02.08.07	Tribology
Shri Sutanu Samanta, M.E	02.08.07	Production Engineering

Shri Narendra Kumar Rana, M.E	05.07.06	Industrial Material & Metallurgy
Shri Maryom Dabi, B.Tech	06.07.06	-
Dr. Satyam Shivam Gautom, Ph.D.	03.08.06	Mechanical
Shri Amitava Mandal, M.Tech	31.01.07	Manufacturing Tech.
Shri Biplab Das, M.Tech	22.12.09	
Shri Nabam Teyi, M.Tech	11.01.10	

**A.I.8 Department of Physics****Professor**

Dr. Rajendra Prasad, Ph.D	26.04.97	Experimental Nuclear Physics & Plasma Theory
Dr. A.Chatterjee, Ph.D	31.03.09	X-ray, Crystallography
Dr. P.R. Alapati, Ph.D.	31.03.09	Condensed matter (Liquid Crys)

**Associate Professor**

Dr. M. Sengupta, Ph.D. & HoD	02.08.07	Theoretical Nuclear Physics
Dr. Tado Karlo, Ph.D	31.03.09	Mathematical Foundation of Quantum Physics

**Assistant Professor**

Dr. Arvind Pandey, Ph.D	02.08.07	Superconductivity
Dr. (Mrs.) Th. Gomti Devi, Ph.D	06.07.06	Physics
Dr. Kamal Saharia, Ph.D.	22.12.09	Electrostatic Parallel Electric Fields in Plasmas

**A.I.9 Department of Chemistry****Professor**

Dr. Mubarak Husain, Ph.D	26.04.97	Synthetic Org. Chemistry
Dr. H.S. Yadav, Ph.D	01.09.01	Organic Chemistry
Dr. P.K. Tripathy, Ph.D & (HoD)	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

**Associate Professor**

Dr. Nidhuban Deb, Ph.D	31.10.01	Physical Chemistry
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
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**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	Continum Mechanics & Sub-Surface Flow
Dr. L.K. Arora, Ph.D & (HoD)	31.03.09	Special Functions

**Associate Professor**

Dr. A.S. Rai, Ph.D	01.09.93	Gasdynamics, Shock wave MHD
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**Assistant Professor**

Dr. B.K. Singh, Ph.D	02.08.07	Sampling Technique
Dr. M.M. Dixit, Ph.D	25.07.06	Cont. & Discr. Bessel Wave. Transforms
Shri Jayanta Bora, M.Sc	07.07.06	Pure Mathematics

**A.I.11 Department of Humanities & Social Sciences****Associate Professor**

Dr. Benudhar Nayak, Ph.D	02.08.07	Rural & Agri. Devp. Tribal Dev. & Proj. Mgmt.
Dr. P.R. Parida, Ph.D.	11.01.01	Organisational Behaviour/ Managerial effectiveness
Dr. Shyamalee Sinha, Ph.D & (HoD)	31.03.09	Behavioural Science, HRM, Organisational Behaviour.
Shri Ranendra Prasad, M.Phil	31.03.09	Indian English fiction & literary theory

**Assistant Professor**

Shri Raju Barthakur, MA	06.07.06	American Literature
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**A.I.12 Centre for Management Studies****Professor**

Dr. R.M. Pant, Ph.D	02.08.07	Labour Economics, HRM, Business Policy
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**Assistant Professor**

Shri S. Choudhury, MBA & HoC	18.08.06	MBA
Ms. Bijoylaxmi Sarmah, MBA.	08.12.06	MBA
Ms. Jogita Sorakhaibam, MBA.	05.01.07	MBA

(Copy)

**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 2013**

**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 2013

We have audited the Balance Sheet of North Eastern Regional Institute of Science & Technology (NERIST), Nirjuli, for the year ended 31 March 2013, the Income & Expenditure Account / Receipt & Payment Account for the year ended on that date under Section 20(1) of the Comptroller and Auditor General's (Duties, Powers and Conditions of Service) Act, 1917, 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). The audit has been entrusted for the period up to 2016-17. 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 and 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 and Regulations (Propriety and Regularity) and efficiency-cum-performance aspects, etc;, if any, are reported through Inspection Reports/CAG's Audit Reports separately.
3. We have conducted our audit in accordance with auditing standards generally accepted in India. These standards require that we plan and perform our audit to obtain reasonable assurance about whether the financial statements are free from material mis-statements. An audit includes examining, on a test-check basis, evidences supporting the amounts 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 the financial statements. We believe that our audit provides a reasonable basis for our opinion.

