

ANNUAL REPORT

2013 - 2014



NORTH EASTERN REGIONAL INSTITUTE OF SCIENCE & TECHNOLOGY

DEEMED UNIVERSITY U/S/ 3 of UGC Act, 1956

(Under Ministry of Human Resource Development, Govt. of India)

Nirjuli (Itanagar), Arunachal Pradesh - 791 109, www.nerist.ac.in

Preface

It is really a pleasure to present the Annual Report of the year 2013-2014. The report, besides highlighting information, related to various activities of the Institute, provides a glimpse of the constant and rapid strides made by the Institute in fulfilling its broader objectives.

I would like to express my deep sense of gratitude to Lt. Gen. (Retd.) Nirbhay Sharma, H.E. the Governor of Arunachal Pradesh and Gen. J.J. Singh, PVSM, AVSM, VSM (Retd.), former H.E. the Governor of Arunachal Pradesh and Honourable President of NERIST Society and Air Marshal (Retd.) P.K. Barbora, Chairman, Board of Management & Mr. M.P. Bezbaruah, IAS (Retd.), former Chairman, Board of Management for their valuable guidance, encouragement and support for smooth functioning of academic as well as administrative activities of the Institute. I also acknowledge the continuous support received from the Ministry of HRD, Government of India, towards the overall development of the Institute.

I express my whole-hearted appreciation to our faculty members for their dedicated efforts for improving the teaching/training standards, introducing post-graduate and Ph.D. programmes in all the Departments, cooperating in the process of development of infrastructure and bringing in consultancy and research projects. The staff members of the Institute also deserve all praise for their cooperation, devotion and enthusiasm. I am proud of our students for the good reputation they have earned in recent years for themselves and for the Institute.

The Institute has been continuously striving towards providing our students, staff and teachers the right kind of environment necessary for developing their potential in its efforts to serve the nation.

Prof. P. K. Das
Director

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SECTION-1

DIRECTOR'S SUMMARY

It is a privilege to write a foreword to this 27th Annual Report 2013-2014 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, Lt. Gen (Retd.) Nirbhay Sharma, PVSM, UVSM, AVSM, VSM, His Excellency, the Governor of Arunachal Pradesh for his guidance and support, since 29.05.2013. The Institute is also indebted to its former Chairman of Board of Management, Mr. M.P. Bezbaruah, IAS (Retd.). Since 13th December, 2013 the institute got its new Chairman of Board of Management, Shri Pranab Kumar Barbora, Air Marshal (Retd.), PVSM, VSM, 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.

During the period of the year 2013-14, a number of new academic and infrastructure development initiatives have been taken, with support from all concerned. The Institute has signed 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.

Director

SECTION – 2

INTRODUCTION

2.1 The Institute

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 1st April, 1994. It has been conferred with the “Deemed to be University” status on May 31st, 2005, by the MHRD under Section-3 of UGC Act, 1956.

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

The Institute has demonstrated successful implementation of modular pattern of education, which has been able to provide skilled manpower 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 and Forestry. Chemistry, Physics, Mathematics, Humanities & Social Sciences also have a pivotal role as supporting departments. Although the Institute admits students at a tender age (after Class-X) having heterogeneous academic standards, but its academic and administrative set up has been quite effective to ensure appreciable academic growth including development of different traits of personality amongst the students

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

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 create a niche in the field of science & technology education through a unique modular system and develop a sound human resource base by nurturing the talents specially from North Eastern states, matching the global standards.

Mission

To produce 'best of breed' human resources, catering to the global requirements in the areas of science & technology for the service of mankind.

2.2 Administrative set up

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

2.3 Salient Features

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

SECTION – 3

ACADEMIC PROGRAMMES

3.1 A Brief Profile of the Section

Academic Section is the backbone of any Academic Institute/University. Present Academic Branch is divided into three cells, viz., Undergraduate, Postgraduate and Ph.D. for better functioning. The Undergraduate cell deals with admission process, scholarships/other academic affairs of Base, Diploma & Degree Modules. The Postgraduate Cell deals with admission and other related affairs of M.Tech., MBA, M.Sc. 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. Apart that all other works related to correspondence with MHRD/UGC/AICTE, Convocation, AC meeting and other miscellaneous works of the Branch is being dealt by a Superintendent and the branch is headed by Deputy Registrar(Academic) As on July-Dec. session 2013-14, the numbers of UG students were 1271. PG students were 274 and Ph.D. Scholar were 243. The total strength of students at present is **1788**, 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 1st 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 8th 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 2013-14, the Institute offered the following courses in each module:

Base (Certificate) Module

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

Diploma Module (E&T Stream)

- a) Agricultural Engineering
- b) Civil Engineering
- c) Computer Science and Engineering
- d) Electrical Engineering
- e) Electronics & 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 are running during 2013-2014.

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

M.Sc.

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

MBA

Master of Business Administration under the Center for Management Studies.

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

Engineering streams

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

Science, Humanities and Management streams

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

3.5 Any other relevant information/data

Number of Students enrolled in July-December Semester, 2013-14 are summarized and furnished in the following tables.

(a) Under Graduate Programmes

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

DISCIPLINE	BASE	DIPLOMA	DEGREE
Agricultural Engineering (AE)	37	30	14
Civil Engineering (CE)	40	46	38
Computer Science & Engineering (CS)	Does not exist		
Electrical Engineering (EE)	40	40	36
Electronics & Communication Engg. (EC)	30	39	40
Mechanical Engineering (ME)	39	43	35
Total	186	204	179

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

DISCIPLINE	BASE	DIPLOMA	DEGREE
AE	28	12	14
CE	39	35	33
CS	Does not exist	10	19
EE	38	37	33
EC	33	29	44
ME	37	39	33
Forestry (FO)	--	Does not exist	Shown separately
Total	175	162	176

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

Year	No. of students
First	13
Second	17
Third	28
Fourth	25
Total	83

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

Discipline	No. of students
AE	3
CE	15
CS	11
EE	8
EC	8
ME	13
Total	58

Table 5: No. of Students enrolled as Repeaters

DISCIPLINE	BASE	DIPLOMA	DEGREE
AE	2	4	1
CE	1	4	6
CS	Does not exist	0	1
EE	5	1	5
EC	2	1	5
ME	5	2	2
FO	0	0	2
Total	15	12	22

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

Discipline	1 st Year		2 nd Year		Repeater		Total
	Male	Female	Male	Female	Male	Female	
AE	21	16	17	11	01	01	67
CE	29	11	30	09	01	-	80
EE	34	06	30	07	04	01	82
EC	22	08	25	08	01	01	65
ME	34	05	37	01	05	-	82
FO	Course withdrawn						
Total	140	46	139	36	12	3	376

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

Discipline	1 st Year		2 nd Year		Repeater		Total
	Male	Female	Male	Female	Male	Female	
AE	20	10	08	04	02	02	46
CE	38	08	28	07	-	-	81
CS	05	01	08	02	-	-	16
EE	31	09	22	06	01	-	69
EC	33	06	33	13	01	-	86
ME	39	04	28	03	02	-	76
Total	166	38	127	35	06	-	374

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

Discipline	1 st Year		2 nd Year		Bridge		Repeater		Total
	Male	Female	Male	Female	Male	Female	Male	Female	
AE	09	05	11	03	03	-	01	-	32
CE	32	06	27	07	13	01	09	01	96
CS	13	03	16	03	05	06	01	-	47
EE	30	06	23	09	05	03	06	-	82
EC	31	09	27	17	08	-	04	-	96
ME	34	01	33	-	12	01	01	01	83
Total	149	30	137	39	46	11	22	02	436

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

Discipline	1 st Year		2 nd Year		3 rd Year		4 th Year & Repeater		Total
	Male	Female	Male	Female	Male	Female	Male	Female	
FO	07	06	11	06	15	13	22	05	85
Total	07	06	11	06	15	13	22	05	85

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

Discipline	GE	OBC	SC	ST	PH	Total
AE	08	05	01	51	02	67
CE	16	13	04	44	03	180
EE	24	10	04	42	02	82
EC	32	05	03	23	02	65
ME	33	12	06	29	02	82
FO	-	-	-	-	-	-
Total	113	49	21	210	12	376

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

Discipline	GE	OBC	SC	ST	PH	Total
AE	11	03	03	29	-	46
CE	22	09	07	40	03	81
CS	06	01	01	08	-	16
EE	17	12	03	37	-	69
EC	44	11	05	23	03	86
ME	35	13	04	24	-	76
Total	135	49	23	161	06	374

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

Discipline	GE	OBC	SC	ST	PH	Total
AE	06	02	01	22	01	32
CE	23	10	04	59	-	96
CS	12	05	03	27	-	47
EE	27	15	04	35	01	82
EC	57	14	03	19	03	96
ME	29	18	06	27	03	83
FO	20	09	02	50	04	85
Total	174	73	23	239	12	521

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

Discipline	AI	AL	AM	MG	MN	MZ	NL	SK	TR	TOTAL
AE	07	25	05	05	04	08	09	02	02	67
CE	08	15	08	09	08	08	08	08	08	80
EE	08	13	07	08	10	07	10	08	11	82
EC	08	13	08	07	08	05	08	01	07	65
ME	09	11	13	09	09	09	07	07	08	82
FO	-	-	-	-	-	-	-	-	-	-
Total	40	77	41	38	39	37	42	26	36	376

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

Discipline	AI	AL	AM	MG	MN	MZ	NL	SK	TR	TOTAL
AE	05	15	02	03	05	03	07	04	02	46
CE	10	12	10	06	09	05	10	07	12	81
CS	02	01	02	01	04	05	-	-	01	16
EE	09	14	08	06	09	01	07	04	11	69
EC	12	12	07	07	12	08	09	09	10	86
ME	10	08	12	09	08	01	08	08	12	76
Total	48	62	41	32	47	23	41	32	48	374

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

Discipline	AI	AL	AM	MG	MN	MZ	NL	SK	TR	TOTAL
AE	04	08	02	03	06	01	06	-	02	32
CE	08	28	13	05	13	04	11	06	08	96
CS	06	06	08	04	06	05	06	01	05	47
EE	07	18	10	07	12	03	05	05	15	82
EC	15	13	17	07	11	06	11	03	13	96
ME	10	17	21	02	11	05	07	03	07	83
FO	04	19	10	10	12	10	08	06	06	85
Total	54	109	81	38	71	34	54	24	56	521

(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 st Year	2 nd Year	Repeater	
1	AE	Soil & Water Conservation Engg.	10	05		15
		Farm Machinery & Power	02	03		05
2	CE	Environmental Science & Engg.	10	08		18
		Geotechnical Engg.	10	08	02	20
3	CS	Computer Science & Engineering	06	06		12
		Information Technology	05	08		13
4	EE	Power System Engineering	13	05	03	21
5	EC	Electronics & Comm. Engg.	-	10		10
		Very Large Scale Integrated	10	10		20
6	ME	Computer Aided Manufacturing & Automation	09	02		11
		Thermo Fluid Engg.	10	06		16
Total			85	71	05	161

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 st Year	2 nd Year	Repeater	
1	CSE	Computer Science & Engineering	-	01	01	02
2.	EE	Power System Engineering			01	01
3.	ME	Computer Aided Manufacturing & Automation	-	-	-	-
Total			-	01	02	03

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 st Year	2 nd Year	3 rd Year	
1	PH	M.Sc. in Physics	10	08		18
2	CH	M.Sc. in Chemistry	08	08		16
3	MA	M.Sc. in Mathematics	08	03		11
4	FO	M.Sc. in Forestry	09	10		19
Total			35	29		64

Table 19: No. of Students enrolled in MBA

Sl. No.	Name of the Center	Name of the Programme	No. of students admitted			Total
			1 st Year	2 nd Year	Repeater	
1	CMS	MBA	20	26		46
Total			20	26		46

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

Engineering Disciplines (A)				
Sl. No.	Name of the Dept.	No. of Students admitted		Total
		Part Time	Full Time	
1	AE	05	06	11
2	CE	12	03	15
3	CS	03	02	05
4	EE	11	06	17
5	EC	08	02	10
6	ME	04	02	06
Total (A)		43	21	64
Science, Humanities & Management Studies disciplines (B)				
7	Physics	09	08	17
8	Chemistry	02	04	06
9	Mathematics	06	09	15
10	Forestry	21	34	55
11	Humanities & Social Sciences	14	07	21
12	Management Studies	05	05	10
Total (B)		57	62	119
Total (A) + (B)		100	83	183

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 objective 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. So far, the department has produced 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
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 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
1	B. Sc. Forestry (4 Years)
2	M. Sc. (2 years)
3	Ph.D. programme (minimum three years with one year course work)

All the important aspects of Forestry viz., Forest management, conservation, protection and utilization, Forest policy and planning, Forest Biology, Wildlife management, Silviculture, Wood Sciences & Technology, Application of GIS and Remote Sensing, Soil biology and management, Microbiology and Biotechnology etc have been covered along with related interdisciplinary subjects like Biochemistry, Bio-statistics, Surveying, Marketing etc. particularly in B. Sc. Forestry. The department has the potential to do justice with the Forestry education in NERIST. Field Training for one semester in various forests of north east region is an integral component of B.Sc. forestry course wherein students are attached with forest departments. The students undertake various forestry activity like study of flora and fauna, forest resources, forestry systems, management practices, plant propagation and nursery, wildlife habitat and ecology etc. during the training.

The Department has to its credit 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 awarded by NERIST and other universities. 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 60 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) Project report of PG students

Name of Student / Roll. No.	Dissertation title	Supervisor(s)
Mr. Lansothung Lotha (MS/11/FO/01)	“Exploration of Population Status and Habitat Structure of Hornbills in Intanki National Park, Nagaland, Northeast India.”	Dr. A.D.Kumar
Ms. Leishimi Zimik (MS/11/FO/03)	“Plant diversity, community characteristics and population structure of woody species in different	Dr. O.P.Tripathi and Dr. M.L.Khan

	forests of Itanagar Wildlife Sanctuary, Arunachal Pradesh”	
Mr. Michael Lalmalsawma (MS/11/FO/04)	“Comparative wood anatomy of <i>Ficus</i> species of Mizoram, North East India”	Dr. M. B. Sharma and Dr. C.L.Sharma
Mr. Robin Kro, (MS/11/FO/05)	“Study of properties of soil supporting varied aged rubber plantation at Karbi Anglong district of, Assam and its socio-economic aspects”	Dr. Karuna Shrivastava and Dr. S. Suresh kumar Singh
Mr. Robert Panmei (MS/11/FO/06)	“A study on Utilization pattern of NTFPs by Rongmei Community of Tamenglong District in Manipur”	Dr. P.R Gajurel and Dr.P.Rethy
Mr. S.P.R. Shullai (MS/11/FO/07)	“Diversity of Birds and Mammals in Narpuh Reserve Forest Block 2, Meghalaya, India”	Dr. Mary P.P.
Mr. Trechanmi Synrem (MS/11/FO/08)	“Soil physico-chemical parameters, regeneration status and importance of <i>Nepenthes khasiana</i> Hook. f. – a threatened endemic plant of Meghalaya”	Dr. L. B. Singha and Mr. G. Pangging

(ii) Ph.D. thesis completed (awarded/submitted)

Name	Regn. No./Roll No.	Supervisor(s)	Title of Ph.D. Thesis
Ms. Moitreyee Saikia	Ph.D. (FT)/08/FO/01	Dr.K. Shrivastava	“In Vitro regeneration of <i>Aquilaria malaccensis</i> Lam. and acclimatization with endomycorrhizal symbiosis for enhanced field establishment”
Mr. Bipul Saikia	Ph.D.(P)/08/FO/02/02	Dr. P. Rethy	“Taxonomic diversity, utilization and market potential of wild edible plant of Sonitpur district, Assam”
Mr. Rubul Buragohain	Ph.D. (FT)/FO/09/1/03	Dr. P. R. Gajurel	“Taxonomic diversity and socio economic importance of Moraceae family in Arunachal Pradesh”
Mr. Rajib Kagyung	Ph.D.R/06(II)/FO/03	Dr. P. Rethy and Dr. P. R. Gajurel	“Ethnobotanical studies on Tribes of Dehang Debang Biosphere Reserve in Arunachal Pradesh with special reference to medicinal plants”
Mr. Salam Dilip	Ph.D.R/06(II)/FO/05	Dr. M.L. Khan and Dr. L. B. Singha	“Physico-chemical properties of soils and nutrient content in the culms during pre-flowering, flowering and post-flowering phases of <i>Dendrocalamus hamiltonii</i> Nees in Arunachal Pradesh and <i>Melocanna baccifera</i> (Roxb) Kurz in Mizoram”
Mrs. Jayashree Dutta	Ph.D.(P)/07/FO/07	Dr. S. Sureshkumar Singh	“Carbon flux in traditional agro-ecosystems practiced by Apatanis in Arunachal Pradesh”

4.1.5 Short-term Courses/workshop organized

	Title	Funding	Venue	Period
Dr.O.P. Tripathi	World Forestry Day Celebration	RC-NAEB, NEHU, Shillong	Dept. of Forestry and KV, NERIST	21.03.2014 & 28.03.2014
	Management, Processing and Value Addition of Non-Timber Forest Products based Income Generating Activities in Arunachal Pradesh	RC-NAEB, NEHU, Shillong	North Eastern Regional Institute of Science and Technology	29.01.2014 to 31.01.2014