**4. Based on our audit, we report that:**

- i We have obtained all the information and explanations, which to the best of our knowledge and belief, were necessary for the purpose of our audit.
- ii The Balance Sheet, Income & Expenditure Account and Receipt & Payment Account dealt with by this report have been drawn up in the format approved by the Government of India, Ministry of Finance.
- 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 appears from our examination of such books.
- iv We further report that :

**A. Balance sheet**

**Assets Fixed Assets (Scheduled-4)- `91.64 crore**

Addition of Rs. 69,75,455 /- as *Furniture & Fixtures under Fixed Assets* included Rs.1,79,500/-as advance to the supplier. This resulted in overstatement of *Fixed Assets-Furniture/Fixtures* and understatement of *Advances under Current Assets* by a corresponding amount

## B. General

### General observation on the Format of Annual Accounts/Schedule

- a. Schedule attached to the Balance Sheet-Earned Fund (Schedule-5) was not shown in the specified format as per 'Uniform Format of Accounts for Autonomous Bodies'. The Schedule showed only net figures at the end of the year for each head, whereas as per specified format, the *balance* at the beginning of the year, *additions* during the year, *expenditure*-Capital and Revenue and *Net Balance* at the end of the year have to be shown separately for each category of fund.

The same observation was also made for previous accounts. However, no corrective measure was taken.

## C. Accounting Policy

### Accounting Policy

- 1 Policies regarding Revenue Recognition, Investments, Depreciation---method and rates applicable, etc; were not disclosed.

## D. Grants –in-Aid

The Institute is financed mainly by grants received from Government of India (GOI). During the year, the Institute had funds of Rs. 5322.36 lakh, which included Grants-in-Aid of Rs. 4340 lakh (Rs. 397.68 lakh received March 2013) received from Government of India and an opening balance of Rs. 753.31 lakh. The Institute also generated Rs. 229.06 lakh. From the total available funds Rs. 5322.36 lakh, the Institute spent Rs. 4678.62 lakh, leaving a balance of Rs. 643.75 lakh as on 31<sup>st</sup> March 2013.

v. Subject to our observations in the preceding paragraphs, we report 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 read together with the accounting policy and notes to accounts and subject to the significant matters stated above and other matters mentioned in Annexure to this Audit Report give a true and fair view in conformity with accounting principles generally accepted in India.

- a In so far as it relates to the Balance Sheet, of the state of affairs of the NERIST as at 31 March 2013; and



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

Place: Itanagar

Dated: 18<sup>th</sup> February 2014

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

Sd/-  
Accountant General  
Arunachal Pradesh

### **Annexure**

#### **1 Adequacy of Internal Audit System**

Internal audit was confined to pre-audit only. No periodical inspection of any of the Branches/Departments of the Institute was carried out by the internal auditor during 2012-13.

#### **Adequacy of Physical Verification of Fixed Assets and Inventories**

Audit scrutiny revealed that physical verification of assets and inventories was done annually through a Committee constituted for this purpose.

#### **2 Regularity in Payment of Statutory Dues.**

The Institute was regular in payment of statutory Dues.

Sd/-

Accountant General  
Arunachal Pradesh

**NORTH EASTERN REGIONAL INSTTIUTE OF SCIENCE AND TECHNOLOGY  
NIRJULI :: ITANAGAR :: ARUNACHAL PRADESH :: 791109**

### **BALANCE SHEET AS ON 31<sup>ST</sup> MARCH, 2013**

Amount in Rs.

<b>CORPUS/CAPITAL FUND AND LIABILITIES</b>	<b>SCHEDULE</b>	<b>CURRENT YEAR</b>	<b>PREVIOUS YEAR</b>
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CORPUS/CAPITAL FUND	1	994080901.18	990881355.91
Earmarked/Endowment Funds	2	1878376.00	1718486.00
Current Liabilities & Provisions	3	29145823.75	25654617.75
<b>Total</b>		<b>1025105100.93</b>	<b>1018254459.66</b>

ASSETS	SCHEDULE	CURRENT YEAR	PREVIOUS YEAR
FIXED ASSETS	4	916409139.43	881340355.16
Investment from Earmarked/Endowment Funds	5	462102.00	301847.00
Current Assets, Loan, Advances etc.	6	108233859.50	136612257.50
<b>Total</b>		<b>1025105100.93</b>	<b>1018254459.66</b>

Sd/-Registrar i/c  
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, 2013**

**Amount in Rs.**

SCHEDULE-1 CORPUS FUNDS/CAPITAL FUND	CURRENT YEAR	PREVIOUS YEAR
Balance at the beginning of the year	990881355.91	1007148706.23
Add: Contribution towards Corpus/Capital Fund:		
Grant-in-aid received from Ministry of Human Resource Development, Department of Education, Govt. of India, vide sanction order No. Plan (Capital)		
F.No. 9-15/2012 TS.VII dtd 3.7.2012	225000.00	22400000.00
F.No. 9-15/2012 TS.VII dtd 3.7.2012	15976000.00	5600000.00
F.No. 9-15/2012 TS.VII dtd 3.7.2012	3744000.00	12600000.00
F.No. 9-15/2012 TS.VII dtd 8.2.2013	6195000.00	2800000.00
F.No. 9-15/2012 TS.VII dtd 8.2.2013	372000.00	9720000.00
F.No. 9-15/2012 TS.VII dtd 8.2.2013	26433000.00	2780000.00
		5600000.00
F.No. 9-15/2012 TS.VII dtd 3.7.2012	1001000.00	2800000.00
F.No. 9-15/2012 TS.VII dtd 3.7.2012	4004000.00	2800000.00
F.No. 9-15/2012 TS.VII dtd 3.7.2012	50000.00	2800000.00
<b>Total</b>	<b>1048881355.91</b>	<b>1077048706.23</b>
Add/Deduct: Balance of net (Income/Expenditure from Income/Expenditure Account)	(-)54800454.73	(-) 86167350.32
<b>Total</b>	<b>994080901.18</b>	<b>990881355.91</b>