4.1.6 Short-term Courses/workshop, etc. attended

Dr. P. Rethy	<ul style="list-style-type: none"> i) Attended National Symposium on Himalayan biodiversity: Prospects & Challenges. 20th-21stMarch 2014, North Eastern Hill University ii) Attended 23rd Conference of IAAT and National Seminar on Recent Advances in Plant Taxonomy 27th-29th Dec. 2013 RTM Nagpur University
Dr. B. Singh	<ul style="list-style-type: none"> i) Attended National. Symposium on Himalayan biodiversity: Prospects & Challenges.20th-21stMarch 2014 North Eastern Hill University
Dr. C. L. Sharma	<ul style="list-style-type: none"> i) Attended Three days FDP programme on “Stress Management” organised by CMS and ECE department at New Seminar hall, NERIST, on 4-6thNovemeber, 2013 ii) Attended Five days FDP programme on “Ergonomics and Safety in Product Design organised by Agricultural Engineering department, NERIST on 14-18th May, 2013. iii) Attended 3rd International Science Congress (ISC-2013) held on 8th – 9th December, 2013 at Karunya University, Coimbatore, Tamil Nadu, India
Dr. P.P. Mary	<ul style="list-style-type: none"> i) Participated in “<i>Pollinator Conservation & Education & Training Workshop</i>”, held at Tamil Nadu Agricultural University Coimbatore from 3rd to 5th June 2013 ii) Participated in World Biodiversity Congress - 2013(WBC2013) in Chiang Mai Rajabhat University, Thailand, 26th – 30th November 2013. iii) Attended National Symposium on Emerging Trends in Eco-friendly Insect Pest Management, 22nd to 24th January 2014 in Tamil Nadu Agricultural University, Coimbatore.
Dr. M. Sharma	<ul style="list-style-type: none"> i) Attended Three days FDP programme on “Stress Management” organised by CMS and ECE department at New Seminar hall, NERIST, on 4-6thNovemeber, 2013 ii) Attended Five days FDP programme on “Ergonomics and Safety in Product Design organised by Agricultural Engineering department, NERIST on 14-18th May, 2013. iii) Attended 3rd International Science Congress (ISC-2013) held on 8th – 9th December, 2013 at Karunya University, Coimbatore, Tamil Nadu, India
Dr. K. Shrivastava	<ul style="list-style-type: none"> i) Attended ‘World Biotechnology Congress, 2013’ held at Boston, USA from 3rd-6th June, 2013.
Dr. P.R. Gajurel	<ul style="list-style-type: none"> i) Attended 54th Annual meeting of the Society for Economic Botany June 28th –2nd July, 2013, Plymouth University U K. ii) Attended National. Symposium on Himalayan biodiversity: Prospects & Challenges.20th-21stMarch,2014, North Eastern Hill University iii) Attended 23rd Conference of IAAT and National Seminar on Recent Advances in Plant Taxonomy 27th-29th Dec. 2013 RTM Nagpur University
Dr. O.P. Tripathi	<ul style="list-style-type: none"> i) Attended Workshop on Capacity development for Forest Management and Training of Personals, organized by PCCF office, Dept. Env. & Forests, Itanagar from 2nd march- 3rd march 2014

	<ul style="list-style-type: none"> “ Attended Three days FDP programme on “Stress Management” organised by CMS and ECE department at New Seminar hall, NERIST, on 4-6th Novemeber, 2013.
Dr. L.B. Singha	<ul style="list-style-type: none"> i) Attended National seminar on “Recent advances on bamboo research and development in India” organized by Rain Forest Research Institute, Jorhat, Assam, India during 6-7 February, 2014. Title of the paper presented: A molecular approach for the systematics of bamboos of Northeast India.
Dr. S. Sureshku mar Singh	<ul style="list-style-type: none"> i) Attended National Symposium on Bioinformatics-BTISNet in India (Spon. by DBT, Govt. of India), organized by NBRI (CSIR), Lucknow ,2nd February 2014 ii) Advanced Research Training on Natural Product Research (sponsd. by DBT, Govt. of India), organized by Natural Product Chemistry Laboratory, IBSD (DBT), Imphal, Manipur from 23rd March 2013 to 30th September 2014. iii) Attended 20th DeLCON Nodal Officers Meeting (Sponsd. by DBT, Govt. of India), organized by IIT Guwahati, Assam (26th October, 14) iv) Attended National Symposium on Himalayan Biodiversity: Prospects and challenges, organized by NEHU, Shillong from 20-21, March, 2014
Dr. A. Kumar	<ul style="list-style-type: none"> i) Attended Twenty four days SERB summer school on “<i>Weather and Climate in Tropic</i>” organized by Centre for Atmospheric Sciences, IIT, Delhi from 3rd-26th June 2013. ii) Attended four days International workshop on “<i>Red panda Population and Habitat Viability Assessment</i>” organized by Padmaja Naidu Himalayan Zoological Park, Darjeeling at Siliguri, West Bengal, from 26-29th November 2013.
G. Pangging	<ul style="list-style-type: none"> i) Attended 3rd one-day INDEST user convention (E-Journals USER Training workshop)” organised by the AICTE-INDEST User Committee, NERIST on 19th January, 2013. ii) Attended “Assessment of training needs and capacities of the conservation status of medicinal plants in India” held on 28th – 29th January 2013 organised by Dept. of Forestry, NERIST in collaboration with the Institute of Ayurveda and Integrative Medicine (IAIM)-FRLHT, Bangalore. iii) Attended Five days FDP programme on “Ergonomics and Safety in Product Design organised by Agricultural Engineering department, NERIST on 14-18th May, 2013.

4.1.7 New Degrees/Professional Membership obtained by the faculty

Dr. P. Rethy	Life Member of IAAT
Dr. P.P. Mary	<ul style="list-style-type: none"> i) Life member of the Indian Society of Technical Education (AICTE) ii) Life member of World Wide Fund for Nature (WWF), India. iii) Life-member of Entomology Academy of India (EAI)
Dr. C. L. Sharma	Life member of Indian Academy of Wood Science.
Dr. M.B. Sharma	<ul style="list-style-type: none"> i) Life member of International Association of Wood Anatomists, Netherland ii) Life member of Indian Academy of Wood Science.
Dr. P. R. Gajurel	<ul style="list-style-type: none"> i) Annual members of Society of Ethnobiology (USA) and International Ass. of Plant taxonomy (USA) ii) Life member of IAAT, Society of Ethnonobotay (India)
Dr. O.P. Tripathi	Life member of International Society for Environmental Botanists (ISEB), Lucknow
Dr. L.B. Singha	Annual member Society for Conservation Biology, USA.

Mr. G.Pangging	<ul style="list-style-type: none"> i) Life membership in Academy for Environment and life sciences, Agra (Membership ID: FAELS-12) ii) Life membership in Medicinal and Aromatic Plant Association of India (MAPAI), Gujarat. iii) Life membership in Bamboo Society of India, Malleswaram (I.L.M-303/2012) iv) Life membership in National Environmental Science Academy, New Delhi. (L/M No. 1700) v) Life Membership in Indian Society for Plantation Crops, Kerala. (L/M No. 671/12)
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4.1.8 Achievements, awards, recognition, etc. earned by the faculty

Dr. P. Rethy	Executive committee member of <i>Pleione</i> official journal of EHSST
Dr. Karuna Shrivastava	Awarded with DBT International Travel Grant of Rs. 75000.00 for attending WBC, 2013 held at Boston, USA
Dr. P. R. Gajurel	<ul style="list-style-type: none"> i) Editorial board member of <i>Pleione</i> official journal of EHSST. ii) UGC nominated member for Project Advisory committee for SAP programme implemented by Department of Botany, Shivaji University, Kohlapur , MH (2013-16) iii) Awarded the DST International Travel Grant attending a Conference at Plymouth University UK
Dr. O.P. Tripathi	<ul style="list-style-type: none"> i) <i>Associate Editor</i>: Asian Journal of Agriculture Sciences ii) <i>Associate Editor</i>: Research Journal of Environmental and Earth Sciences
Dr. S.S. Singh	<ul style="list-style-type: none"> i) Member, National Steering cum Negotiation Committee of DBT-Electronic Library Consortium (DeLCON) under DBT, Govt. of India, New Delhi (2013) ii) DBT National Associateship, 2013
Dr. A. Kumar	Member, IUCN SSC Primate Specialist Group-2013-2016.

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

Name	Title of project	Sanction No.	Period	Amount (Lakhs)
Dr. B. Singh Dr. P. Rethy P.R.Gajurel	Mapping Management & Analysis of Medicinal and Aromatic Plants in Arunachal Pradesh using GIS and Phytochemical & Molecular Techniques	NEC, Shillong NEC/ST/AP/659/2011 March 23, 2012	3 years (2012-15)	212.00
Dr. P. Rethy Dr. P.R.Gajurel	Research Development, Documentation, Conservation of Wild edible, Aromatic and Medicinal plants of Arunachal Pradesh and adjoining states"	NEC, Shillong NEC/ST/AP/1/2009 13 th September, 2010	3 years (2011-14)	24.12

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	DBT under Twinning programme with HRG, Shimla BT/194/NE/TBP/2011 dated May 24, 2012	3 years 2012-14	32.69
Dr. M.Sharma Dr. Awadesh Kumar	“Studies on contribution of Agroforestry systems in wildlife and biodiversity conservation in Northeast India”	CSIR, New Delhi 37(1585)/13/EMR-II dated 11-04-2013	3 years 2013-14	28.10
Dr. Karuna Shrivastava Dr. SS Singh	“Exploration of Microbial Diversity and microbial role in Arsenic mobilization in As-contaminated groundwater of North-Eastern states (Arunachal Pradesh and Assam)”	DBT, New Delhi BT/19/NE/TBP/2010 dated 25/02/2011	3 years 2011-14	40.02
Dr.P.R.Gajurel, Dr. P. Rethy, Dr. A. Kumar	Development of a digital database on Bio-Resources of North-East India- Through a network among North Eastern States	DBT, New Delhi BT/29/NE/2011, DT. 28/11/2011	3 years 2012-14	Rs. 27.00
Dr.P.R.Gajurel, Dr. P. Rethy	Preventing extinction and improving conservation status of threatened plants through application of biotechnological tools (DBT, New Delhi DBT/Env/BC/01/2010 DT.23/03/2012	3 years (2012-16)	. 8.41
Dr. O. P. Tripathi	AICRP on Sacred Grove Ecosystem Services Assessment in Arunachal Pradesh	MoEF, New Delhi 22/10/2011(SG)-RE	3 years 2013-16	34.28
	HIMADRI-Alpine Forest of Arunachal Pradesh	ISRO-SAC, SAC/EPSA/ABHG/ /PRACRITI/05/13	4 years 2012-17	24.00
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	DST, New Delhi	3 years 2012-15	23.98
Dr. S. Sureshkumar Singh	Establishment of Institute Level Biotech Hub (IBTHub)	DBT, Govt. of India	3 Years 2013-15	26.5
Dr. S. S Singh	“Isolation, characterization and identification of natural pigments of food and industrial value from filamentous fungi”	DBT, Govt. of India BT/19/NE/TBP/2010	3 Years 2011-14	36.90

4.1.10 Publications

(a) Refereed Research Journal

- Awadhesh Kumar, Ashalata Devi, Atul Kumar Gupta and Kuladip Sarma (2013). Population and Behavioural Ecology and Conservation of Hoolock Gibbon in Northeast India: A Review Status. In: Singaravelan (Ed.), *Rare animals of India*. Bentham Science Publisher. Pp. 242-266.
- Awadhesh Kumar, Kuladip Sarma, Jikom Panvor, Krapal Jyoti Mazumdar, Ashalata Devi, Murali Krishna and Parimal Chandra Ray (2014). Threats to the Bengal slow loris *Nycticebus bengalensis* in and around Itanagar Wildlife Sanctuary, Arunachal Pradesh, India: impediments to conservation. *Endangered Species Research*, 23: 99-106.
- Awadhesh Kumar, Kuladip Sarma, Murali Krishna and Ashalata Devi (2013). The Eastern Hoolock Gibbon (*Hoolock leuconedys*) in Eastern Arunachal Pradesh, India. *Primate Conservation*, 27:115-123.
- Awadhesh Kumar, Soyala Kashung, and Atul Kumar Gupta (2013). Population Status and Conservation issues of Mammalian Faunal Diversity in Sepahijala Wildlife Sanctuary, Tripura, Northeast India. *NeBio*, 4 (1): 35-41.
- Bamin, N., Gajurel, P.R., Postungbam, S. & Bhuyan, L.R. 2013. Account of some commonly and traditional NTFP used by Apatani tribes of Arunachal Pradesh, India. *Pleione* 7(2):514-529.
- Bawri, A., Gajurel, P. R. & Khan, M. L. 2013. Record of *Primula waltonii* Watt ex Balf. f. from Arunachal Himalaya with taxonomic notes. *Pleione* 7(1): 262-265.
- Bawri, A., Gajurel, P. R. & Khan, M. L. 2014. New distributional records of *Primula* species in Arunachal Pradesh, India. *Bioscience Discovery* 5(2): 6-10
- Bawri, A., Gajurel, P. R. & Khan, M. L. 2014. *Primula lacerata* (Primulaceae) - a rare species and addition to the flora of India from East Himalayan Region. *Rheedeia* (Accepted)
- Bawri, A., Paul, A., Gajurel, P. R. & Khan, M. L. 2014. Diversity and Distribution of *Primula* species in Western Arunachal Pradesh, Eastern Himalayan Region, India.(under review)
- Bhuyan S. I., Tripathi O. P. and Khan, M. L. 2013. Assessment of soil nutrients and their management for sustainable crop production: A study in hill agro-ecosystems, Eastern Himalaya. *International Journal of Advanced Life Sciences* (in press).
- Bhuyan, S. I., Tripathi, O.P and Khan, M. L. 2013. Soil nutrients status in prominent agro-ecosystems of East Siang district, Arunachal Pradesh. *International Journal of Environmental Sciences*, 3 (6): 1973-1984.
- Bhuyan, S. I., Tripathi, O.P. and Khan, M. L. 2013. Soil acidification: A recent issue in Arunachal Pradesh, Eastern Himalaya. *Current Science*, 105 (12): 1657-1658.
- Bhuyan, S. I., Khan, M. L, and Tripathi, O. P. 2013. Soil physico-chemical properties under four agro-ecosystems in Arunachal Pradesh, Eastern Himalaya. *Plant Achieves*, 13 (1): 199-206.
- Bhuyan, S.I., Tripathi, O.P. and Khan, M. L. 2013. Seasonal changes in soil microbial biomass under different agro-ecosystems of Arunachal Pradesh, north east India. *Journal of Agricultural Sciences*, 8 (3): 142-152.
- Buragohain, R., Gajurel, P. R. & Rethy, P. 2014. *Ficus geocarpa* (Moraceae) A new record for India. (Communicated)
- 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).
- Deka J., Bharali S., Das A. K., Tripathi O. P. and Khan, M. L. 2013. Mapping the potential distribution of *Pinus merkusii* Jungh et de Vries. a vulnerable gymnosperm in eastern Arunachal Pradesh using Maximum Entropy model, *Asian Journal of Geoinformatics*, 13(1): 16-22.
- 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).

- Gajurel, P. R., Shivakanta, P., Buragohain, R. & Rethy, P. 2014. Economic potentiality of wild edible plants with reference to two high value forest produces from Arunachal Pradesh in Eastern Himalaya of India. *Indian Forester* (Communicated)
- 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).
- Kalita J. and Khan, M. L. 2013. Commercial potentialities of essential oil of *Ocimum* members growing in North East India, *International Journal of Pharmacy & Life Sciences*, 4(4): 2559-2567.
- Kalita J., Singh S.S., and Khan, M.L. 2013. *Clerodendrum colebrookianum* Walp.: A potential folk medicinal plant of North East India, *Asian Journal of Pharmaceutical and Biological Research*, 2(2): 256-261.
- Kalita J., Singh S.S., Khan M. L. and Gajurel P. 2013. *Clerodendrum viscosum* Vent.- A medicinal weed of North East India In: *Recent Advances in Natural Products Research*, 52-56.
- Kuladip Sarma, Awadhesh Kumar, Murali Krishna, O.P. Tripathi, P.R. Gajurel (2013). Ground feeding observations on corn (*Zea mays*) by eastern hoolock gibbon (*Hoolock leuconedys*). *Current Science*, 104 (05): 587-589.
- M. Saikia, K. Shrivastava and S. Sureshkumar Singh (2013) Effect of culture media and growth hormones on callus induction in *Aquilaria malaccensis* Lam. A medicinally and commercially important tree species of North East India, *Asian Journal of Biological Research*, 6 (2): 96-105
- Mao A.A., Bhaumik M., Paul A., Bharali S. and Khan, M.L. 2013. *Rhododendron mechukae* (Ericaceae) a new species from India, *Edinburgh Journal of Botany*, 70 (1): 57-60.
- Murali C. Krishna, Awadhesh Kumar, Kuladip Sarma, Parimal C. Ray (2013). Feeding observations of Binturong *Arctictis binturong* (Temminck, 1824) on *Ficus drupacea* in Namdapha National park, Arunachal Pradesh, India. *Small Carnivore Conservation*, 49: 28-30.
- Murali Krishna C, Awadhesh Kumar, Parimal Chandra Ray, Kuladip Sarma, Ashalata Devi, M.L. Khan (2013). Impact of road widening on wildlife in Namdapha National Park, Arunachal Pradesh, India: a conservation issue. *Asian Journal of Conservation Biology*, 2 (1): 66-68.
- Murali Krishna C, Parimal Chandra Ray, Kuladip Sarma and Awadhesh Kumar (2013) Observation on Particolored Flying Squirrel *Hylopetes alboniger* (Hodgson 1836) in Northeast India. *ZOO'S PRINT* (28 (8)):18-20.
- Paul A, Bharali S, Khan ML and Tripathi OP 2013. Anthropogenic disturbances led to risk of extinction of *Taxus wallichiana* Zuccarini, an endangered medicinal tree in Arunachal Himalaya. *Natural Areas Journal*, 33:447-454.
- Paul A, Kalita J, Khan ML and Tripathi OP 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*, 4(2):131-137.
- Premkumar N. & Gajurel, P. R. (2014). Ethnomedicinal value of Some traditional foods plants uses by Zeliang Tribes of Nagaland (Communicated)
- Saikia P. and Khan, M.L. 2013. Population structure and regeneration status of *Aquilaria malaccensis* Lam. in homegardens of Upper Assam, northeast India, *Tropical Ecology* 54(1): 1-13.
- Saikia P., Choudhury B.I. and Khan M.L. 2012. Floristic composition and plant utilization pattern in homegardens of Upper Assam, India. *Tropical Ecology* 53(1): 105-118.
- Salam, D., L. B, Singha and Khan, M. L. 2013. Changes in soil physico-chemical parameters of *Dendrocalamus hamiltonii* Nees and *Melocanna baccifera* (Roxb.) Kurz forests during pre-flowering, flowering and post-flowering phases in Eastern Himalayas, India. *IOSR Journal of Environmental Science, Toxicology and Food Technology*, 7(5):11-16.
- Sharma K, Kumar A, Krishna CM, Tripathi OP and Gajurel 2013. Ground feeding observations on corn (*Zea mays*) by eastern hoolock gibbon (*Hoolock leuconedys*). *Current Science*, 104(5): 587-589.
- Sharma, C. L., Sharma, M. and Carter, M. J. 2013. Radial variation in fibre length and wood density of *Mellanorrhoea usitata* Wall. *Indian Forester*, 139 (6): 518-520.