SCHEDULE – 2 EARMARKED /ENDOWMENT FUNDS	CURRENT YEAR	PREVIOUS YEAR
Opening balance of Funds donated by HE the Governor of Arunachal Pradesh:	233837.00	229789.00
Gold Medal : Topper of Diploma Module	83977.00	82058.00
Student Welfare Funds	1416274.00	1266639.00
Donation for SHRISTI -2009	144288.00	140000.00
<b>TOTAL</b>	<b>1878376.00</b>	<b>1718486.00</b>

SCHEDULE-3 CURRENT LIABILITIES & PROVISIONS	CURRENT YEAR	PREVIOUS YEAR
<b>A: Current Liabilities</b>		
1.Caution Money of Students	11623798.00	10461903.00
2.Security Deposits and others	16132025.75	13215714.75
<b>Total(A)</b>	<b>27755823.75</b>	<b>23677617.75</b>
B. Provisions: Outstanding Expenses, Total (B)	1390000.00	1977000.00
<b>Total (A+B)</b>	<b>29145823.75</b>	<b>25654617.75</b>

Sd/- Registrar i/c  
NERIST

Sd/-Director  
NERIST

Schedule 4 FIXED ASSETS

NORTH EASTERN REGIONAL INSTITUTE OF SCIENCE AND TECHNOLOGY  
NIRJULI :: ITANAGAR :: ARUNACHAL PRADESH  
SCHEDULE FORMING PART OF BALANCE SHEET AS ON 31<sup>ST</sup> MARCH, 2013

	Description	GROSS BLOCK				DEPRICIATION				NET BLOCK	
		Cost/valuation	Addition	Deduction	Cost/valuation	As at the	Addition	Deduction	Total upto	As at the	As at the
		at beginning of the year	during the year	during the year	at end of the year	beginning of the year	during the year	during the year	the year end	current year end	Previous year end
-	<b>A.Fixed Assets</b>	-									
1	Buildings	89 22 10 319.00	2 24 01 168.00	.00	91 46 11 487.00	25 68 96 710.33	3 17 65 680.44	.00	28 86 62 390.77	62 59 49 096.23	63 53 13 608.67
2	Laboratory Equipment	28 42 27 884.46	2 34 83 234.00	.00	30 77 11 118.46	18 47 33 832.45	1 39 29 167.29	.00	19 86 62 999.74	10 90 48 118.72	9 94 94 052.01
3	Furniture	6 02 09 799.43	69 75 455.00	.00	6 71 85 254.43	2 48 74 520.12	35 33 527.94	.00	2 84 08 048.06	3 87 77 206.37	3 53 35 279.31
4	Vehicles	1 24 03 409.75	.00	1 37 768.00	1 22 65 641.75	56 68 040.56	9 42 951.69	.00	66 10 992.25	56 54 649.50	67 35 369.19
5	Office Equipment	2 80 93 437.23	23 24 784.00	.00	3 04 18 221.23	1 30 42 453.99	15 05 098.33	.00	1 45 47 552.32	1 58 70 668.91	1 50 50 983.24
6	Sports Equipment	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	Medical Equipment	16 42 595.79	.00	.00	16 42 595.79	8 35 605.06	80 699.08	.00	9 16 304.14	7 26 291.65	8 06 990.73
8	Hostel Equipment	5 32 381.08	.00	.00	5 32 381.08	4 98 725.98	4 711.72	.00	5 03 437.70	28 943.38	33 655.10
9	Library Equipment	9 95 263.00	.00	.00	9 95 263.00	8 13 698.50	25 419.03	.00	8 39 117.53	1 56 145.47	1 81 564.50
10	Guest House Furnishing	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	Guest House Equipment	1 06 705.00	.00	.00	1 06 705.00	97 178.29	1 333.74	.00	98 512.03	8 192.97	9 526.71
12	Musical Instruments	63 593.00	.00	.00	63 593.00	62 208.58	193.82	.00	62 402.40	1 190.60	1 384.42
13	Hostel Furnishing	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	Library Books	5 47 43 041.26	30 39 143.00	.00	5 77 82 184.26	3 27 18 159.67	33 03 732.24	.00	3 60 21 891.91	2 17 60 292.35	2 20 24 881.59
15	Air Conditioner	12 04 273.22	.00	.00	12 04 273.22	10 48 855.19	15 541.81	.00	10 64 397.00	1 39 876.22	1 55 418.03
16	Conference Hall Furnishing	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	Canteen Utensils	25 842.00	.00	.00	25 842.00	22 307.93	353.41	.00	22 661.34	3 180.66	3 534.07
18	Hostel Utensils	55 090.00	.00	.00	55 090.00	54 196.33	125.12	.00	54 321.45	768.55	893.67
19	Bicycle	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	Club Equipment	90 200.60	.00	.00	90 200.60	84 678.68	773.07	.00	85 451.75	4 748.85	5 521.92
21	Plan (Gen) activities Expdt	.00	1 17 18 609.00	1 17 18 609.00	.00	.00	.00	.00	.00	.00	.00
-	<b>TOTAL OF CURRENT YEAR</b>	<b>1 33 66 03 834.82</b>	<b>6 99 42 393.00</b>	<b>1 18 56 377.00</b>	<b>1 39 46 89 850.82</b>	<b>52 14 51 171.66</b>	<b>5 51 09 308.73</b>	<b>.00</b>	<b>57 65 60 480.39</b>	<b>81 81 29 370.43</b>	<b>81 51 52 663.16</b>
-	<b>B. Building in Progress</b>	6 61 87 692.00	4 27 74 636.00	1 06 82 559.00	9 82 79 769.00	.00	.00	.00	.00	9 82 79 769.00	6 61 87 692.00
-	<b>TOTAL</b>	<b>1 40 27 91 526.82</b>	<b>11 27 17 029.00</b>	<b>2 25 38 936.00</b>	<b>1 49 29 69 619.82</b>	<b>52 14 51 171.66</b>	<b>5 51 09 308.73</b>	<b>.00</b>	<b>57 65 60 480.39</b>	<b>91 64 09 139.43</b>	<b>88 13 40 355.16</b>
-	<b>Previous Year</b>	<b>1 36 12 32 649.82</b>	<b>6 81 22 525.00</b>	<b>2 65 63 648.00</b>	<b>1 40 27 91 526.82</b>	<b>46 37 30 826.59</b>	<b>5 77 20 345.07</b>	<b>.00</b>	<b>52 14 51 171.66</b>	<b>88 13 40 355.16</b>	<b>89 75 01 823.23</b>