- Sharma, C. L., Sharma, M. and Lipoktila. 2013. Timber species used in traditional wood carving by Ao tribe of Nagaland. *Life sciences leaflets*,4: 31-40.
- Sharma, M., Sharma, C. L. and Deb barma J. 2013. Ethnobotanical uses of some tree species in Khowai district of Tripura, NE India. *Life sciences leaflets*, 4 : 60-80.
- Sharma, M., Sharma, C. L. and Kumar, Y. B. 2013. Evaluation of fiber characteristics in some weeds of Arunachal Pradesh, India for pulp and paper making. *Res. J. Agri. For. Sci.*, 1(3): 15-21.
- Singh, M. K., Sharma, M. and Sharma, C. L. 2013. Wood anatomical variations in some *Terminalia* species of Assam. *Int. J. Bot. Res.*, 3 (2): 13-18.
- Tamuly, C., Hazarika, M., Bora, J., Boruah, M. P. & Gajurel, P.R. 2014. In vitro study of antioxidant activities and phenolic content of three *Piper* species from North East India 2014(online published)
- Yumnam, J. Y. and Tripathi OP 2013. Ethnobotany: Plants use in fishing and hunting by Adi tribe of Arunachal Pradesh. *Indian Journal of Traditional Knowledge*, 12 (1): 157-161.
- Yumnam, J. Y., Tripathi O. P. and Khan, M. L. 2013. Soil dynamic of agricultural landscape in East Siang district of Arunachal Pradesh, Eastern Himalaya. *African J. of Plant Science*, 7(1): 43-52.

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

- B. Omang and S. Sureshkumar Singh (2014) Genome characterization of five wild banana (*Musa* spp.) from Arunachal Pradesh using morphological and molecular approaches. In: Proc. National Symposium on Himalayan Biodiversity: Prospects and Challenges, NEHU, Shillong, 20-21, March, 2014.
- Bawri, A. Gajurel, P. R. & Khan, M. L. 2014. Diversity of *Primula* Species in Eastern Himalaya In: Proc. National. Symposium on Himalayan biodiversity: Prospects & Challenges. 20th-21st March, 14 North Eastern Hill University
- Bawri, A. Gajurel, P. R. & Khan, M. L. 2014. Some interesting records of *Primula* species from Arunachal Pradesh in 23rd Conference of IAAT and National Seminar on Recent Advances in Plant Taxonomy 27th-29th Dec. 2013 RTM Nagpur University
- Bhuyan S. I., Tripathi O. P. and Khan M. L. 2013. Agricultural systems and Rural development: An overview of Arunachal Pradesh, Eastern Himalaya. Concept Publishing Company, New Delhi (in press).
- Ch. Khanikar and S. Sureshkumar Singh (2014). Seasonal variation of microfungus population and diversity in the rhizosphere soil of four medicinal plants in Assam. In: Proc. National Symposium on Himalayan Biodiversity: Prospects and Challenges, NEHU, Shillong, 20-21, March, 2014.
- 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
- G. Ranibala, S. Sureshkumar Singh and M. L. Khan (2014) diversity of ornamental bananas (*Musa* spp.) in Arunachal Pradesh, North Eastern India. In: Proc. National Symposium on Himalayan Biodiversity: Prospects and Challenges, NEHU, Shillong, 20-21, March, 2014.
- Gajurel P R. & Buragohain R. 2013 Ethnobotany of the family Moraceae in Northeast India in 54th Annual meeting of the Society for Economic Botany June 28th –July 2nd, 2013 Plymouth University U K
- Gajurel, P. R., Shivakanta P., Singh B., Rethy, P.(2014) Non Timber Forest products of Arunachal Pradesh: A Review in National. Symposium on Himalayan biodiversity: Prospects & Challenges. 20th-21st March, 14 North Eastern Hill University
- H. Arya, D. R. Ampasala, S. Sureshkumar Singh and M.S. Coumar (2013) In silico investigation of chemical constituents of *Clerodendrum colebrookianum* for interaction with antihypertensive drug target-Rho-associated coiled-coil protein kinase (ROCK). In. Proc. 6th Science Conclave, IIIT Allahabad, 8-14th December, 2014.

- J. Kalita, S. Sureshkumar Singh, P. Gajurel, M.L. Khan, S. Mohane Coumar and A. Dinakara Rao (2014) Ethnomedicinal potential *Clerodendrum* spp. occurring in North Eastern India In: Proc. National Symposium on Himalayan Biodiversity: Prospects and Challenges, NEHU, Shillong, 20-21, March, 2014.
- J. Dutta, D. Balasubramanian, A. Arunachalam, S. S. Singh and K. Arunachalam (2013) Methane emission from different agricultural practices in eastern Himalayan region. In. proc. National Seminar on Climate Change, Environment and Sustainable Development, Jamia Hamdard, New Delhi, 9-10th December, 2013.
- Karuna Shrivastava & S.S. Sandhu (2013). "Molecular characterization of indigenous yeast strains used in amylolytic starters in Arunachal Pradesh, Northeast India using RAPD-PCR". Paper presented (orally) in 'World Biotechnology Congress, 2013' held at Boston, USA from 3rd-6th June, 2013.
- P.P. Mary, Radha Raman Sinha, Awadhesh Kumar, Mintu Medhi, Gautam Narayan, Parag Deka (2013). Habitat Characteristics of the Critically Endangered Pigmy Hog (*Porcula salvania*) of Manas National Park and Rajiv Gandhi Orang National Park in Assam, Northeast India. In: *Knowledge systems of societies for Adaptation and mitigation of impacts of climate change*, (eds. Nautiyal S., Rao, K.S., Kaechele H., Raju K.V. and Schaldach R.), Pp.-405-421. Springer-Verlag Berlin Heidelberg
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- Rethy P. Gajurel P R. & Buragohai R. 2014. The morphological variation and its taxonomic significance in the genus *Ficus* of Arunachal Pradesh in 23rd Conference of IAAT and National Seminar on Recent Advances in Plant Taxonomy 27th-29th Dec. 2013 RTM Nagpur University
- S. Sureshkumar Singh, G. Ranibala, and M. L. Khan (2013) A digital database on banana (*Musa* spp.) resources of North eastern India. In Proc. National Symposium on Bioinformatics: Role of bioinformatics in biodiversity management, NBRI (CSIR), Lucknow, 2nd march, 2013
- S. Sureshkumar Singh, N.C. Talukdar, G.K. Saini, M.L. Khan, K. Shivastava and J.C. Bohra (2014). Bioprospecting microbial pigments of food and industrial values from filamentous fungi. In: *Proc. National Symposium on Himalayan Biodiversity: Prospects and Challenges*, NEHU, Shillong, 20-21, March, 2014.
- 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 35th Indian Social Science Congress*, Indian Academy of Social Sciences in association with Mahatma Gandhi Antarrashtriya Hindi Vishwavidyalaya at Wardha, Maharashtra (in press).
- Sharma C. L., Sharma, M. and Jamir L. 2013. Radial variation in wood properties of plantation grown *Terminalia myriocarpa* Heurck. & Muell-Arg in Nagaland. A poster paper presented in 3rd International Science Congress (ISC-2013) held on 8th – 9th December, 2013 at Karunya University, Coimbatore, Tamil Nadu, India.
- Sharma M., Sharma C. L. and Marak, P. N. 2013. Indigenous uses of medicinal plants in North Garo Hills, Meghalaya, NE India. A poster paper presented in 3rd International Science Congress (ISC-2013) held on 8th – 9th December, 2013 at Karunya University, Coimbatore, Tamil Nadu, India.
- Singh, M. K., Sharma, M. and Sharma, C. L. 2013. Wood characteristics and medicinal uses of some timbers of NE India. A poster paper presented in National Seminar on "Recent Trends in Bio-resource Management & Biodiversity Conservation held on 17-19th October, 2013 at Rajiv Gandhi University, Itanagar, Arunachal Pradesh, India.
- Thungon, L.T., Angu, I. and Tripathi, O.P. (2014). Floristic diversity and community characteristics of Zengbulok sacred groves, West Kameng district, Arunachal Pradesh. In: National symposium on Himalayan Biodiversity- Prospects and challenges, Botany, NEHU, Shillong, March 20-21, 2014.
- Thungon, L.T., Zimik, L., Iri, A., Paul, A. and Tripathi, O.P. (2013) Plant diversity, community

characteristics and population structure of woody species in different forests of Itanagar Wildlife Sanctuary, Arunachal Pradesh. In: Recent Trends in Biodiversity conservation organized by RGU, Rhono Hills, Arunachal Pradesh, 17-19 October 2013.

Yam, G and Tripathi, O.P. (2013). Floristic diversity, Community characteristics and above biomass of woody species in subtropical forests of Ziro valley, Arunachal Pradesh. In: Recent Trends in Biodiversity conservation organized by RGU, Rhono Hills, Arunachal Pradesh, 17-19 October 2013.

Yam, G., Zimik L., Thungon, L.T., Angu, I. and Tripathi, O.P. (2014). Floristic diversity and aboveground woody biomass in Itanagar Wildlife sanctuary, Arunachal Pradesh. In: National symposium on Himalayan Biodiversity- Prospects and challenges, Botany, NEHU, Shillong, March 20-21, 2014.

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

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

- Forest Research Institute (FRI), Dehradun
- Botanical Survey of India (BSI), Kolkata, Shilllong and Itanagar
- Forest Survey of India (FSI), Dehradun
- Foundation for Revitalisation of Local Health Tradition (FRLHT), Bangalore
- Indian Institute of Remote Sensing (IIRS), Dehradun
- Indian Space Research Organisation (ISRO-SAC), Ahmedabad
- State Forest Research Institute, Itanagar
- Universities like NEHU, Gauhati University, Manipur University, Delhi University, Tezpur University, Rajiv Gandhi University, etc.

4.1.12 Achievements of the students

1. Mr. Lansothung Lotha (MS/11/FO/001), selected as Range Forest Officer, Nagaland
2. Mr. Samdakiyoo Ph R Shullai (MS/11/FO/007), selected as Range Forest Officer, Meghalaya
3. Mr. Robert Panmei (MS/11/FO/006), qualified ARSB (ICAR) NET and awarded DST INSPIRE Fellowship, 2013
4. Ms. Gyati Yam (MS/09/FO/101) selected for Rajib Gandhi National Fellowship (RJNF), New Delhi.
5. Ms. Bullo Omang (Ph.D(FT)/12/FO/06) awarded for the Maulana Azad National Fellowship for five years to pursue Ph.D. Degree in the Department of Forestry, NERIST, in 6th Feb 2014.
6. Ms. Soibam Yaiphabi (MS/12/FO/007) qualified Manipur Public Service Commission conducted Assistant Conservator of Forest Examination, 2014.
7. Ms. Thokchom Sonia Devi (MS/12/FO/001) qualified Manipur Public Service Commission conducted Assistant Conservator of Forest Examination, 2014.

4.1.13 Any Others, if any

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

I. Developmental works-

- a) Erection of a poly house from project fund in the nursery
- b) Plantation and management of important plants in Forestry Nursery

II. New equipments added

Sl.No.	Name of equipment	Purpose	Lab No
1	Laboratory Refrigerator with stabilizer	For storing samples	Lab. 2
2	Herbarium Dryer	To dry the herbarium specimen	Lab. 3
3	Stereo dissecting Microscope with photographic attachment	To evaluate microscopic characters and photography	Lab. 3
4	GIS plotter and scanner	For printing wide images, map, etc.	Lab. 3
5	GIS software (ERDAS)	For geospatial application	Lab. 3
6	Plant growth chamber	For plant tissue culture and experiment on stress physiology	Lab. 4
7	Projector Sharp	For presentation	Lab. 4
8	Microwave	For hair analysis of wild animals	Lab. 6
9	Refrigerator	For keeping the field samples	Lab. 6

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 05, 15 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

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

4.2.3 Laboratories and Laboratory Development

Following equipments were purchased for laboratories:

Panasonic Projector (Model-PT-VW435N), Direct Shear Apparatus, Tube model, Digital thermo hygrometer.

4.2.4 Project completed by the PG and UG students (completed in May, 2013)

(a) M. Tech. (Soil and Water Conservation Engineering) project

S.No	Title of the project	Name of the guide	Name of the student
1	Estimation of reference evapotranspiration using data driven technique.	Mr. P. K. Pandey Dr. P. P. Dabral	Ms. Topi Nyori
2.	Trend analysis of surface water quality in Godavari River Basin, Peninsular, India	Dr. Deepak Jhaharia	Ms. Juri Nasi
3.	Modelling and forecasting of monthly rainfall and temperature to detect climate change for Jorhat(Assam)	Dr. P. P. Dabral	Mr Tadol Saring
4.	Effect of changing climate on depletion curve of a snow catchment.	Dr. Aditi Bhadra Dr. A. Bandyopadhyay	Mr. Tobam Rukbo
5.	Assessment of climate change of India and links with atmospheric circulation.	Dr. S. K. Shrivastava Dr. Anwar Hussain	Ms. Taw Rina

(b) Degree projects

S.No	Title of the project	Name of the guide	Name of the student
1	Snow covers mapping and glacier identification over Tawang river basin in eastern Himalayan region.	Dr. Aditi Bhadra Dr. A. Bandyopadhyay	Mr Lenin Tayeng Mr Rabi S. Mog
2	Optimization of land carrying of female workers in Shepa mode.	Dr. P. K. Pranav	Mr. Spondan Challeng Mr. Lakhyajit Das
3	Spray drying of pine apple juice.	Dr. P. A. Kumar Mr D. K. Syamal	Ms. Debyani Roy Ms. Grace Nengzouzam
4	Dry and wet spell probability by Markov chain model for North Lakhimpur(Assam)	Dr. P. P. Dabral	Mr. Kuntal Purkaystha Mr Mai Aram
5.	Spatial interpolation of reference evapotranspiration	Dr. A. Bandyopadhyay Dr. Aditi Bhadra	Mr. Sajal Sarkar Mr Areor G. R. Mark
6.	Climate change and Malaria: A case study from north east India	Dr. Deepak Jhaharia	Ms. H. Thomson Ms. Subu Monia
7.	Comprative infiltration modeling of three land uses	Dr. S. K. Shrivastava	Mr. Kiran Shankar Chamuah Mr. Taku Toshi Jamir

(c) Diploma projects

S.No	Title of the project	Name of the guide	Name of the student
1	Effect of blanching on drying kinematics of fermented bamboo shoot (<i>Dendrocalamus hamiltonii</i>)	Dr. P. Anand Kumar Mr. D. K. Syamal	Ms. Sabita Basnett Mr. Bijay Chettri Mr. Choyivolu Khesoh
2	Design of cyclone separator to reduce air borne dust for rice mill	Dr. P. K. Pranav	Ms. Sanjana Debbarma Ms. Kabyasree Choudhury
3	Estimation of reference evapotranspiration in Thar desert	Dr. D. Jhajharia	Mr. B. K. Thakur Mr. Taku Raji Mr. Racha Sala
4	Economic evaluation and overall assessment of water harvesting ponds using score card system	Dr. P. Dabral Mr. P. K. Pandey	Mr. Pinak Pani Dutta Mr. Karm Chand Kisku Mr. Santosh Kumar
5	Temperature lapse rate study in Arunachal Himalya	Dr. Aditi Bhadra Dr. A. Bandyopadhyay	Mr. Minotshing Maza Mr. Mahonshai Zimik Ms. N. Hangshing
6	Performance evaluation of different types of manually operated weeders	Mr. M. Ukil Singh	Mr. Sapunii Sebastin P. V. Mr. P. Agassi R. Mark Mr Ringrak G. Momin
7.	Drying characteristics and powdering of leafy vegetables	Mr. D. K. Syamal	Ms. D. lalringsingi Mr. Indra Vendu Kumar Ms. L. M. Meiti

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

Dr. P. K. Pranav organised TEQIP sponsored faculty development programme on “Ergonomics and Safety in Product Design” during 14th- 18th May, 2013.

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

Dr. L. S. Yadav attended national seminar on “Recent Advancement in Mechanical Engineering” organized by Department of Mechanical Engineering, NERIST on 8-9 November, 2013 at NERIST.

Dr. L. S. Yadav, Dr. P. P. Dabral, Dr. S. K. Shrivastava, Dr. Deepak Syamal . Dr. P. K. Pranav, Dr. P. K. Pandey, A. Bandyopadhyay and A. Bhadra attended TEQIP-MHRD(word Bank) sponsored programme on “ Ergonomics and safety in product design” organized by Agril. Engg. Deptt., NERIST, during 14-18 May, 2013.

Dr. P. P. Dabral, Dr. S. K. Shrivastava, Dr. K. N. Dewangan, Dr. Deepak Syamal, Dr. P. K. Pranav, A. Bandyopadhyay and A. Bhadra attended TEQIP-MHRD(word Bank) sponsored programme on “ Pedagogical training for Engineering Teachers” organized by Mechanical Engg. Deptt., NERIST, March 21-23, 2014.

Dr. K. N. Dewangan attended Faculty development programme on “Stress management” sponsored by TEQIP (MHRD-World Bank Project) organised by Centre of Management Studies and Department of Electronics and Communication Engineering during November 4-6, 2013

Dr. K. N. Dewangan attended Faculty development programme on “Recent advances in signal processing and semiconductor devices” sponsored by TEQIP (MHRD-World Bank Project) organised by Department of Electronics and Communication Engineering during January 24-29, 2014.

Dr. Deepak Syamal, Dr. K. N. Dewangan , Dr. P. K. Pranav , A. Bandyopadhyay and A. Bhadra attended TEQIP-MHRD(word Bank) sponsored programme on “ Cloud Computing in Education ” organized by Computer Science Deptatment., NERIST, during 3-7 Feburary, 2014.