SCHEDULE-5 INVESTMENT FROM	CURRENT YEAR	PREVIOUS YEAR
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EARMARKED/ENDOWMENT FUNDS		
1. Investment with SBI Nirjuli, Donation by HE, the Governor of Arunachal Pradesh – Gold Medal : Toppers: of Diploma Module	233837.00	219789.00
2. Investment with SBI, Nirjuli – Institute’s Gold Medal	83977.00	82058.00
3 Donation for Shristi	144288.00	0.00
<b>Total</b>	<b>462102.00</b>	<b>301847.00</b>

SCHDULE-6 CURRENT ASSETS, LOAN ADVANCES ETC	CURRENT YEAR	PREVIOUS YEAR
<b>A:CURRENT ASSETS</b>		
1) Cash in Hand	400.27	0.27
2) Imprest	334650.00	324650.00
Total	335050.27	324650.27
<b>Bank Balance with Schedule Banks</b>		
a) On Current Account with SBI, Nirjuli (Society for NERIST)	82328679.23	91693658.23
b) NERIST Entrance Exam. A/c	14889.00	2193851.00
c) AXIS BANK	4448157.00	4226382.00
Total	86791725.23	98113891.23
<b>Total (A)</b>	<b>87126775.50</b>	<b>98438541.50</b>
<b><u>B: LOANS, ADVANCES AND OTHERS</u></b>		
<b><u>1) Loan /Advances</u></b>		
a) Staff	10180233.00	10811889.00
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) Advances for purchase of Lab Equipments /Office equipment /Furniture/Lib Books	0.00	21557672.00
III) Project A/c for TEQIP Equipment	0.00	1500000.00
IV) Nodal Centre	450000.00	450000.00
V) Out standing Shop Rent	168780.00	111030.00
VI) Short Term Deposit (AXIS Bank)	8094220.00	3723125.00

VII) Short Term Deposit (NEE Account)	2193851.00	0.00
Total (B)	21107084.00	38173716.00
<b>Total A+B)</b>	<b>108233859.50</b>	<b>136612250.50</b>

Sd/- Registrar i/c  
NERIST

Sd/-Director  
NERIST

NORTH EASTERN REGIONAL INSTITUTE OF SCIENCE & TECHNOLOGY  
NIRJULI :: ARUNACHAL PRADESH

**Income & Expenditure Accounts for year ended 31<sup>st</sup> March, 2013**

(Amount. Rs.)

<i>A. Income</i>	<i>Schedule</i>	<i>Current Year</i>	<i>Previous Year</i>
Grant-in-Aid	7	376000000.00	297400000.00
Fees from Students	8	18593064.00	3854560.00
Interest earned	9	1893644.00	1836929.75
Other Income	10	2476760.00	3387754.00
<b>Total (A)</b>		<b>398963468.00</b>	<b>306479243.75</b>
<b>B. Expenditure</b>			
<i>Establishment Expenses</i>	11	353601122.00	294376901.00
<i>Other Administrative Expenses</i>	12	45053492.00	40549348.00
<i>Depriciation</i>		55109308.73	57720345.07
<b>Total(B)</b>		<b>453763922.73</b>	<b>392646594.07</b>
<i>Balance being excess/deficit of Expenditure over income (A-B)</i>		(-)54800454.73	(-)86167350.32
<i>Balance being deficit/excess carried over to corpus fund</i>		(-)54800454.73	(-)86167350.32

Sd/- Registrar i/c

Sd/-Director

NERIST

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## Schedule Forming Part of Income and Expenditure Accounts for the Year ended 31<sup>st</sup> Mach 2013

(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		
i) F.No.9-16/2012 -TS.VII dtd.28.05.2012	50667000.00	100000000.00
ii) F.No.9-16/2012 -TS.VII dtd.9.08.2012	81000000.00	100000000.00
iii) F.No.9-16/2012 -TS.VII dtd.6.12.2012	81333000.00	97400000.00
iv) F.No.9-16/2012 -TS.VII dtd.11.02.2013	87232000.00	--
v) F.No.9-16/2012 -TS.VII dtd.26.03.2013	35768000.00	--
vi) F.No.9-16/2012 -TS.VII dtd.28.05.2012	10000000.00	--
vii) F.No.9-16/2012 -TS.VII dtd.9.08.2012	10000000.00	--
viii) F.No.9-16/2012 -TS.VII dtd.6.12.2012	10000000.0 0	--
ix) F.No.9-16/2012 -TS.VII dtd.11.2.2013	6000000.00	--
x) F.No.9-16/2012 -TS.VII dtd.26.3.2013	4000000.00	--
<b>Total</b>	<b>376000000.00</b>	<b>297400000.00</b>

### SCHEDULES 8 -FEES

1. Entrance Fees	5641035.00	6500653.00
2. Entrance Fees wef 2008-10	.00	(-)14847726.00
3. Annual Fees	12952029.00	12201633.00
<b>Total</b>	<b>18593064.00</b>	<b>3854560.00</b>

### SCHEDULES 9-INTEREST EARNED

On Short Term Deposit with State Bank of Inida	1893644.00	1836929.75
<b>Total</b>	<b>1893644.00</b>	<b>1836929.75</b>

### SCHEDULES 10- OTHER INCOME

Miscellaneous Income	2476760.00	3387754.00
<b>Total</b>	<b>2476760.00</b>	<b>3387754.00</b>

### SCHEDULES 11-ESTABLISHMENT EXPENSES

a) Salary and Wages	257137852.00	231566929.00
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b) Bonus	1374537.00	1336612.00
c) Contribution to Provident Fund	27100039.00	25340734.00
d) Liveries and Uniforms	99490.00	1178946.00
e) Book grants to the Faculty	---	----
f) Computer Grants to Faculty	---	----
g) Professional Development Allowance To Faculty	14442529.00	(-)3432484.00
h) Purchase of Medicine for staff	12504118.00	10650151.00
i) Pay and allowance for Kendriya Vidyalaya	14220000.00	14000000.00
<b>j) CPS</b>	7843419.00	6545730..00
<b>l) EPF</b>	2450409.00	2261358.00
<b>m) GPF</b>	73448.00	43900.00
<b>n) Children Educational allowance</b>	7044736.00	4885025.00
<b>o) Gratuity, Retirement benefits, etc</b>	9310545.00	--
<b>Total</b>	353601122.00	294376901.00

#### SCHEDULES 12-OTHER ADMINISTRATIVE EXPENSES ETC.

1. Travelling Allowance	2891848.00	3117358.00
2. Printing & Stationery	1227600.00	2866325.00
3. Vehicle running & Maintenance	2356073.00	2158057.00
4. Entrance Examination	3306124.00	2541087.00
5. Advertisement	361092.00	634569.00
6. Convocation	2844954.00	0.00
7. Entertainment	0.00	.00
8. Electricity Charges	9344039.00	9713710.00
9. Postage, Telegram & Telephones	2470671.00	357038.00
10. Sports & Extra curricular activities	1710875.00	2027687.00
11. Consumable items for Teaching	1768438.00	1932981.00
12. Annual repairs & Maintenance	12218465.00	10370893.00
13. Miscellaneous expenses	3845376.00	3491723.00
14. Legal Charges	117650.00	200840.00
15. NCC/NSS of students	202866.00	235532.00
16. Maint. Of Lab./ Office Equipments	387421.00	901548.00
<b>Total</b>	<b>45053492.00</b>	<b>40549348.00</b>