Dr. D. Jhajharia attended international workshop on “ Climate change impacts and societal adaption”(CCISA-2013) from 7-8 November, 2013 at Central University of Rajasthan(Ajmer) orgnised jointly by Central University of Rajasthan(India) and Swedish Meterological and Hydrological Institute(Sweden).

Dr. K. N. Dewangan attended International Conference on Whole-body Vibration Injuries organised by Academic Medical Center, Amsterdam, and Netherland during June 5-7, 2013

Dr. Deepak Jhajharia attended the TQIP sponsored one week programme on ground water at Department of Civil Engineering, GBPUA&T, Pantanagar from March 21-25, 2014.

Dr. A. Bhadra attended 7th IWA Specialist Conference on Effiience Use and Management of Water (EFFICIENT 2013), Paris, France, 22-25 October 2013

Dr. A. Bandyopadhyay and A. Bhadra attended XXVII National Convention of Agricultural Engineers and National Seminar on Green Revolution through Agricultural Engineering Technologies, Institution of Engineers (India), Kerala State Centre, Thiruvananthapuram, 22-23 Feb 2014.

4.2.7 New Degrees/Professional Memberships obtained by the faculty

Dr. P. K. Pranav obtained Life Membership of Indian Society of Ergonomics.

4.2.8 Achievements/awards/recognition earned by the faculty

Dr. P. K. Pranav received Jawaharlal Nehru award for outstanding Doctoral Thesis Research, 2012, ICAR, New Delhi.

Dr. D. Jhajharia received best paper award as a co-author for the paper entitled “ Global review and synthesis of trends in observed terrestrial near-surface wind speeds: Implications for evaporation”, JOH (Volume 416-417,issue, January 2012, pages 182-205) by the CISRO Land and Water Australia).

4.2.9 Projects sanctioned by outside agencies to the faculty of the department

(April, 2012 to March, 2013) (Name(s) of PI and co-investigator, if any, title of the project funding agency, date of sanction, total amount, fund received during the year under review):

Dr. P. K. Pranav (PI). Design and development of automatic safety device for longitudinal overturn of tractor during transport work, funded by DST. ₹24.12 lakh.

A. Bhadra (PI) and A. Bandyopadhyay (Co-PI), Development of Hydrological Module for Snowmelt Runoff in the Himalayan Region under Pracriti-II Hydrology Project, SAC, ISRO, Ministry of Space, ₹19,60,000/-, Fund received during the review year: ₹3,00,000/-.

A. Bhadra (PI) and A. Bandyopadhyay (Co-PI), Impact of Climate Change on Snowmelt Runoff Contribution to Eastern Himalayan Nuranang River, DST, ₹41,44,200/-, Fund received during the review year: ₹5,00,000/-.

A. Bandyopadhyay (PI) and A. Bhadra (Co-PI), Vulnerability of North-East India to Climate Change for Hydrological Extremes of Floods and Droughts, INCSW-MoWR, ₹30,71,880/-, Fund received during the review year: ₹10,57,000/-.

Dr. O. P. Tripathi (PI) and P. K. Pandey (Co-PI). Alpine ecosystem dynamics and impact of climate change in Indian Himalasya (PRACITI-II). Funded by SAC, ISRO. ₹23.01 lakhs. Duration 2013-15. Fund Recived during 2013: ₹8.9 lakhs.

4.2.10 Publications

(a) Refereed Journal

Yadav, L. S.(2013). Potential for bioethanol production in India. *International Journal of Bioherold*, 3(2):144-148.

Yadav, L. S.(2013). Strategy for organize tea farming in north east India, *International Journal of Bioherold*, 3(2):125-130.

Dabral, P. P., Roy, S. and Baithuri, N.(2013). Climatological parameters and its variation in Doimukh(Itanagar), Arunachal Pradesh. *Journal of Research (BAU)*, 25(1):49-32.

Dabral, P. P., **Pandey, P.K.**, Kumar, T. and Chakraborty, S. (2014). Determination of discharge coefficient and head discharge relationships of different hydraulic structure. *Journal of Indian Water Resources Society*, 34(1):40-52.

Dabral, P. P., **Jhajharia, D.**, Mishra, P., Hangshing, L. and Doley, L. (2014). Time series modelling of pan evaporation: A case study in the north east India. *Global Nest Journal*, 16(2):281-293.

Dewangan, K.N., Rakheja, S., Marcotte, P. and Shahmir, A. (2013). Comparisons of apparent mass responses of human subjects seated on rigid and elastic seats under vertical vibration. *Ergonomics*, 56:1806-22.

Dewangan, K.N., Shahmir, A., Rakheja, S. and Marcotte, P. (2013). Seated body apparent mass to vertical whole body vibration: gender and anthropometric effects. *International Journal of Industrial Ergonomics*, 43:375-391.

Dewangan, K.N., Shahmir, A., Rakheja, S. and Marcotte, P. (2013). Seat-to-head transmissibility response to vertical whole body vibration: gender and anthropometric effects. *Journal of Low Frequency Noise, Vibration and Active Control*, 32:11-40.

D. Jhajharia, S. Chattopadhyay, R. R. Choudhary, V. Deb, V. P. Singh, S. Lal (2013). Influence of climate on incidence of malaria in the Thar Desert, northwest India, *International Journal of Climatology*, 33: 312-325.

F. Daneshvar, Vousoughi, Y. Dinpashoh, MT Aalami, **D. Jhajharia** (2013). Trend analysis of groundwater using non-parametric methods (Case study: Ardabil plain). *Stochastic Environmental Research and Risk Assessment*, 27:547-559.

Yagob Dinpashoh; Rasoul Mirabbasi, **Deepak Jhajharia**; Hamid Zare Abianeh; and Ali Mostafaeipour. (2014). Effect of Short-Term and Long-Term Persistence on Identification of Temporal Trends. *ASCE Journal of Hydrologic Engineering*, 19 (3): 617-625.

Pandey, V., **Pandey, P. K.** and Mahanta, A. P. (2013). Calibration and performance verification of Hargreaves Samani equation in humid region. *Journal of irrigation and Drainage* (Manuscript ID: IRD-12-0190)

Bhadra, A., Bandyopadhyay, A., Singh, R., Raghuwanshi, N.S. 2013. Development of a user friendly water balance model for paddy. *Springer Paddy and Water Environment*, 11(1): 331-341. ISSN: 1611-2490 (Print), 1611-2504 (Online). DOI: 10.1007/s10333-012-0324-4.

(b) Conference papers

Yadav, L. S.(2013). Recent advances in growth of tractors and their role in food productions. Proceedings of the national seminar on “Recent advancement in Mechanical Engineering”, organized by Deptt. Of Mech Engg., NERIST on 8-9 November at NERIST, Nirjuli (Itanagar).

Yadav, L. S. (2013). Entrepreneurship development for women in tea production in north east India. Proceedings of the national seminar on “Women Entrepreneurs among Tea Production” organised by Marians College, sponsored by UGC, on 24-25 December at Mariani College, Jorhat, Assam , p51-55.

Dewangan, K.N., Teiheile Hegue and Ngahorza Chiphang. (2013). Reduction of noise exposure to the power tiller operator. In: Proceeding of National Conference on Recent Advances in Mechanical Engineering, NERIST, Nirjuli, India, pp 337-342.

Dewangan, K.N., Rakheja, S., Marcotte, P. and Shahmir, A. (2013). Measurement of vertical apparent mass responses of human subjects seated on elastic seats. In: Proceeding of 5th International Conference on Whole-body Vibration Injuries, Netherland, pp 29-30.

Dewangan, K.N., Rakheja, S., Marcotte, P., Shahmir, A. and Boileau, P.-É. (2013). Effects of elastic seats on seated body apparent mass responses to vertical whole body vibration. In: Proceeding of 5th International Conference on Whole-body Vibration Injuries, Netherland, pp 61-62.

Jhajharia, D., J.R.B. Cantalice, V. P. Singh, R. Kumar, R. R. Choudhary (2014). Trend analysis in rainfall under different climatic conditions of India and Brazil. International Symposium on integrated Water Resources Management(IWRM-2014), Feburay,19-21, Choudhary, R. Jhajharia, D., Kumar R., Jakhar,O.P.(2013). Trends in bright sunshine duration over Nagpur site located in the Godavari Basin. Journal Indian Geological Congress: 18th convention Special Volume, 5(1):235-2382014, CWRDM, Kozhikode, Kerala, India, pp75-81..

Choudhary, R. **Jhajharia, D.**, Kumar R., Jakhar,O.P.(2013). Trends in bright sunshine duration over Nagpur site located in the Godavari Basin. Journal Indian Geological Congress: 18th convention Special Volume, 5(1):235-238

Bhadra, A., Raghuwanshi, N.S., Singh, R. 2013. Development of a year-independent efficient delivery schedule for an existing irrigation project in India. Proceedings of the 7th IWA Specialist Conference on “Efficiency Use and Management of Water (EFFICIENT 2013)”, Paris, France, October 22-25, 2013.

Bhadra, A., Bales, R.C. 2013. Simulation of RHESSys for Nuranang River Basin of Eastern Himalayan Region. Indo-US Research Fellowship Program Compendium, Indo-US S & T Forum, SERB, DST, Govt. of India: 18-20.

Sanayanbi H, V. Victoria Zaphu, N. Monica, Vanlalremruatpuii TBC, **Bandyopadhyay, A.** 2014. Vulnerability Assessment of Arunachal Pradesh to Floods. International Journal of Innovative Research in Science, Engineering and Technology, Vol. 3, Sp. Iss. 4 (March 2014) on National Conference on Recent Advances in Civil Engineering (NCRACE-2013), Org. by Dept. of Civil Engrg., NERIST, Nirjuli, November 15-16, 2013: 81-92.

Senzeba, K.T., Rajkumari, S., **Bhadra, A.** 2014. Snow Accumulation and Depletion Pattern of an Eastern Himalayan River Basin. International Journal of Innovative Research in Science, Engineering and Technology, Vol. 3, Sp. Iss. 4 (March 2014) on National Conference on Recent Advances in Civil Engineering (NCRACE-2013), Org. by Dept. of Civil Engrg., NERIST, Nirjuli, November 15-16, 2013: 102-109.

(c) Chapters in Books

Shrivastava, S. K., Rai, R, K., Phuken, Y., Teli, N.(2013). Searching evidence for trend in rainfall of Arunachal Pradesh, J. Sundaresan, S. Sreekesh, A. L. Ramanathan, L. Sonnenschein and Ram Boojh (Eds). Climate chane and Environment, Scientific Publishers(India), New Delhi,p59-70.

4.2.11 Interaction of faculty/department with outside agencies

Dr. Deepak Jhajharia visited Federal Rural University of Pernambuco (UFRPE) at Recife (Pernambuco) in Brazil to pursue research under the Soil Water Conservation Engineering Lab (Department of Agronomy) from 05th July 2013 to 05th December 2013 in a project funded by the Federal Government of Brazil.

4.2.12 Consultancy projects undertaken

Dr. P. P. Dabral and Dr. Deepak Jhajharia had taken consultancy work for preparing evaluation report and supervision of sustainable development activity at Ranganadi Hydro Electric Plant (RHEP), Yazali, Arunachal Pradesh for the year 2012-13.

4.2.13 Achievements of students

Mr. Kuntal Purkayashtha and Mr. Lenin Tayeng Qualified GATE-2013.

4.2.14 Any other relevant information

Dr. S. K. Shrivastava and Dr. Aditi Bhadra are acting as Nodal Officer for NERIST for National Water Mission(NWM), New Delhi on Climate Change impact studies on river basins (Brahmaputra and Barrack basins and Bangladesh and Myanmar).

Dr. Deepak Jhajharia acted as Nodal Officer (Anti-Ragging Cell).

A. Bandyopadhyay is a Member of Governing Council, Meghalaya Water Resources Development Agency.

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 Ph.D., 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.

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.

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 following are the list of equipment procured during the year.

S. No.	Name of Labs	Name of equipment	Quantity	Make	Total Cost (Rs.)
1	Survey Lab	Auto Level	05	Sun Aparna DSC	90,455
2.	Water Resources Lab	GMS Software 5 Users License	01	Maverick Technologies, Guwahati	4,14,750
3.	Environmental Engg.Lab	Portable Digital Analyser	01	ISO Tech System	1,95,775
		Total			7,00,998

New laboratory developed**(b) Laboratory manuals prepared****4.3.4 Projects completed by the UG/PG students (completed in May 2013)****(a) B. Tech. Projects completed**

S. No	Title	Submitted in	Guide
1	Load Bearing Capacity of Model Piles under different soil and Tip conditions	May 2013	Prof. S. K. Singh
2	To study the effects of fly ash and super plasticisers on compressive strength of M30 grade concrete	May 2013	Dr. S. Mishra
3	Study of Aquifer Parameters	May 2013	Dr. R. K. Prasad
4	Design of Laboratory Scale RBC to Treat Waste Water from NERIST hostels	May 2013	Dr. Ajay Bharti
5	Analysis of Traffic Flow using Simulation Model	May 2013	Mr. Dibyendu Pal
6	Application of FEM to solve simple problems in Structures by using MATLAB	May 2013	Dr. Dipika Devi
7	Geotechnical and Structural Analysis & Design of Nirjuli Mosque	May 2013	Dr. M. Hussain
8	Compaction and strength characteristics of red soil blended with fly ash and lime.	May 2013	Dr. Ajanta Kalita
9	To study the effect of sources of aggregates on performance of bituminous concrete		Mr. N.G.Sorum

(b) M. Tech Projects Completed

S. No.	Name of Student	Year	Title of the Dissertation	Name of the Supervisor
1	Mr. Shovan Roy	2011-2013	Calibration of Soil Constitutive Model Parameters	Dr. Dipika Devi
2	Mr. Morge Bagra	2011-2013	Strength and Stiffness Response of Jute Fibre Reinforced Soil	Dr. H. P. Singh
3	Sangey Lhamu	2011-2013	Volume Change Behavior of Fly Ash Stabilized Expansive Soil	Dr. Monowar Hussain
4	Tarh Reema	2011-2013	Strength Characteristics of Red soil Blended with Fly ash and Lime	Dr. (Mrs.) Ajanta Kalita

5.	Mr. Bani Yirang	2011-2013	Removal of Fluoride from Drinking Water by Local Available Material	Dr. Ajay Bharti
6.	Mr. Lishi Toni	2011-2013	Comparative Studies of Different Chemicals used as Coagulants”	Dr. Ajay Bharti
7.	Mr. Hibu Pai	2011-2013	Removal of Iron from Drinking Water by Local available Materials	Dr. Ajay Bharti

4.3.5 Short-term Courses/Seminars/Workshops Organized

Dr. S. Mishra, Dr. Ajay Bharti & Mr. K. Kiran Singh Coordinated a TEQIP funded two days Seminar on “Recent Advances in Civil Engineering” during 15-16, Nov. 2013.

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

Ms Y. Tamut attended the faculty development programme on Recent Advances in Tribology and Materials for Tribological Applications organized by Department of Mechanical Engineering at NERIST from April 10-14, 2013.

Ms Y. Tamut attended the faculty development programme on Ergonomics and Safety in Product Design organized by Department of Agricultural Engineering at NERIST from May 14-18, 2013.

Ms Y. Tamut attended the faculty development programme on Stress Management organised by Department of Electronics and Communication Engineering at NERIST from November 4-6, 2013.

Ms Y. Tamut attended the Faculty development programme on Optical Techniques and Devices in Scientific and Engineering System Applications organized by Department of Physics and Electrical Engineering at NERIST from October 28-November 1, 2013.

Dr. A. Kalita attended the faculty development programme on Optical Techniques and Devices in Scientific and Engineering organized by Department of Electrical Engineering at NERIST from October 28-November 1, 2013.

Dr. A. Kalita attended the short term training programme on Geotechnical Engineering Practices and Developments organized by Department of Civil Engineering at IIT GUWAHATI, during JANUARY 6 to 10 2014.

Dr. A. Kalita attended the faculty development programme on Pedagogy Training (Core module) for Faculty Development of Effective Teaching organized by IIT Guwahati, at NERIST, March 2014.

Ms M. Puming attended the faculty development programme on Ergonomics and Safety in Product Design organized by Department of Agricultural Engineering at NERIST from May 14-18, 2013.

Ms M. Puming attended the faculty development programme on Stress Management organised by Department of Electronics and Communication Engineering at NERIST from November 4-6, 2013.

Ms M. Puming attended the Faculty development programme on Optical Techniques and Devices in Scientific and Engineering System Applications organized by Department of Physics and Electrical Engineering at NERIST from October 28-November 1, 2013.

Shri S. K. Sahu attended the faculty development programme on Stress Management organised by Department of Electronics and Communication Engineering at NERIST from November 4-6, 2013.

Dr. R. K. Prasad attended the faculty development programme on Stress Management organised by Department of Electronics and Communication Engineering at NERIST from November 4-6, 2013.

Dr. R. K. Prasad attended the faculty development programme on Pedagogy Training (Core module) for Faculty Development of Effective Teaching organized by IIT Guwahati, at NERIST, March 2014.

Dr. S. Mishra attended the faculty development programme on Pedagogy Training (Core module) for Faculty Development of Effective Teaching organized by IIT Guwahati, at NERIST, March 2014.

Dr. M. Hussain attended the short term training programme on Geotechnical Engineering Practices and Developments organized by Department of Civil Engineering at IIT GUWAHATI, during JANUARY 6 to 10 2014.

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

Ms. Dipika Devi was awarded Ph.D Degree at IIT Guwahati on 5 Sept 2013.

Mr. K. K. Singh was awarded M. Tech Degree in Structural Engineering from IIT Guwahati on May 2014.

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) Refereed Journals:

Singh, H.P (2013). "Strength and stiffness response of soil reinforced with cotton Fiber." *IJCET*, vol. 4, issue 4, 304-312, July-August 2013.

Singh, H.P (2013). "Improvement in CBR value of soil reinforced with jute Fiber.", *IJRSET*, vol.2, issue 8, 3447-3452, August 2013.

Dipika Devi; "On the determination of modified cam clay model parameters", *International Journal of Innovative Research in Science, Engineering and Technology*, Vol. 3, Special issue 4 (Special Issue, RACE 2013).

Kalita, A. (2014) "Strength characteristics of red soil blended with fly ash and lime". *International journal of Innovative Research in Science Engineering and Technology*, vol: 3, special issue 4 March 2014.

Mishra S. and Pal, Dibyendu, (2014). "Requirement of different grades of cement for nominal nominal and design mix M20 grade concrete" International Journal of Innovative Research in Science, Engineering and Technology, Vol. 3, Special Issue 2, January 2014, pp 319-327.

(b) Conference Papers:

Baishya, S. (2013). "Computer aided analysis of allowable bearing pressure of shallow foundations in layered soil using SCILAB." *Proc., International AE Conf., 2013*, Veroma, Italy, Oct. 21-22, 2013.

Shovan Roy and Dipika Devi; "Calibration of soil constitutive model parameters", Proceedings of National Conference on Geotechnical and Geoenvironmental Aspects of Wastes and Their Utilization in Infrastructure Projects (GGWUIP-13), 2013; p:139-144.

Sorum, N.G. (2013). "Pavement distress: An overview." *Recent Advances in Civil Engineering (RACE-2013)*." 15th-16th Nov. 2013.

Sangey Lhamu and Manowar Hussain. (2013). "Swelling behavior of fly ash stabilized expansive soil." *Proc., of the Indian Geotechnical Conference, 22-24, Dec 2013, Roorke, India.*

Manowar Hussain and Sangey Lhamu (2013). "Compressibility characteristics of expansive soil-fly ash mixtures.", *Recent Advances in Civil Engineering (RACE-2013)*." 15th-16th Nov.2013.*RACE-13, 15-16, Nov. 2013, NERIST, AP.*

Sivakumar, P., Prasad, R. K. and Chandramouli, S. (2013). "Effect of Booster Disinfection on Water Quality Behaviour in Distribution Networks." *Recent Advances in Civil Engineering (RACE-2013)*." 15th-16th Nov.2013.

Kalita, A. (2013) "Strength characteristics of red soils blended with fly ash and lime." *Proc., in RACE-13, 15-16, Nov. 2013.*

Bharti, A and Saha, B. (2013). "E-waste Management in India: A hidden threat." *Recent Advances in Civil Engineering (RACE-2013)*." 15th-16th Nov.2013.

Bharti, A., Nalo, T., Tasing K and Kumar. S. (2013). "Anaerobic Digestion of Municipal solid Waste: A Critical Analysis." *Recent Advances in Civil Engineering (RACE-2013)*." 15th-16th Nov.2013.

Bharti, A., Rich, N and Kumar, S.(2013). "Changes in Characteristic of Municipal Solid Waste by Bulking Agent In vessel Composting: Critical review." *Recent Advances in Civil Engineering (RACE-2013)*." 15th-16th Nov.2013.

Bharti, A., Paron, O., and Kumar, S. (2013). "Home Composting: A sustainable Approach for MSW Management in Itanagar Capital Complex." *Recent Advances in Civil Engineering (RACE-2013)*." 15th-16th Nov.2013.

Bharti, A., Bole, M., Paron, O and Tiwari, R. (2013). "Quantification and Characterization of the Bio-Medical Waste in Arunachal State Hospital, Naharlagun, *Recent Advances in Civil Engineering (RACE-2013)*." 15th-16th Nov.2013.

Bharti, A. and Bagra, K. (2013). “Quantitative and Qualitative Study of MSW from Papumpare District in Arunachal Pradesh.” *Recent Advances in Civil Engineering (RACE-2013).*” 15th-16th Nov.2013.

Bharti, A., Paron, O., Bole, M and Tiwari, R. (2013). “Probability of Aluminium Toxicity in Water Treatment Plant Itanagar: A Case Study.” *Recent Advances in Civil Engineering (RACE-2013).*” 15th-16th Nov.2013.

Bharti, A., Ori, K and Kumar, S. (2013). “Juvenile Home: A Novel Technique in Vermicomposting.” *Recent Advances in Civil Engineering (RACE-2013).*” 15th-16th Nov.2013.

Bharti, A., Nilling, J.J., Deka, M., Prasad, S and Tungi, S. (2013). “Performance Evaluation of Laboratory Scale RBC of Treat Waste Water from Hostels.” *Recent Advances in Civil Engineering (RACE-2013).*” 15th-16th Nov.2013.

Bharti, A., Chakraborty, M., Mitra, A., Moda, H, Relum, T and Loder, T. (2013). “Municipal Solid Waste Management in Itanagar Capital Complex: A Case Study.” *Recent Advances in Civil Engineering (RACE-2013).*” 15th-16th Nov.2013.

Sangey Lhamu and Monowar Hussain “Swelling behavior of fly ash stabilized expansive soil”. *Proceeding of the Indian Geotechnical Conference, 22-24, Dec. 2013, Roorke, India.*

Monowar Hussain and Sangey Lhamu “Compressibility characteristics of expansive soil-fly ash mixtures” *Proceedings of the National conference on recent advances in civil engineering (RACE), 15-16 Nov.2013.*

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.

4.3.11 Consultancy Projects undertaken

The department has earned more than **Rs. 91,350.00** 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	Material Testing	8,100	Testing of Bricks	
2.	Concrete Mix Design	23,625	<u>M 35 Grade</u>	Dr.S. Misra, Dr. Ajanta Kalita, Sri Adhury Sree Ramprasad, M. C. Bora
3.	Concrete Mix Design	43,313	M35, M 25 Grade	Dr.S. Misra, Dr. Ajanta Kalita, Sri Adhury Sree Ramprasad, M. C. Bora
4.	Material Testing	16,312	Material Testing	Dr. Ajanta Kalita, Mrs.Mudo Puming, Sri Adhury Sree Ramprasad, and M. C. Bora (Lab helper)

4.4 DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

4.4.1 A Brief Profile of the Department

The computer Science and Engineering Department of NERIST came into existence right at the inception of the institute in 1986. It offers a unique combination of courses and projects that helps the students to cope with the recent advancements in the computer industry and information technology. The department gives diploma and degree in computer science and engineering using a modular pattern.

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

M.Tech in Information Technology started in 2011-12.

The PhD programme started in 2007-2008.

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 CSE

	Title of Project	Name of guide
1.	DNA Computing	Margaret Kathing
2.	Study of Reliable Data Transfer protocols for WSN vis-à-vis PSFQ protocol Implementation with TinyOS	M. Marjit Singh
3.	Privacy of base station in wireless sensor networks	N.Marchang

DEGREE

	Title of Project	Name of guide
1.	“ Multiphase Encryption using ECC ” by Vishal Kumar, Ratnesh Kumar, Mashud A. Barbhuiya	Monjul Saikia
2.	Steganography	T.Tuithung
3.	Efficient Channel Allocation using Swarm Intelligence in Cognitive Radio Network	Ningrinla Marchang
4.	Pitch Detection and Formant Estimation of American English Vowels.	Kapang Legoh
5.	Biometric Authentication System	Margaret Kathing
6.	An Application of Genetic Algorithm to Optimize Fuzzy Rule Base	Aswini Kr. Patra
7.	A mechanism for Wormhole Detection in Wireless Ad-hoc Networks	Amar Taggu

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

The department organized following Faculty Development Program (FDP)/Staff Development Program (SDP) under TEQIP Sponsored by MHRD-World Bank project.

Program SDP/FDP	Names of the Coordinators	Title of the short term courses	Duration
FDP	Dr. N. Marchang Amar Taggu	Advances in Networking Technologies	29-04-2013 to 04-05-2013
FDP	Marjit Singh A.K. Patra	Advances in Comp. Sc. And Information Technology	26-8-2013 to 30-8-2013
FDP	Dr. T. Tuithung K. Legoh	Emerging Research issues in Speech & Natural Language Processing	30-09-2013 to 04-10-2013
FDP	M. Kathing M. Saikia	Prospects of Cloud Computing in Education	03-02-2014 to 07-02-2014
SDP	O.P. Shiji Kumar Y.Usha	Application and Operation of Computers for Office Staff	16-7-2013 to 19-7-2013
SDP	O.P. Shiji Kumar Vinod Kumar	Assembling Maintenance & Trouble Shooting of PC H.W & Networking	24-9-2013 to 27-9-2013
SDP	O.P. Shiji Kumar Vinod Kumar	Assembling Maintenance & Trouble Shooting of PC H.W & Networking	10-12-2013 to 13-12-2013
SDP	O.P. Shiji Kumar Y.Usha	Desktop Publishing (DTP) for Office Staff	19-03-2014 to 24-03-2014

4.4.6 Short Term Courses/Seminars/Workshops/Conferences attended by the faculty**Dr. (Mrs.) T.Tuithung, Associate Professor**

1. Attended TEQIP-sponsored Faculty Development Programme on “Advances in Networking Technologies”, NERIST, April 29 – May 03, 2013 at Department of Computer Science and Engineering, NERIST.
2. Attended TEQIP-sponsored Faculty Development Programme on “Advances in Computer Science and Information Technology” NERIST, August 26-30, 2013
3. Organized Faculty Development Programme on “Emerging Research Issues in speech and Natural Language Processing”, organized by Department of Computer Science and Engineering, during September 30 – October 04, 2013 (TEQIP) sponsored by MHRD-World Bank Project.
4. Attended TEQIP-sponsored Faculty Development Programme on “Prospects of Cloud Computing”, NERIST, 3rd-7th Feb., 2014

5. Attended TEQIP-sponsored Faculty Development Programme on “Pedagogical Training for Engineers Teachers”, NERIST , 21st – 23th March, 2014

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

1. Organised TEQIP-sponsored Faculty Development Programme on “Advances in Networking Technologies”, NERIST, April 29 – May 03, 2013 at Department of Computer Science and Engineering, NERIST.
2. Attended Faculty Development Programme on “Emerging Research Issues in speech and Natural Language Processing”, organized by Department of Computer Science and Engineering, during September 30 – October 04, 2013 (TEQIP) sponsored by MHRD-World Bank Project.
3. Attended TEQIP-sponsored Faculty Development Programme on “Advances in Electronics and Communication”, NERIST July 22-26, 2013
4. Attended TEQIP-sponsored Faculty Development Programme on “Advances in Computer Science and Information Technology” NERIST, August 26-30, 2013
5. Attended TEQIP-sponsored Faculty Development Programme on “Prospects of Cloud Computing”, NERIST, 3rd-7th Feb., 2014
6. Attended “Outcome Based Accreditation”, workshop organized by Royal Group of Institutions , Guwahati (NBA Nodal Center), March 6 & March 21 – 23, 2014

Mr. S.J.Borah, Assistant Professor

1. Attended TEQIP-sponsored Faculty Development Programme on “Advances in Networking Technologies”, NERIST, April 29 – May 03, 2013 at Department of Computer Science and Engineering, NERIST.
2. Attended Faculty Development Programme on “Emerging Research Issues in speech and Natural Language Processing”, organized by Department of Computer Science and Engineering, during September 30 – October 04, 2013 (TEQIP) sponsored by MHRD-World Bank Project.
3. Attended TEQIP-sponsored Faculty Development Programme on “Advances in Computer Science and Information Technology” NERIST, August 26-30, 2013
4. Attended TEQIP-sponsored Faculty Development Programme on “Prospects of Cloud Computing”, NERIST, 3rd-7th Feb., 2014.

Mr. K.Legoh, Assistant Professor

1. Attended TEQIP-sponsored Faculty Development Programme on “Advances in Networking Technologies”, NERIST, April 29 – May 03, 2013 at Department of Computer Science and Engineering, NERIST.

2. Attended TEQIP-sponsored Faculty Development Programme on “Advances in Computer Science and Information Technology” NERIST, August 26-30, 2013
3. Organized Faculty Development Programme on “Emerging Research Issues in speech and Natural Language Processing”, organized by Department of Computer Science and Engineering, during September 30 – October 04, 2013 (TEQIP) sponsored by MHRD-World Bank Project.
4. Attended TEQIP-sponsored Faculty Development Programme on “Prospects of Cloud Computing”, NERIST, 3rd to 7th Feb., 2014

Mrs. M.Kathing, Assistant Professor

1. Attended TEQIP-sponsored Faculty Development Programme on “Advances in Networking Technologies”, NERIST, April 29 – May 03, 2013 at Department of Computer Science and Engineering, NERIST.
2. Attended TEQIP-sponsored Faculty Development Programme on “Advances in Computer Science and Information Technology” NERIST, August 26-30, 2013
3. Attended Faculty Development Programme on “Emerging Research Issues in speech and Natural Language Processing”, organized by Department of Computer Science and Engineering, during September 30 – October 04, 2013 (TEQIP) sponsored by MHRD-World Bank Project.
4. Organised TEQIP-sponsored Faculty Development Programme on “Prospects of Cloud Computing”, NERIST, 03-07th Feb., 2014

Mr. M.Marjit Singh, Assistant Professor

1. Attended TEQIP-sponsored Faculty Development Programme on “Advances in Networking Technologies”, NERIST, April 29 – May 03 , 2013 at Department of Computer Science and Engineering, NERIST
2. Organised TEQIP-sponsored Faculty Development Programme on “Advances in Computer Science and Information Technology” NERIST, August 26-30, 2013
3. Attended Faculty Development Programme on “Emerging Research Issues in speech and Natural Language Processing”, organized by Department of Computer Science and Engineering, during September 30 – October 04, 2013 (TEQIP) sponsored by MHRD-World Bank Project.
4. Attended TEQIP-sponsored Faculty Development Programme on “Prospects of Cloud Computing”, NERIST, 3rd-7th Feb., 2014

Mr. Manjul Saikia, Assistant Professor

Attended TEQIP-sponsored Faculty Development Programme on “Advances in Networking Technologies”, NERIST, April 29 – May 3, 2013 at Department of Computer Science and Engineering, NERIST

Attended TEQIP-sponsored Faculty Development Programme on “Advances in Computer Science and Information Technology” NERIST, August 26-30, 2013

Attended Faculty Development Programme on “Emerging Research Issues in speech and Natural Language Processing”, organized by Department of Computer Science and Engineering, during September 30 – October 04, 2013 (TEQIP) sponsored by MHRD-World Bank Project.

Organised TEQIP-sponsored Faculty Development Programme on “Prospects of Cloud Computing”, NERIST, 3rd-7th Feb., 2014

Mr. Aswini Kumar Patra, Assistant Professor

1. Attended TEQIP-sponsored Faculty Development Programme on “Advances in Networking Technologies”, NERIST, April 29 – May 3, 2013 at Department of Computer Science and Engineering, NERIST

Mr. Amar Taggu, Assistant Professor

1. Organised TEQIP-sponsored Faculty Development Programme on “Advances in Networking Technologies”, NERIST, April 29 – May 3, 2013 at Department of Computer Science and Engineering, NERIST
2. Attended TEQIP-sponsored Faculty Development Programme on “Advances in Computer Science and Information Technology” NERIST, August 26-30, 2013
3. Attended Faculty Development Programme on “Emerging Research Issues in speech and Natural Language Processing”, organized by Department of Computer Science and Engineering, during September 30 – October 04, 2013 (TEQIP) sponsored by MHRD-World Bank Project.
4. Attended TEQIP-sponsored Faculty Development Programme on “Prospects of Cloud Computing”, NERIST, 3rd -7th Feb., 2014

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 Projects sanctioned by out side agencies to the faculty of the department

Dr. (Mrs.) T. Tuithung, Associate Professor (Project Co-ordinator)

The project “North Eastern Quality Improvement Programme” (NEQIP) under AICTE was sanction vide Office Letter No. AICTE/UB/36/NEQIP/Aru/Deg/NERIST/33/2013/129 dated 18/12/129. The total amount of the project is Rs. 7.00 Cr. with duration of year 2013-2016. The first installment is also sanctioned vide order No. AICTE/UB/36/NEQIP/Aru/Deg/NERIST/33/2013/129 dated 18/12/356.

4.4.9 Publications

A. Refereed Journal

1. **Kapang Legoh**, Utpal Bhattacharjee and **Themrichon Tuithung**, “**Development of Multi-Variability Speech Corpus of Adi Language for Speech Recognition Researches,**” *International Journal of Advanced Research in Computer Science and Software Engineering*, Vo. 3, No. 10, October 2013, P: 604-610. ISSN: 2277-128X
2. **Margaret Kathing**, Suchismita Bhattacharjee, Roshni Rajkumari " **A Comparative study of Counter mode with Cipher block chaining Message uthentication code Protocol (CCMP) and Temporal Key Integrity Protocol (TKIP):Wireless Security**" in *International Journal of Computing, Communications and Networking* Volume 2, No.1, January –March 2013 **ISSN 2319-2720**.