1. Fixed Asset written off	0.00	.00
2. Depreciation	55109308.73	57720345.07

<b>Total</b>	<b>55109308.73</b>	<b>57720345.07</b>
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Sd/-Registrar i/c  
NERIST

Sd/-Director  
NERIST

**North Eastern Regional Institute of Science & Technology**  
**NIRJULI-791109 :::: ARUNACHAL PRADESH**

**RECEIPT & PAYMENTS ACCOUNTS FOR THE YEAR ENDED 31<sup>ST</sup> MARCH 2013**

Opening Balance		Current Year	Previous Year			Current Year	Previous Year
a) Cash in hand		.27	39 66 600.27	a) Establishment Expenses	16	35 39 88 122.00	29 34 79 901.00
b) Imprest		3 24 650.00	3 06 650.00	b) Administrative Expenses	17	4 52 53 492.00	4 05 59 348.00
c) Bank Balance	13	9 81 13 891.23	10 57 15 330.48				
2. Grants In-Aid Received from Ministry of HRD				2. Expenditure on fixed Assets & on			
Deptt. Of Education. Govt. of India, New				capital work in progress			
Delhi, Vide Sanction Order No.				a) Purchase of fixed Assets			
Non Plan Salary & Non Salary )				b) Expenditure on capital work in			
				Progress	18	9 01 78 093.00	6 31 16 549.00
I) F.No.9-16/2012-TS VII dated 28-05-2012		5 06 67 000.00	10 00 00 000.00	3. Other payments	19	6 26 83 148.00	6 75 02 455.00
II) F.No.9-16/2012-TS VII dated 09-08-2012		8 10 00 000.00	10 00 00 000.00				
III) F.No.9-16/2012-TS VII dated 06-12-2012		8 13 33 000.00	9 74 00 000.00	<u>Closing Balance</u>			
IV) F.No.9-16/2012-TS VII dated 11-02-2013		8 72 32 000.00		a) Cash in hand		400.27	.27
V) F.No.9-16/2012-TS VII dated 26-03-2013		3 57 68 000.00	2 24 00 000.00				
VI) F.No.9-16/2012-TS VII dated 28-05-2012		1 00 00 000.00	56 00 000.00	b) Imprest		3 34 650.00	3 24 650.00
VII) F.No.9-16/2012-TS VII dated 09-08-2012		1 00 00 000.00					
VII) F.No.9-16/2012-TS VII dated 06-12-2012		1 00 00 000.00		<u>Bank Balance</u>	20	8 67 91 725.23	9 81 13 891.23
VIII) F.No.9-16/2012-TS VII dated 11-02-2013		60 00 000.00		a) <u>In Current Accounts</u>			
IX) F.No.9-16/2012-TS VII dated 26-03-2013		40 00 000.00		Details of Bank Balance:			
Plan (Capital) & Plan (General)							
I) F.No.9-15/2012 TS.VII dated 03.07.2012		2 25 000.00	1 26 00 000.00	1. Plan Fund (Capital) 3270617.00			
II) F.No.9-15/2012 TS.VII dated 03.07.2012		1 59 76 000.00	28 00 000.00	2. Plan Fund(General) 4253845.00			
III) F.No.9-15/2012 TS.VII dated 03.07.2012		37 44 000.00	97 20 000.00				
IV) F.No.9-15/2012 TS.VII dated 08.02.2013		61 95 000.00	27 80 000.00	3. Non Plan Fund (Salary) 39197883.91			
V) F.No.9-15/2012 TS.VII dated 08.02.2013		3 72 000.00		3. Non Plan Fund ( Non Salary) 17652226.00			
VI) F.No.9-15/2012 TS.VII dated 08.02.2013		2 64 33 000.00	56 00 000.00				
VII) F.No.9-15/2012 TS.VII dated 03.07.2012		10 01 000.00	28 00 000.00	4. Students Cation Money 11623798.00			
VIII) F.No.9-15/2012 TS.VII dated 03.07.2012		40 04 000.00	28 00 000.00	5. Security Deposits, 10793755.59 EMD and others			
IX) F.No.9-15/2012 TS.VII dated 03.07.2012		50 000.00	28 00 000.00				
3. Interest earned on Short term Deposit with							
SBI /UTI etc		18 93 644.00	18 36 929.75				

4.Other Income	14	21012074.00	21979010.00			
<b>5.Any other Receipt</b>	<b>15</b>	<b>83885371.00</b>	<b>61992274.00</b>			
<b>Total</b>		<b>639229630.50</b>	<b>563096794.50</b>	<b>TOTAL</b>		<b>63 92 29 630.50</b> <b>56 30 96 794.50</b>

**SCHEDULE FORMING PART OF RECEIPTS AND PAYMENTS ACCOUNTS  
FOR THE YEAR ENDED 31<sup>ST</sup> MARCH, 2012**

(Amount in Rs.)