B. Conference papers

1. Roshni Rajkumari, Suchismita Bhattacharjee and **Ningrinla Marchang**, “A Survey on Spectrum Sensing based attack in Cognitive Radio Network and its Mitigation”, In Proc. EGTET, 7-8 March,2014, Don Bosco Unuversity, Assam
2. G.C. Deka, **Margaret Kathing**, Das P. Kumar "A comparative Study on IPv4 and IPv6", In proceedings of International Conference on Communication Systems and Network Technologies(CSNT 2013) MIR LABS, Gwalior, 6-8 April 2013 **ISBN 978-0-7685-4958-3**
3. G.C. Deka, **Margaret Kathing**, Das P. Kumar "**Library Automation in Cloud**" at 5th International Conference on Computational Intelligence and Communication Networks(CICN 2013) Mathura, 27-29 Sept. 2013, Page No. 474 - 479 INSPEC Accession Number: 13896106
4. V Thakur , **M Saikia** , "**Hiding secret image in video,**" International Conference on Intelligent Systems and Signal Processing (ISSP- 2013), held at Gujarat on 1-2 March 2013 page 150-153, ISBN:978-1-4799-0316-0 doi:10.1109/ISSP.2013.6526892
5. Hussain Ahmed Choudhury, **Monjul Saikia** "**Comparative Study Of Block Matching Algorithms For Motion Estimation**" International Conference on Advanced Computer Science & Information Technology (ICACSIT) Bhubaneswar, 17-11-2013 ISBN No.: 978-93-82702-39-9 page 1-6
6. Swanirbhar Majumder, **Monjul Saikia**, Souvik Sarkar, and Subir Kumar Sarkar "**A Novel SVD and GEP Based Image Watermarking**" *ICT and Critical Infrastructure: Proceedings of the 48th Annual Convention of CSI - Volume II, Advances in Intelligent*

Systems and Computing 249, DOI: 10.1007/978-3-319-03095-1_65, © Springer International Publishing Switzerland 2014

7. **M. Marjit Singh** “QoS of MANet Through Trust Based AODV Routing Protocol by Exclusion of Black Hole Attack”, *Elsevier Procedia Technology* 10(2013) 530-537.
8. **M. Marjit Singh** “Computing Network Reliability Where Nodes are Imperfectly Reliable and Links are Perfectly Reliable”, *Cyber Times International Journal of Technology and Management*, Vol 6, Issue 1, Pp 108-113, October 2012-March 2013,ISSN: 2278-7518.
9. **M. Marjit Singh** “A Survey on Reliable Data Transfer Protocols for Wireless Sensor Networks”, *Proceedings of International Conference on Reliability, Infocom Technologies and Optimization* 2013, Pp 230-235,January 29-31, 2013, Amity University Noida, India, ISBN: 978-93-81583-85-2.
10. **M. Marjit Singh** “Towards techniques of detecting node replication attack in static wireless sensor networks”, *International journal of information and computation technology*, vol. 4, No. 2,(2014), pp: 153-154. ISSN 0974-2239.
11. **Monjul Saikia** “Hiding secret image in video,” International Conference on Intelligent Systems and Signal Processing (ISSP- 2013), Gujarat March 2013.
12. **Monjul Saikia** “Comparative Study Of Block Matching Algorithms For Motion Estimation” International Conference on Advanced Computer Science & Information Technology (ICACSIT) Bhubaneswar, Nov. 2013.
13. **Monjul Saikia** “A Novel SVD and GEP Based Image Watermarking” ICT and Critical Infrastructure: Proceedings of the 48th Annual Convention of CSI – Volume II, Advances in Intelligent Systems and Computing 249, DOI: 10.1007/978-3-319-03095-1_65, 2014

4.4.10 Achievement of students

PLACEMENT

1. **Abhishek Mungoli** and **Theingam** cleared GATE
2. **Abhishek Mungoli, Vebito Tetseo** placed in Smartek
3. **Mr. Frankie Zonunmawia** cleared pre-selection of Indian Army

4.5 DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

4.5.1 A Brief Profile of the Department

The Department of ECE was established in the year 1985. The first batch of intake was taken in the year 1986. The Department of Electronics and Communication Engineering runs courses for three modules, namely Base, Diploma and Degree, giving B.Tech degree to the students who pass out degree module successfully and M.Tech in VLSI. The courses are designed by taking into consideration of present trends in technology, basic knowledge to pursue technological steps in the fields of Electronics and Communication Engineering and to meet the demand of man power in the technology development and support to the country. The department has been running PG programme

(M. Tech in VLSI) since 2012. The department of Electronics and Communication Engineering also runs PhD (part time and full time) in the fields of Electronics and Communication Engineering, VLSI and Information Technology. There are 10 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 pattern of NERIST- certificate in Maintenance Engineering, Diploma and Degree in Electronics and Communication Engineering. The students of M.Tech and Ph.D students are encouraged to attend and present their published papers across the country. Its NERIST Electronics Society (NES) is a pioneer body in many student academic activities. 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 DSP laboratory with funds from MHRD. The department is also developing the existing VLSI and Computer Networking laboratories. The department has taken up steps to develop labs for M.Tech (VLSI) courses for which Xilinx ISE series along with VHDL based kits, TI 6713 series DSP kits, etc. have been procured along with ORCAD and Microwind Design Software and cadence. Procurement of online UPS and batteries has been made for DSP and computer lab for uninterrupted power supply.

4.5.4 Projects completed by the UG/PG/PhD students

a. Under-graduate Projects:

- (1) Microcontroller based automated railway crossing controller by S. C. Bhutia, S. Kumar, D. Sharma, and B. Chitrakor under the guidance of Mrs. J. Bora.
- (2) Automatic detection of diabetic retinopathy by N. Kumar, S. Roy, N. S. Singh, and T. T. Tara under the guidance of Mr. R. K. Mangang.
- (3) Electronic voting machine by S. Dey, A. A. Khan, P. Babu, and B. Singh under the guidance of Mr. S. Majumdar.
- (4) Matlab based comparison of wired and wireless communication by A. Kumari, N. Naorem, and S. Sahu under the guidance of Dr. R. Subadar.
- (5) Glaucoma Detection Using Colour Fundus Image Anaysis by M. Sharma, T. Esther Lotha, Benjung Kumala, Shreshi Debnath under the guidance of Mr. Madhusudhan Mishra.
- (6) A Study on Performance of a Hybrid MRC/SC Diversity Receiver over Rayleigh Fading Channel by Swagata Das, Bijendra L, Shruti R, Babina S, Kiran Bora under the guidance of Mr. A.D. Singh.

b. Post Graduate (M.Tech) Projects:

- (1) Contagion analysis between USA and Indian stock market by D.Sarkar under the guidance of Md. Anwar Hussain.
- (2) Analysis of leakage power reduction in CMOS digital circuits using various techniques in 45nm technology by Ms. Yaka Bulu under the guidance of Mr. Manish Kumar.

- (3) Low power and high performance full adder in deep submicron technology by Mr. Bamin Gambo under the guidance of Mr. Manish Kumar.
- (4) Contagion Analysis between USA and Indian Stock Market by Indian Stock Market by Durlav Sarkar under the guidance of Md. Anwar Hussain.
- (5) Comparative Study of various Blood Vessels Extraction Techniques Using Color Fundus Image Anaysis by Painky Kumari under the guidance of Mr. Madhusudhan Mishra.
- (6) A Study on Performance of Dual SC Receiver over TWDP Fading Channel by Shashank Awasthi under the guidance of Mr. A.D. Singh.

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

Department of Electronics and Communication Engineering has organised various faculty development programs, which are listed below:

- TEQIP sponsored workshop (FDP) on Advances in Electronics and Communication (AEC), during July 22-26, 2013 coordinated by Mr. A D Singh and Mr. S. Majumder.
- TEQIP sponsored workshop on Stress Management jointly organised by Department of ECE and CMS during 04th November to 06th November, 2013 coordinated by Mr. Madhusudhan Mishra and Mr. S. Choudhury.
- NMEICT workshop on Signal and Systems organized by IIT Kharagpur and IIT Bombay coordinated by Mr. Madhusudhan Mishra as a workshop coordinator at NERIST Remote Centre during 02 - 12 January 2014.
- TEQIP Sponsored workshop (FDP) on Recent Advancements in Semi-conductor Devices and Signal Processing during 24 - 29 January, 2014 coordinated by Mr. Madhusudhan Mishra and Mr. Ashok Kumar Ray.

The approximate numbers of participants were 50 from various departments in the mentioned workshops and the experts were from various reputed Institutes and industries.

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

Courses attended by Mr. Madhusudhan Mishra

Sl. No.	Programme	Duration, Year and date	Organized by
1.	Coordinators Workshop on Signals and Systems under the National Mission on Education through ICT (MHRD).	30 th September - 4 th October, 2013	Indian Institute of Technology Kharagpur
2.	FDP on "Advances in Computer Science and Information Technology"	26 th -30 th August, 2013	TEQIP & Dept of CSE, NERIST, Arunachal Pradesh
3.	FDP on "Advances in Electronics and Communication (AEC)"	22 nd - 26 th July 2013	TEQIP & Dept of ECE, NERIST, Arunachal Pradesh
4.	FDP on "Advances in Networking Technologies"	29 th April- 3 rd May 2013	TEQIP & Dept of CSE, NERIST, Arunachal Pradesh
5.	TEQIP sponsored FDP on Stress Management	04 th - 06 th November, 2013	Jointly organised by Department of ECE and CMS, NERIST, Arunachal Pradesh

6.	FDP on Ergonomics and Safety in Product Design	14 th -18 th May, 2013	TEQIP & Dept of AE, NERIST, Arunachal Pradesh
7.	Workshop on Image and Speech Processing (WISP-2013)	13 th -14 th December, 2013	Department of Electronics and Electrical Engineering, IIT Guwahati, Assam
8.	TEQIP sponsored FDP on Optical Techniques and Devices in Scientific and Engineering System Application	28 th October -1 st December, 2013	Jointly organised by Department of EE and Physics, NERIST, Arunachal Pradesh
9.	Training Programme on Pedagogy-Enhancing Teacher Effectiveness for Faculty of Centrally Funded Institutes (CFIs) and NITs.	10 th -13 th March, 2014	Effective Quality Upgradation Assistance For Technical Education, New Delhi.
10.	Short term course on Pedagogical Training For Engineering Teachers	21 st -23 rd March, 2014	Organised by a team of Professors of IIT Guwahati at NERIST.

Courses attended by Mr. P K Dutta

1.	Attended UGC Refresher Course On Nano-devices and low power VLSI design from conducted and passed with Grade A.	11 th December 2013 to 2 nd January 2014	Department of Electronics & Telecommunication Engineering, Jadavpur University and UGC-Accademic staff college Jadavpur University
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Courses attended by Mr. A. D. Singh

1.	FDP on "Advances in Electronics and Communication (AEC)"	22 nd - 26 th July 2013	TEQIP & Dept of ECE, NERIST, Arunachal Pradesh
2.	FDP on Recent Advancements in Semiconductor Devices and Signal Processing	24 th - 29 th January, 2014	TEQIP & Dept of ECE, NERIST, Arunachal Pradesh
3.	TEQIP sponsored FDP on Stress Management	04 th - 06 th November, 2013	Jointly organised by Department of ECE and CMS, NERIST, Arunachal Pradesh
4.	FDP on "Advances in Computer Science and Information Technology"	26 th -30 th August, 2013	TEQIP & Dept of CSE, NERIST, Arunachal Pradesh

Courses attended by Mrs. J. Bora

1.	Workshop on Image and Speech Processing (WISP-2013)	13 th -14 th December, 2013	Department of Electronics and Electrical Engineering, IIT Guwahati, Assam
2.	FDP on Advances in Electronics and Communication (AEC)	22 nd - 26 th July 2013	TEQIP & Dept of ECE, NERIST, Arunachal Pradesh
3.	FDP on Advances in Computer Science and Information Technology	26 th -30 th August, 2013	TEQIP & Dept of CSE, NERIST, Arunachal Pradesh
4.	FDP on Emerging Research Issues in	30 th September -	TEQIP & Dept of CSE,

	speech and Natural language Processing	4 th October, 2013	NERIST, Arunachal Pradesh
5.	FDP on Recent Advancements in Semiconductor Devices and Signal Processing	24 th - 29 th January, 2014	TEQIP & Dept of ECE, NERIST, Arunachal Pradesh

Courses attended by Swanirbhar Majumder

1.	FDP on "Advances in Electronics and Communication (AEC)"	22 nd - 26 th July 2013	TEQIP & Dept of ECE, NERIST, Arunachal Pradesh
2.	TEQIP sponsored FDP on Stress Management	04 th - 06 th November, 2013	Jointly organised by Department of ECE and CMS, NERIST, Arunachal Pradesh
3.	FDP on Recent Advancements in Semiconductor Devices and Signal Processing	24 th - 29 th January, 2014	TEQIP & Dept of ECE, NERIST, Arunachal Pradesh
4.	FDP on "Advances in Networking Technologies"	29 th April- 3 rd May 2013	TEQIP & Dept of CSE, NERIST, Arunachal Pradesh
5.	FDP on "Advances in Computer Science and Information Technology"	26 th -30 th August, 2013	TEQIP & Dept of CSE, NERIST, Arunachal Pradesh
6.	TEQIP sponsored FDP on Optical Techniques and Devices in Scientific and Engineering System Application	28 th October -1 st December, 2013	Jointly organised by Department of EE and Physics, NERIST, Arunachal Pradesh

Courses attended by Mr. A.K.Ray

1.	FDP on "Advances in Electronics and Communication (AEC)"	22 nd - 26 th July 2013	TEQIP & Dept of ECE, NERIST, Arunachal Pradesh
2.	TEQIP sponsored FDP on Stress Management	04 th - 06 th November, 2013	Jointly organised by Department of ECE and CMS, NERIST, Arunachal Pradesh

Courses attended by Mr. Manish Kumar

1.	FDP on "Advances in Electronics and Communication (AEC)"	22 nd - 26 th July 2013	TEQIP & Dept of ECE, NERIST, Arunachal Pradesh
2.	TEQIP sponsored FDP on Stress Management	04 th - 06 th November, 2013	Jointly organised by Department of ECE and CMS, NERIST, Arunachal Pradesh
3.	FDP on Recent Advancements in Semiconductor Devices and Signal Processing	24 th - 29 th January, 2014	TEQIP & Dept of ECE, NERIST, Arunachal Pradesh
4.	NMEICT workshop on Signal and Systems.	02 th - 12 nd January 2014.	Organized by IIT Kharagpur and IIT Bombay coordinated at NERIST Remote Centre

Courses attended by Mr. R. K. Mangang

1.	Summer Training/Research: "Academic Research Work" under the supervision of Gaurab Banerjee working on Analog RF system.	June-July 2013	ECE Department IISC Bangalore
2.	TEQIP sponsored FDP on Stress Management	04 th - 06 th November, 2013	Jointly organised by Department of ECE and CMS, NERIST, Arunachal Pradesh
3.	FDP on Recent Advancements in Semiconductor Devices and Signal Processing	24 th - 29 th January, 2014	TEQIP & Dept of ECE, NERIST, Arunachal Pradesh

4.5.7 Achievements/Awards/recognition by the faculty

- i. Mr. Manish Kumar and Mr. Swanirbhar Majumder have submitted their Ph.D Thesis.
- ii. Mr. M. Mishra has delivered an invited talk on Fundus Image Analysis in TEQIP sponsored FDP on Advances in Electronics and Communication during 22nd - 26th July 2013 organized in the Dept of ECE, NERIST, Arunachal Pradesh.
- iii. Mr. A.D. Singh has delivered an invited talk on Wireless Communication in TEQIP sponsored FDP on Advances in Electronics and Communication during 22nd - 26th July 2013 organized in the Dept of ECE, NERIST, Arunachal Pradesh
- iv. Mr. Swanirbhar Majumder has delivered an invited talk on Biometric Watermarking in TEQIP sponsored FDP on Advances in Electronics and Communication during 22nd - 26th July 2013 organized in the Dept of ECE, NERIST, Arunachal Pradesh.
- v. Mr. A. K. Ray has delivered an invited talk in TEQIP sponsored FDP on Advances in Electronics and Communication during 22nd - 26th July 2013 organized in the Dept of ECE, NERIST, Arunachal Pradesh.
- vi. Mr. A. K. Ray is pursuing Ph.D (part-time) from EEE Department of IIT Guwahati.
- vii. Mr. A. D. Singh has successfully completed Praveen Degree in Hindi.
- viii. Mr. Swanirbhar Majumder has successfully completed Praveen Degree in Hindi.
- ix. Mr. Swanirbhar Majumder has attended the First International Conference on Computational Intelligence: Modeling, Techniques and Applications (CIMTA-2013), to present paper "A novel EMD based watermarking of fingerprint biometric using GEP", held in Kalyani University, Kolkata on 27-28th September, 2013.

4.5.8 Publications

Sl.	Title of Paper	Name of Author(s)	Name of Journal/Conference	Year	Vol	Pages
1.	A Comparative Study on Image and Video compression Techniques	G.Tiwari, D.Nandi, and M.Mishra	IOSR Journal of VLSI and Signal Processing	Sep-Oct. 2013	3	69-73

2.	A Survey on Digital Image Steganography and Steganalysis	G.Tiwari, A.Yadav, and M.Mishra	IOSR Journal of Electronics and Communication Engineering (IOSR-JECE), e-ISSN: 2278-2834,p- ISSN: 2278-8735.	Sep-Oct. 2013	8	56-60
3.	Digital Watermarking and Attacks: A Review	G.Tiwari, D.Nandi, and M.Mishra	International Journal of Engineering Research and Technology ((IJERT))	October - 2013	2	1144-1149
4.	Chaotic Cryptography and Multimedia Security: A Review	G.Tiwari, D.Nandi, and M.Mishra	International Journal of Engineering Research & Technology (IJERT), ISSN: 2278-0181	October - 2013	2	1520-1525
5.	Cryptography and Cryptanalysis: A Review	G.Tiwari, D.Nandi, and M.Mishra	International Journal of Engineering Research & Technology (IJERT) ISSN: 2278-0181	October - 2013	2	1898-1902
6.	Secure Communication Using Secret Key Steganography	M.Mishra G.Tiwari, and A.Yadav	International Journal of Advances in Engineering & Technology, (IJAET), ISSN: 22311963	Jan. 2014	6	2692-2697
7.	Analytical Model for performance comparison of a nano scale dual material double gate Silicon on insulator SOI and Silicon on nothing SON MOSFET	Saheli Sarkhel, Bibhas Manna, P.K. Dutta and Subir Kumar Sarkar	Journal of Nano engineering and Nano manufacturing.	2013	4	----
8.	Design and VLSI Implementation of Power Efficient Processor for object localization in Large WSN	J.Bag, Rashmi Ranjan Sahoo, P.K.Dutta, Subir Kumar Sarkar	Int. J. High Performance Systems Architecture, Inderscience Journal	2013	4	204-217
9.	A Quantum Analytical Model for Inversion Current in Short Channel DMDG SON MOSFET	Gargee Bhattacharyya, Sharmistha Shee, Pranab Kishore Dutta and Subir Kumar Sarkar	IWPSD: International Workshop on Physics of Semiconductor Devices, Noida, India	Dec. 2013.	---	197-201
10	Influence of Mole Fraction Variation of Binary Metal Gate on SON MOSFET Device	Gargee Bhattacharyya, Sharmistha Shee, Pranab	ICAEE-14: International Conference on Advances in Electrical	January, 2014	---	-----

	Performance	Kishore Dutta and Subir Kumar Sarkar	Engineering, Vellore, India.			
11	Quantum Confinement Effects in the Subthreshold Characteristics of Short-Channel DMDG MOSFET	Sharmistha Shee, Gargee Bhattacharyya, Pranab Kishore Dutta and Subir Kumar Sarkar	CIEC14: International Conference on Control, Instrumentation, Energy & Communication, Kolkata, India.	2014	---	----
12.	Threshold voltage roll-off and DIBL Model for DMDG SON MOSFET: A Quantum Study,”	Sharmistha Shee, Gargee Bhattacharyya, Pranab Kishore Dutta and Subir Kumar Sarkar	IEEE TechSym 2014 IEEE Students' Technology Symposium IIT Kharagpur, India.	2014	----	-----
13.	Performance of SC Receivers over TWDP fading Channel	R. Subadar, A. D. Singh	IEEE Wire. Commun. Lett IEEE WCL	June, 2013	2	267-270
14.	Performance of Dual SC Receiver on TWDP fading Channel	Shashank Awasthi, A. D. Singh,	ICECCS-2013	October 2013	----	---
15	Performance of Hybrid MRC/SC Diversity on Rayleigh Fading Channel	A Dinamani, Swagata Das, Bijendra L, Shruti R, Babina S, Kiran B	CCUBE	Dec., 2013	---	----
16.	Capacity analysis of M-SC receivers over TWDP fading channels	A. D. Singh, R.Subadar	Int J Electron Commun (AEU),	Feb 2014	68	166-171
17	Effect of Channel variations on the spectral efficiency of multiuser Diversity MIMO systems with antenna selection and MRC reception.	Joyatri Bora and Md. Anwar Hussain	ACEEE International Journal on communication	Nov., 2013	4	23-28
18	Scheduling Techniques for High Data Rate Downlink in Multiplexing Transmission	Joyatri Bora and Md. Anwar Hussain	International conference on control, Instrumentation, energy and Communication	31 st January -2 nd Feb., 2014.	---	---
19	Singular value decomposition and wavelet-based iris biometric watermarking.	S. Majumder, K Jilen Kumari Devi, S. K. Sarkar	IET Biometrics, DOI: 10.1049/iet-bmt.2012.0052, Print ISSN 2047-4938, Online ISSN 2047-4946	March 2013	2	21-27

20	A novel EMD based watermarking of fingerprint biometric using GEP; Procedia Technology of Elsevier, http://dx.doi.org/10.1016/j.protcy.2013.12.350	Anil K Shaw, S. Majumder, S. Sarkar, S. K. Sarkar	International Conference on Computational Intelligence: Modeling, Techniques and Applications (CIMTA-2013),; ISSN: 2212-0173	27-28th Sept., 2013	10	172-183
21	Hardware implementation of SVD	Anil K Shaw, S. Majumder, S. K. Sarkar	proceedings of 2nd Michael Faraday IET India Summit, Organized by Young Professional Section, IET Kolkata Local Network, Kolkata, India; Online ISBN 978-93-82715-97-9	Nov., 2013		2.13-2.16
22	Neural Network Based Age Estimation Using Facial Features	Sunil Kumar, Baddrud Z. Laskar, Ashutosh, S. Majumder	Proceedings of 2nd Michael Faraday IET India Summit, Organized by Young Professional Section, IET Kolkata Local Network, Kolkata, India. Online ISBN 978-93-82715-97-9	Nov., 2013	---	3.33-3.36
23	Gene Expression Programming Based Age Estimation Using Facial Features	Ashutosh, Baddrud Z. Laskar, Sunil Kumar, S. Majumder	Proceedings of IEEE Second International Conference on Image Information Processing (ICIIP -2013), ISBN 978-1-4673-6099-9	Dec., 2013		442-446
24	A Novel SVD and GEP Based Image Watermarking	S. Majumder, M. Saikia, S. Sarkar, S. K. Sarkar	Published in ICT and Critical Infrastructure: Proceedings of the 48th Annual Convention of Computer Society of India- Vol II. Advances in Intelligent Systems and Computing	Dec., 2013	249	601-608
25	Comparative Analysis of 1-Bit Adiabatic Full Subtractor Designed in 45nm Technology	R.K.Mangang	International Journal of Engineering Trends and Technology (IJETT)	2014	10	---
26	Analog to Information Converters based on Compressive sensing techniques: A review"	R.K.Mangang	IEEE International Conference in Emerging trends in Science, Engineering, Business	Feb 2014	---	----

			and Disaster Management, ICBDM			
27	Power Gating in FinFET Adiabatic circuits" presented on	R.K.Mangang	IEEE International Conference in Green Computing, Communication and Electrical Engineering, ICGCCEE	March 2014.	---	---

4.5.9 Interaction of faculty/department with outside agencies

Our faculty members have a very good relationship with other organisations. Department of ECE have organised short term courses in collaboration with Jadavpur University and Calcutta University in past. Resource persons from different IITs have helped to organise the short term programmes at NERIST. Also, our faculty members have attended short term courses, conferences and training program organised by IITs, IISc and other reputed institutes.

4.5.10 Achievements of Students

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

4.5.11 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 came into existence as a part of the Institute since its inception in 1986. Over the years the Department has developed and is recognized as one of the major Engineering Departments of the Institute. The main objectives of the Department are to develop high quality technical manpower at Certificate, Diploma, Degree, Post Graduate and Ph.D. levels and to cater the needs of North Eastern Region in particular and country in general. The Department has capability of imparting quality education to the students through well qualified faculty and staff. Presently, the Department has 14 well qualified faculty members with specialization in different areas of Electrical Engineering. During April, 2008 to March, 2009, 4-faculty members joined different universities of India and abroad to pursue their Ph.D. programme under QIP, Study Leave and Ph.D. (by research).

The Department has one Senior Instructor, one Foreman, two Senior Technician, four Laboratory Assistants, four Skilled Workers and five Laboratory Attendants besides one LDC and one peon. The staff members are well trained. The laboratories of the department are well equipped to meet the requirements of undergraduate and postgraduate courses. The department offers courses in Electromagnetic Fields, Advanced Electrical Machines, Electrical Machine Design, Network Analysis,

Control Engineering, Process Control & Instrumentation, Power Electronics, Power Systems, High Voltage Engineering, Digital Electronics, Microprocessor and its Application, Computer Programming, Safety and Reliability Engineering, Regulation, Safety & Contracts etc. Keeping in view the academic advances, requirements of industry and the local needs, projects are offered to Diploma, Degree and Post Graduate final year students. The department has competency of carrying out challenging consultancy works and sponsored research projects. The department organized several 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. The department has developed Information Security Service Centre sponsored by Ministry of Communication and Information Technology, Government of India. The Department has already started Ph.D. (Full time and Part Time). The department has also started regular M. Tech. programme from July, 2007.

The department has, at present, the following laboratories:

1. Circuits and Measurement Lab.
2. Control and Instrumentation Lab.
3. Electrical Machine Lab.
4. Power System and Protection Lab.
5. Power Electronics Lab.
6. PC Lab.
7. Digital Electronics and Microprocessor Lab.
8. Research and Project Lab.
9. Electrical Maintenance Lab.
10. Electrical Workshop
11. Energy System Lab.
12. High Voltage Lab.
13. Information Security and Service Centre (under Grant-in-Aid Scheme of Ministry of Communication and Information Technology)

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 named 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 (DST-FIST Scheme), Ministry of Science and Technology, Government of India. The department is also going to develop Bio-medical Instrumentation.

4.6.3 Laboratories and Laboratory Development**(a) List of new equipments procured**

Additional equipments have been procured for Energy System 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.

(b) New laboratories developed

The department has developed “Energy system Laboratory” and “High Voltage Laboratory”. The department has developed a new centre ‘Information Security and Service Centre’ under Grant-in-Aid Scheme of Ministry of Communication and Information Technology, Government of India.

(c) 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 Projects completed by the UG/PG/Ph.D students**i) Tech. Projects Completed (completed in May 2013)**

Sl. No	Project Title	Guides Name	Name of the students
1.	Stability Analysis of switching power supply; A case study	Mr. M.D. Singh	Sunita Tamang Emilo Ngully Khankai Gachui
2.	Speed control and DC Motors using Microprocessor	Dr. O. P. Roy	Ranjan Kr. Deori Taro Habung
3.	Reliability evaluation of power systems	Dr .O.P. Roy	Tame Param Rani Jomoh
4.	Voltage Regulation of Asynchronous Generator using switched capacitors	Dr. Sarsing Gao	Subhrajit Mitra, Suvashis Deb
5.	d –q modeling and simulation of Electrical Machines	Dr. Sarsing Gao	Koge Amo Pangu Wage

6.	Case Study “The effect of additive property on performance of organic bulk hetero-junction solar cells”	Ms. S. Hashunao	Mantu Koiri Kishur Kumar Deka Rapki-O-Sumer
7.	PI controller Design for two loop Missile Autopilot in pitch- plane	Dr. R.K. Mehta	Takhe Budha, Lobsang Tsering
8.	Observer-based controller design for flexible joints	Dr. R.K. Mehta	Ngailianniang, Alemkala T,
9.	Nano Technology in Power Systems	Dr. Saibal Chatterjee	Amit Sinha, Saurish Ganguly
10.	Condition Monitoring of Power / Distribution Transformer	Dr. Saibal Chatterjee	Appurva Appan Kavita Yadav
11.	Controller Design via pole placement	Dr. S. K. Bhagat	Saptaswa Sarkar, Prasenjeet Nath,
12.	Energy Analysis of DAC	Mr. T. Vimal Prakash Singh	Rina Moirangthem Davish Meitei Thongam, Kumar Abhinav
13.	Modelling of Grid Management	Dr. Saibal Chatterjee	Omkar Majumder, Saurav Kumar Bharti
14.	Installation design of solar panels with monthly adjustment of tilt angles.	Mr .N. L. Meitei	Suchismita Bhattacharjee Tsetan Droma Dhruba Jyoti Sarmah
15.	Characterization & modelling of solar cell.	Mr A. K. Das	Ram Chandra Dahal Tali Darung
16.	Stability Analysis of switching power supply; A case study	Mr. M.D. Singh	Sunita Tamang Emilo Ngully Khankai Gachui
17.	Speed control and DC Motors using Microprocessor	Dr. O. P. Roy	Ranjan Kr. Taro Habung
18.	Reliability evaluation of power systems	Dr .O.P. Roy	Tame Param Rani Jomoh
19.	Voltage Regulation of Asynchronous Generator using switched capacitors	Dr. Sarsing Gao	Subhrajit Mitra Suvashis Deb

ii) Diploma Projects Completed (completed in May 2013)

Sl. No.	Project Title	Name of Project guides(s)	Name of Students
1.	Study and analysis of induction generator	Dr. A. K. Singh and Dr. O. P. Roy	Mr. Paramjit Saha, Mr. Prakash Majumder, Mr. Amarjit Roy
2.	Study and analysis of dc machine characteristics	Dr. O. P. Roy	Ms. Piyali Nath, Ms. Simontiny Singha
3.	Feasibility study of fruit based battery system	Mr. M. D. Singh	Mr. Daibat Majumdar, Mr. Buddha Das, Mr. Ashim De
4.	Energy management for future growth*	Dr. S. K. Bhagat	Mr. Nguvitho Katiry, Mr. Norbu Sherpa, Mr. Nikrangra M Marak
5.	Solar cell simulation using PC1D	Mr. A. K. Das	Mr. Ashish Lamichaney, Mr.

	simulator		Kaleba Lalhruaizela, Mr. Pankaj Kumar Sinha
6.	Stair case energy conservation	Mr. N. L. Meitei	Mr. Aribam Anand Sharma, Mr. Nungleppam Nongthon, Mr. Sapam Sanjoy Singh
7.	Matlab based modeling and simulation of single phase rectifier/inverter circuit	Dr. Sarsing Gao	Ms. Dicha Changmi, Ms. Tyngkailin L. Nongum, Ms. Regalia Garneth Jane Lyngdoh
8.	Monitoring and control of water pump by GSM	Ms. S. Hushnao	Mr. Nani Tanyung, Mr. Nada Tangung, Mr. Kali Mara
9.	Application of CAD in power system	Dr. Saibal Chatterjee	Mr. Krishanu Nath, Mr. Yogendra Singh, Mr. Amlesh Kumar
10.	Modeling of SAR ADC	Mr. T. V. P. Singh	Mr. Hage Donyi, Mr. Jatendra Reang, Mr. Thanyalo Kath

iii) M. Tech. Projects Completed (completed in June 2013)

Sl.	Title	Guide	Student
1.	Electromechanical Analysis of Bridge Configured Self Bearing Induction Motor	Dr. Saibal Chatterjee	Ms. Dhritika Saikia
2.	Electromechanical Analysis of Self Bearing Switched Reluctance Motor Using Bridge Configured Winding	Dr. Saibal Chatterjee	Ms. Firdaus Ahmed
3.	Modelling of Bewley's Lattice Diagram - Using Matlab	Dr. Saibal Chatterjee	Mr. Brajagopal Datta
4.	Study of Probabilistic Nature of Breakdown of Air-Gap Against Uniform and Non-Uniform Electric Field	Dr. Saibal Chatterjee	Mr. Mudang Taro
5.	Optimal Load-Frequency In Two Area Power Systems	Dr. R. K. Mehta	Ms. Tako Nama
6.	Voltage and frequency control of grid connected PMSG	Dr. Sarsing Gao	Ms. Toko Chichi
7.	Reactive power compensation using STATCOM	Dr. O. P. Roy and Dr. A. K. Singh	Mr. Gyan Deori
8.	Robust Control of variable speed wind turbine	Dr. S. K. Bhagat	Ms. Kirgam Gini
9.	Tuning of PID Controllers for Stable / Unstable Time Delay Systems	Dr. S. K. Bhagat	Ms. Minnie Riba

4.6.5 Short-term Courses/Seminars/Workshops organised by faculty

Mr. M. D. Singh organised a Five days' TEQIP (MHRD-World Bank) sponsored Faculty Development Programme on "Optical Techniques & Devices in Scientific and Engineering System Applications" during 28th October – 1st November, 2013

Mr. T. V. P. Singh organised a TEQIP (MHRD-World Bank) sponsored FDP program on Integrated Circuits and Power Electronics under TEQIP on 30th September to 6th October, 2013

4.6.6 New Degrees / Professional Membership obtained by the faculty

Mr. T. V. P. Singh submitted his Ph.D. thesis at IIT Delhi.

4.6.7 Achievements / awards / recognition earned by faculty

Dr. Saibal Chatterjee and Dr. Sarsing Gao received senior IEEE membership in May and August 2013 respectively.

4.6.8 Project sanctioned by outside agency to the faculty of the Department

1. R&D project entitled, ‘Study of Non-parametric Estimation Using Wavelet Transform sponsored by MHRD, Government of India,
Amount: Rs. 9.50 lakhs. **PI – Dr. S. Chatterjee**
2. R&D project entitled, “Design, Development and Control of PMBLDC Motor” sponsored by MHRD, Government of India,
Amount: Rs. 4.00 lakhs. **PI – Dr. A. K. Singh**
3. Design and Development of Microcomputer Based Bio-medical Smart Sensors and Instruments - Funded by MHRD, GOI,
Amount : Rs. 8 lakh **PI – Dr. O. P. Roy**
4. Modernisation of Electrical Workshop with Real – Time Microcomputer Application - Funded by MHRD, GOI,
Amount : Rs. 10 lakh **PI – Dr. O. P. Roy**
5. FIST(Fund for Improvement of S&T) project to strengthen the PG Teaching and Research in Electrical Engineering Department – Funded by DST, Ministry of S&T, GOI,
Amount : 75.6 lakh. **PI : Dr. Saibal Chatterjee**
6. Information Security Education and Awareness (ISEA) project Sponsored by Deptt. of Information Technology, Ministry of Communication and Information, GOI, New Dehli,
PI – Dr. R. K. Mehta

4.6.9 Publications

1. Dr. Saibal Chatterjee, et al, “Simulation of Bewley’s lattice diagram using MATLAB”- Proceedings in IEEE Conference CATCON 2013 held from 6th Dec to 8th Dec 2013 at Kolkata, INDIA
2. S. K. Bhagat, “BSPA based reduction algorithm for highly unstable systems,” *Int. J. Electr. Electron. & Comp. Engg.*, vol. 2, no. 2, pp. 1-6, December, 2013.
3. S. K. Bhagat, B. Rai and A. Kumar, “GA based internal model controller design for load frequency control in power system via reduced order model,” *Int. J. Engg. Sci. Invention*, vol. 3. no. 3, pp. 17-26, 2014.

4.6.10 Interaction of faculty / Department with outside agencies

The Department has several interactions with state government officials like Department of Power, PWD, PHED, APEDA, APPSC, Directorate of Higher Education. The department has also active interaction with public sectors like PGCIL, NHPC, NEPCO, etc. These interactions were mutually beneficial.

Dr. R. K. Mehta, Head, Department of Electrical Engineering, worked as Question Paper Setter and Evaluators for PHED, APPSC, Govt. of Arunachal Pradesh, and Central/Deemed Universities as Silchar University (NIT Silchar), BIT Misra, Ranchi and Institution of Engineers (India).

Dr. O. P. Roy, Mr. M. D. Singh worked as Question Paper Setter, Evaluators for the Department of Higher Education, Govt. of Arunachal Pradesh.

4.6.11 Study tour arranged for the students

The department organized study tour for Degree pre final year students along with active support of T&P Cell.

4.6.12 Any other item

Participation in Institute's administration, in addition to normal duties, during the period of reference:

Dr R. K. Mehta	Head, Department of Electrical Engineering,
Dr. Saibal Chatterjee	Electrical Engineer
Dr. Sarsing Gao	In-charge, ET-Cell and In-charge, ACCF,
Mr. T. V. P. Singh	Incharge, DOE
Mr. B. K. Nair	Technician, EMC
Mr. Mohandas B.B.	Technician, EMC

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 troubleshooting aspects in certificate Level, to impart supervisory skills to the diploma module students and to provide analytical skills in various subjects related to Mechanical Engineering and interdisciplinary areas to the degree module and PG students.