<b>SCHEDULE 13 -- Opening Balance</b>		<b>Current Year</b>	<b>Previous Year</b>
i)	Cash in hand	0.27	3966600.27
ii)	Imprest	324650.00	306650.00
iii)	AXIS Bank A/c	4226382.00	3723125.00
iv)	State Bank of India (NEE A/c)	2193851.00	2135037.25
v)	State Bank of India (Society for NERIST A/c)	91693658.23	99857168.23
<b>TOTAL</b>		<b>98438541.50</b>	<b>109988580.75</b>

**SCHEDULE 14 -- Other Income**

i)	Fees from Students	12952029.00	12201633.00
ii)	Entrance Examination	5641035.00	6500653.00
iii)	Miscellaneous Receipt	2419010.00	3276724.00
iv)	Consultancy Fee	---	---
<b>TOTAL</b>		<b>21012074.00</b>	<b>21979010.00</b>

**SCHEDULE 15--- Any Other receipts**

i)	Caution Money from Students	3087140.00	2685800.00
ii)	Advances Received from Staff	3727056.00	2991747.00
iii)	Security Deposit	3421668.00	4152469.00
iv)	Earnest Money Deposit	5000.00	1600.00
iv)	Students Welfare Fund	199635.00	211073.00
v)	Alumani association etc	140600.00	116500.00
vi)	Loan/ advance to Project A/c ,Nodal Centre etc	1677000.00	51833085.00
vii)	Other Advance ( Solar Plan)	69600.00	.00
viii)	Investment	5000000.00	.00
ix)	Transfer Entry	21557672.00	.00
<b>TOTAL</b>		<b>83885371.00</b>	<b>61992274.00</b>

**SCHEDULE 16—Establishment Expenses**

i)	Salary & Wages	257137852.00	231566929.00
ii)	Bonus	1374537.00	1336612.00
iii)	Contribution to Provident Fund	27100039.00	25340734.00
iv)	Liveries & Uniforms	99490.00	1178946.00
v)	Book grants to the Faculty	---	---
vi)	Purchase of Medicine for Staff	12891118.00	9753151.00
vii)	Salary & Wages for Kendriya Vidyalaya	14220000.00	14000000.00
viii)	Computer Grant for Faculty	---	---
ix)	Professional Development Allowance to Faculty	14442529.00	(-)3432484.00
x)	CPS	7843419.00	6545730.00
xi)	EPF	2450409.00	2261358.00
xii)	GPF	73448.00	43900.00
xiii)	Children Educational Allowances	7044736.00	4885025.00
xiv)	Gratuity , Retirement benefit s etc	9310545.00	--
<b>TOTAL</b>		<b>353988122.00</b>	<b>293479901.00</b>

(Amount in Rs.)

<b>SCHEDULE 17 -- Other Administrative Expenses</b>		<b>Current Year</b>	<b>Previous Year</b>
i)	Consumable item for Teaching	1768438.00	1932981.00
ii)	Entrance Examination	3306124.00	2541087.00
iii)	Printing & Stationary	1227600.00	2866325.00
iv)	Traveling Allowances	2891848.00	3117358.00
v)	ARMO ( Vehicle)	2356073.00	2158057.00
vi)	Advertisement	361092.00	634569.00
vii)	Annual Repair & Maintenance	12218465.00	10370893.00
viii)	Postage, Telephone & Telegram ,LAN/WAN(Maint.)	2470671.00	357038.00
ix)	Electricity Charges	9374039.00	9623710.00
x)	Entertainment	.00	.00
xi)	Office Expenses/Misc. Expenses	4015376.00	3591723.00
xii)	Sports, Extra Curricular Activities & Study Tour of students	1710875.00	2027687.00
xiii)	Legal Charges	117650.00	200840.00
xiv)	NCC/NSS	202866.00	235532.00
xv)	Convocation	2844954.00	.00
xvi)	Maintainance of Lab./ Office Equipment	387421.00	901548.00
	<b>Total</b>	<b>45253492.00</b>	<b>40559348.00</b>

<b>SCHEDULE 18A -- Expenditure on Capital Works in Progress</b>		<b>Current Year</b>	<b>Previous Year</b>
i)	P.W.D./T.K.Constn Co. etc for constn of Transit Hostel, Girl's Hostel etc	34792077.00	19987692.00
ii)	Other Contractors	7982559.00	9280157.00
	<b>Total</b>	<b>42774636.00</b>	<b>29267849.00</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	759584.00	354315.00
ii)	Applied Science Department	1722560.00	(-)152216.00
iii)	Electrical Engg. Department	3495061.00	(-)525592.00
iv)	Chemistry Department	350764.00	62679.00
v)	Computer Science & Engg. Department	1454963.00	522175.00
vi)	Agricultural Engg. Department	1829408.00	44490.00
vii)	Humanities & Social Science Department	131273.00	63104.00
viii)	Physics Department	1160276.00	172517.00
ix)	E.T.Cell	354927.00	376227.00
x)	CMS	199475.00	130498.00
xi)	ACCF	.00	.00
xii)	Electronics & Commn. Engg.	2519874.00	(-)397344.00
xiii)	Civil Engg. Department	1544689.00	288782.00
xiv)	CRF	722988.00	50775.00
xv)	Maths	86391.00	96344.00
xvi)	CATARD	.00	6657.00
xvii)	Medical Equipment	(-)13476.00	107700.00
xviii)	LAN/WAN	7164477.00	.00
xix)	Office Equipment	2324784.00	262711.00
	<b>TOTAL</b>	<b>25808018.00</b>	<b>1463822.00</b>

<b>SCHEDULE 18C -</b>	<b>Current Year</b>	<b>Previous Year</b>
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Library Books/Journals		
i) Library Books/Journals	<b>3039143.00</b>	<b>1211362.00</b>

<b>SCHEDULE 18D -</b>	<b>Current Year</b>	<b>Previous Year</b>
Furniture & Fixtures	<b>6975455.00</b>	<b>3393963.00</b>

<b>SCHEDULE 18E</b>	<b>Current Year</b>	<b>Previous Year</b>
Vehicle	<b>(-)137768.00</b>	<b>2886257.00</b>

<b>SCHEDULE 18F</b>	<b>Current Year</b>	<b>Previous Year</b>
Plan (General )Activities Expenditure	<b>11718609.00</b>	<b>3335624.00</b>

<b>SCHEDULE 18 G -</b>	<b>Current Year</b>	<b>Previous Year</b>
Furniture & Fixtures (Advance)	.00	4322315.00
Lab. Equipment (Advance)	.00	14491455.00
Office Equipment (Advance)	.00	1213455.00
Lib.Books (Advance )	.00	1530447.00
<b>Total</b>	<b>.00</b>	<b>21557672.00</b>

<b>Total 18 ( A to G )</b>	<b>90178093.00</b>	<b>63116549.00</b>
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<b>SCHEDULE 19 -- Other payments</b>	<b>Current Year</b>	<b>Previous Year</b>
i) Advances to Staff & others	3095400.00	4651360.00
ii) Security Deposits	897557.00	2818319.00
iii) Caution Money of Students	1925245.00	1929145.00
iv) Investment (Short Term Deposit receipt of Axis Bank	56714946.00	3723125.00
vi) Student Welfare fund	50000.00	50000.00
vii) Alumani Association	0.00	.00
viii) Loan to Project A/c, Nodal Centre	0.00	51625000.00
ix) Earnest Money	0.00	2644400.00
x) Uncashed Cheques	0.00	61106.00
<b>Total</b>	<b>62683148.00</b>	<b>67502455.00</b>

<b>SCHEDULE 20 -- Closing Balance</b>	<b>Current Year</b>	<b>Previous Year</b>
i) Cash in hand	400.27	0.27
ii) Imprest	334650.00	324650.00
iii) AXIS Bank	4448157.00	4226382.00
iv) State Bank of India (NEE A/c)	14889.00	2193851.00
v) State Bank of India (Society for NERIST)	82328679.23	91693658.23
<b>Total</b>	<b>87126775.50</b>	<b>98438541.50</b>

Sd/- Registrar i/c  
NERIST

Sd/-Director  
NERIST



## Accounting Policy and Notes

On Accounting Policy of the Institute, we follow the procedure as:

- a. The Institute followed “Mercantile procedure” for maintaining its accounts
- b. The Institute have been following Bank accounts as
  - i. Society Account of NERIST
  - ii. Project Account of NERIST
  - iii. Contributory provident Fund Account of NERIST
  - iv. Scholarship Account of NERIST (General scholarship as well as GATE Scholarship)
  - v. Contributory Pension Scheme Account of NERIST
  - vi. 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.
- d. The Institute has no audit manual of its own. The rules of the Central Government is followed in carrying out internal audit.

### **2. Provision of out standing expenses/out standing dues**

Provision of outstanding expenses/outstanding dues under Income and Expenditure A/c are as follows

Sl no.	Heads	Current year	Previous year	Remarks
1	Medicine	540000.00	927000.00	Outstanding expenses
2	Electricity	720000.00	750000.00	-do-
3	Administrative Expenses	130000.00	300000.00	-do-
4	Shop Rent	168780.00	111030.00	Outstanding Dues

2. The following amount has been booked in the form of advance for the procurement of lab equipment, office equipment, furniture and library book during financial year 2011-12 and are adjusted by making a transfer entry in the account of 2012-13.

A) Credited to:-

Lab. equipment head	- 14491455.00
Furniture head	- 4322315.00
Office Equipment Head	- 1213455.00
Lib Book head	- 1530447.00

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Total - 21557672.00  
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B) Debited to Advance head - 21557672.00