The department offers certificate course in three trades, namely, Refrigeration & Air-Conditioning, Craftsmanship & 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 along with the major equipments in respective laboratories is appended as Appendix–A. The department possesses its own computational facility with internet access and a fairly rich departmental library. Faculty-Student, Faculty-Staff & Staff-Student relationships are warm and friendly.

The department organizes periodical industrial visit to the nearby industries 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 2013-2014.

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 the India, for hands on training & experience on the principles they study. Job training is also a part of the curriculum for certificate module students where the repairing and maintenance of equipments are carried out by the students under the supervision of faculty members and technical staffs. Degree module students have undergone training in various reputed public sector and private organizations as a part of their curriculum requirement for the award of their degrees.

During the period under review base, diploma and Degree module students were taken to nearby automobile repairing shops, Cold Storages and RAC plants and hydel plants for some hands on practice. All India **Industrial tour** has also been organized for the degree module students 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 priority basis during the year. Late Sunirmal Ray was the In-Charge for the Seminar Hall. Now Dr. Asis Giri is in-charge of seminar hall. Presently, seminar hall is equipped with LCD projector, P-IV Computer. It is proposed to equip the seminar hall with PA system and interactive board at the earliest.

Computational Fluid Dynamics lab was under development under the supervision of Late. Sunirmal Ray, since in engineering analysis of thermal fluid systems CFD techniques plays an important and major role now-a-days. Now, Mr. Biplab Das has taken the charge of computer lab. Out of two UPS, one is repaired with a minimum cost of only Rs. 1000. This provides major boost CFD laboratory. Repairing of other UPS is being processed. In future, the lab can be used as a major R & D centre of the Institute. The Computer and CFD lab are equipped with 15 pentium-IV, peripherals, printers etc. during the year.

CADD laboratory is undergoing development with the initiative of Mr. S. Mahto. Two new softwares, one being PRO-E and another being ANSYS, are procured to provide huge boost to the CADD/CAM laboratory.

Prof. M. Muralidhar from the Mechanical has been dealing the charge of Dean (Planning and Development) and TEQIP coordinator.

Dr. M. Chandrasekaran is in the charge of fluid power control laboratory, which is having equipments like Pelton turbine test rig, Francis turbine test rig, centrifugal pump, reciprocating pump test rig., PLC trainer, Reynolds experiment apparatus, meta-centric height measurement apparatus, forced vortex flow apparatus etc.

Heat and mass transfer laboratory is in-charge of Dr. Asis Giri. Within the period under review, heat and mass laboratory facility in the department has been renovated by repairing one of the wind tunnel,

compressor test rig unit and Fluidized bed experiment with a minimum cost. Pipe flow heat-exchanger set up is under process to repair. One refrigeration test rig is also repaired. Other laboratory facilities of the department is listed in Appendix-A.

4.7.4 Projects completed by the UG Students (completed in May, 2013)

List of B. TECH. PROJECTS, 2013

ME 6099: Degree Project

Project Number	Guide(s)	Title of the Project
1.	SR	Computer Assisted Design of Small Capacity Steam Turbine
2.	KKM	Study and Development of Electro-Discharge Machining Set-up
3.	MC	Taguchi Experimental Design Based Modeling of Composite Machining.
4.	SSG & SSA	Effect of Axial Waviness on the Characteristics of Journal Bearing
5.	MPT	Rain Water Collector and Solar Heater
6.	AG & BPD	A Comprehensive Study of the Properties of Bio-fuels
7.	MPT	Virtual Welding
8.	MD	Design and Fabrication of Biomass Gasifier
9.	NBT	Robotic Trolley for Material Handling
10.	BPD & AG	Computational Study of Natural Convection in a Closed Enclosure with fin...
11.	NBT	Air Powered Vehicle

LIST OF M. TECH. (CIMA) PROJECTS, 2012-2013

Project No	Roll No	Thesis Title	Name of supervisor (s)
CIMA/12/01	MT/11/CIMA/01	Modeling of Ultrasonic Imaging of an Impacted Composite Domain	SSa & MC
CIMA/12/02	MT(PT)/10/CIMA/01	Studies on Design and Development of Computer Based Systems for a Tea Manufacturing Factory of Arunachal Pradesh	MM
CIMA/12/03	MT/11/CIMA/02	Experimental Investigation, Development of Predictive Modelling and Performance Optimization in Machining Metal Matrix Composite	MC & SSa
CIMA/11/02	MT/10/CIMA/02	Stability Analysis of Wave Bearing in Turbulent Regime Considering Micro-polar Fluid	SSG

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

1. **Dr. S. S. Gautam and Dr. S. Samanta** organized faculty development programme on “Recent Advances in Tribology and Materials for Tribological Applications” during 10th to 14th April 2013 under TEQIP.
2. **Prof. M. Muralidhar and Dr. S. Samanta** organized National Conference on “Advances in Welding Technology” during May 10-11, 2013.
3. **Dr. S.S. Gautam and Dr. S. Samanta** organized national conference on “Recent Advancements in Mechanical Engineering” during 8 to 9 th 2013.

4.7.6 New Degrees / Professional Memberships obtained by the faculty

1. Mr. P. Lingfa is submitted Ph.D. thesis at I.I.T, Delhi
2. Mr. K.K. Mandal selected for Ph.D. programme at Jadavpur University under QIP
3. Mr. S. Singh Pursuing Ph.D. under QIP at I.I.T. Guwahati.
4. Mr. N.K. Rana is pursuing Ph.D. at NERIST.
5. Mr. Biplab Das is submitted his Ph.D. thesis at NERIST.
6. Dr. Chandrasekaran is defended his Ph.D. thesis at IIT, Guwahati

4.7.7 Publications (Journal/Book Chapter/Conference/Proceedings)

A. International JOURNALS

1. **Biplab Das, Asis Giri**, “Second law analysis of an array of vertical plate-finned heat sink undergoing mixed convection” International communications in heat and mass transfer, 2014 (in press).
2. **Biplab Das, Asis Giri**, “Non-Boussinesq laminar mixed convection in a non-isothermal fin array”, 2014 (63), 447-458.
3. **Mahto, S.**, “*Shape Optimization of Revolute-Jointed Single Link Flexible Manipulator for Vibration Suppression*”, Mechanism and Machine Theory, Vol. 75, May 2014, pp 150–160 <http://dx.doi.org/10.1016/j.mechmachtheory.2013.12.005>
4. **Singh, K.S., Meitei, M.K. and Mahto, S.**, “*Shape Optimization of Flexible Fixed Beam*”, Intl. J. of Innovative Research in Science, Engineering and Technology, Vol. 3, Special Issue 4, March 2014, pp 7-12.
5. **Mahto, S. and Dixit, U.S.**, “*Parametric Study of Double Link Flexible Manipulator*”, (accepted in *Horizon Research Publication, USA*)
6. **D.Dash, S.Samanta, 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, pp275-279. ISSN: 2277-3886.

7. **S. Samanta et al.**, “Modelling of Ultrasonic imaging of an impacted composite domain using the artificial neural network and its evaluation”, *Journal of Mechatronics and Intelligent Manufacturing*, Vol 2, No. 3/4, 2013, ISSN:1949-4904, Nova Science publishers, Inc.
8. Santosh Tamang and **M.Chandrasekaran**, “Experimental Investigation and development of multi response ANN modeling in Turning Al-SiCp MMC using Polycrystalline diamond tool”, presented in 1st International Conference on Advances in Mechanical Sciences (ICAMS) January 9-11, 2014 and published as special issue in **International Journal of Current Engineering and Technology**, Vol.4, No.1, pp. 201–213, 2014.
9. Thingujam Jackson Singh, S. Samanta, **M. Chandrasekaran**, “Modeling of Ultrasonic Imaging of an Impacted Composite Domain Using the Artificial Neural Network and its Evaluation” **International Journal of Mechatronics and Intelligent manufacturing**, Vol 2., No 3–4, 2013.
10. **M.Chandrasekaran**, M.Muralidhar and U.S.Dixit, Online optimization of multipass machining based on cloud, **International Journal of Advanced Manufacturing Technology (IJAMT)**, Vol. 65, No.(1–4), pp. 239–250, 2013.

B. National Journals

1. Santosh Tamang and **M Chandrasekaran**, “Multi response optimization of surface roughness and tool wear in turning al/sic particulate metal matrix composites using Taguchi Grey Relational Analysis”, **Journal of Manufacturing Technology (MTT)**, April 2013, pp.14–21.

C. Conferences / Proceedings

1. S.K. Dey, D. Datta and S. Samanta, “Ultrasonic imaging of ballistically impacted plates using DIVFRP clustering method, Proceedings of NCRAME-2013, held at NERIST, Arunachal Pradesh, 8-9 November, 2013, ISBN:9789382-880714, PP 98-105.
2. N.K. Rana, S.S. Gautam and S. Samanta, “Dynamic characteristics of short bearings in turbulent micropolar lubrication”, Proceedings of NCRAME-2013, held at NERIST, Arunachal Pradesh, 8-9 November, 2013, ISBN:9789382-880714, PP 239-244.
3. D. Dash, S. Dash, S. Samanta and M. Murlidhar, “Fabrication and Characterization of Natural Fibre Reinforced Composite”, Proceedings of NCRAME-2013, held at NERIST, Arunachal Pradesh, 8-9 November, 2013, ISBN:9789382-880714, PP 301-308.
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. Joli Angu and **M. Muralidhar**, Design and development of Computer Integrated Systems for Tea Processing Equipment: A Study, published in ICMMME 2013, Pune.
6. Santosh Tamang and **M. Chandrasekaran**, “Experimental Investigation and development of multi response ANN modeling in Turning Al-SiCp MMC using Polycrystalline diamond tool”, presented in 1st International Conference on Advances in Mechanical Sciences (ICAMS) January 9–11, 2014.

7. **Chandrasekaran**, Santosh Tamang, Sumit Kumar and Manish Sharma, “Modeling and optimization of machining parameters in milling Al-SiCp metal matrix composites using Taguchi method and regression based GA” presented and published in ‘International Conference on Mechanical Engineering: Emerging Trends for Sustainability (ICMEETS’14)’ held at MNIT, Bhopal, India, during 29–31, 2014.
8. Santosh Tamang, **M. Chandrasekaran**, “RSM modeling for surface roughness and tool wear in Turning Al-SiCp MMC and Overlay contour plot for optimal parameters selection”, Accepted for presentation and publication in National conference proceeding on Recent Advancements in Mechanical Engineering to be held at NERIST, Nirjuli on Nov. 8–9, 2013.
9. **Chandrasekaran, M.** and Tamang, Santosh, “Optimization for Sustainable Production with the trade-off between MRR and TWR in Micro Electrical Discharge Drilling Process”, Published in the International Conference on PRECISION, MESO, MICRO, AND NANO ENGINEERING (COPEN-8: 2013), held in National Institute of Technology, Calicut, December, 2013.
10. **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 the International Conference On Recent Advances in Material Processing Technology (RAMPT’13), Kovilpatti, Tamilnadu, 7–9, 2013.
11. 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 2nd international conference on Advance manufacturing and Automation (INCAMA 2013), Krishnan kovil, Tamilnadu, pp 739–743, 2013.
12. 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 2nd international conference on Advance manufacturing and Automation (INCAMA 2013), Krishnan kovil, Tamilnadu, pp 86–91, 2013.
13. Yappa, M., **Mahto, S.** and Dubey, M.R., " *Thermal Analysis of Vertical Annulus Under Laminar Combined Convection*", Proceeding of Nat. Conf. on Recent Advances in Mechanical Engineering (NCRAME 2013), 8-9 Nov'13, NERIST, Itanagar, India. (Conf. Paper).

4.7.8 Interaction of faculty/department with outside agencies

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

4.7.9 Achievements of Students

Twenty five percent students are qualified for GATE and they will be taking admission in various institutes like IITs and NITs. 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-gas plant, solar heater have been made. Irreversibility analysis of thermal power plant and gas turbine power have been done which can be considered as the beginning of optimization of a thermal power process. 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 were prepared by Sunirmal Ray. In view of the forthcoming NBA accreditation of the department, preparation of accreditation form which, was initiated by Dr. Asis Giri, HOD(ME) has taken giant leap.

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, Hyraulic 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 teaching of chemistry in Under-Graduate and Post-graduate level courses of Engineering & Technology streams, i.e. in Base, Diploma and Degree modules, and that in Degree module of Forestry stream. Post-Graduate courses in M.Sc (Chemistry), with organic chemistry as specialization, have also been started from the session 2009-2010. Admission for fresh batch in M. Sc (Chemistry) i.e., 5th batch for M.Sc (previous year), was completed in July 2013 through M.Sc (Chemistry)-Written Test. Twenty seven candidates were called for the test, and eighteen candidates had appeared for the test. Ten candidates were selected to get admission in to M. Sc Chemistry previous year along with three candidates in the wait-list. Finally, eight candidates took their admission in M.Sc Chemistry previous year for the session 2013 - 2014. Moreover, admission test (written) and interview were conducted for Ph.D admission also. In this case, two candidates were called for the test and interview. One of them had turned up, and he qualified the test and interview as a part-time Ph.D candidate. But he did not take admission in Ph.D thereafter. Four Ph.D research scholars, who were continuing their Ph. D courses, got registered in July 2013; whereas, only two research scholars got registered in January 2014. During the reporting period, one Ph.D degree was awarded under the Supervision of Prof. H. S. Yadav.

Admission committees for M. Sc (Chemistry) and Ph.D (Chemistry) were as under:

For M. Sc (Chemistry) admission:

- | | |
|--|----------|
| 1. Prof. M.F. Hussain (Head of the Dept. of Chemistry) --- | Chairman |
| 2. Prof. M. Husain ----- | Member |
| 3. Prof. H.S. Yadav ----- | Member |
| 4. Prof. P.K. Tripathy ----- | Member |
| 5. Dr. N. Deb ----- | Member |

For Ph.D. (Chemistry) admission:

- | | |
|--|----------|
| 1. Prof. M.F. Hussain (Head of the Dept. of Chemistry) --- | Chairman |
| 2. Prof. M. Husain ----- | Member |
| 3. Prof. H.S. Yadav ----- | Member |

Research & Development activities in the Department was continuing under constraints of essentially required materials in time. M.Sc final year projects were completed. The topics and name of supervisors are given as under:

1. "Preparation of 5 α -Cholestane-3,6-dione from Cholesterol" (Prof. M. Husain).
2. "One flask synthesis of esters of the corresponding 3-substituted -2- benzoylamino acrylic acid using 2-Oxazolin-5-ones as synthon" (Prof. P. K. Tripathy)
3. "A fast and facile synthesis of N-Substituted 2-acylaminoprop-2-enamides using unsaturated azlactones as synthons" (Prof. P. K. Tripathy)
4. "Synthesis of novel pyrrolo [1,2- α]imidazoles, pyrrolinones and pyrano[3,4-c] pyrroles by cyclocondensation using α -oxoketene S,N-and N,N-acetals" (Dr.A. K. Gupta)

5. "Synthesis of alkoxyaminopyrimidines by direct cyclocondensation using α -oxoketenedithioacetals" (Dr. A. K. Gupta)
6. "Isolation of natural dye from beetroot and its application on wool and thread with different mordants" [Dr. (Mrs). K. T. Kamal]
7. "Isolation of betacyanin from beetroot and its identification" [Dr. (Mrs). K. T. Kamal]

In the Laboratories, Instrumentation facilities were made available to the students, faculty members of the Department and also to the research scholars & faculty members of Physics Department. Most of the Instruments were in working conditions are Digital Conductivity meters, Polarimeters, Digital pH meters, Differential Scanning Calorimeter (DSC), FTIR, Rotary evaporator, Melting Point apparatus, etc. For effective teachings in both Undergraduate and Postgraduate levels, the Department had to engage 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). Briefings of teaching techniques to teach undergraduate students were given to the Guest faculty. Besides this, adequate numbers of teaching materials were also given to the Guest Faculty so that they could impart quality teachings to the students. For that a systematic approach was made to engage theory and practice classes regularly even after adjusting the regular time table for extra classes. Notwithstanding, all the topics in each of the courses were fully covered in time. Tests and practical examinations were conducted successfully. Results of Semester examinations, supplementary examinations, make up tests, quizzes, and summer courses examination of all the courses were prepared in time and submitted to the Controller of examination.

Contributions of the faculty members in the Institute administration were appreciable keeping in view the constraints mentioned above. There were several Committees in the Department level that were required time and again. Similarly, there were several Committees in the Institute level that were required time and again. Prof. M. Husain, being the senior-most faculty of the Department, had acted as Chairman/ Member in a number of committees constituted by the Director, NERIST and had submitted his reports. The Second senior-most faculty of the Department, Prof. H. S. Yadav, is functioning as Dean (Administration). He had been assigned the duty of the Director to act as the Director-in-charge in absence of the regular Director from the Institute. Prof. P. K. Tripathy is, at present, the new Chairman (nominee) for Vidyalaya Management Committee (VMC), K. V. NERIST. Prof. M. F. Hussain is the Head of the Department of Chemistry. He had participated in the TEQIP II 'Management Capacity Development for Senior Faculty from 3rd to 5th March 2014 at New Delhi'. Prof. K. D. Ram is looking after the Central Research Facility (CRF) of the Institute as its in-charge.

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

The Department has Board of Studies (BOS) to up date / revise the existing Chemistry courses / syllabi from time to time, and to suggest if some changes in the existing syllabi are needed. The Board of Studies (BOS) of the Department has been reconstituted in 2010. The Department was not very

active in research works as these activities require timely-availability of materials for research works. And as such, research publications in national as well as in International Journals were not very encouraging. However, a brief description is given below to highlight the efforts of the faculty members made during the reporting period:

Prof. M. Husain: One student had completed his M.Sc (chemistry) Project. Prof. P. K Tripathy: Two students had completed their M.Sc (chemistry) Projects. Dr. A. K. Gupta: Two students had completed their M.Sc (chemistry) Projects. Dr. K. T. Kamal: Two students had completed their M.Sc (chemistry) Projects.

Prof. M. F. Hussain: Attended Industry-Institute interaction program at Guwahati 6th Seminar on 'Hydrocarbon Industry Growth: Prospects and Challenges in North East,' conducted by Indian oil-Guwahati Refinery and Petrotech from 17-19th February, 2014.

Dr. K. T. Kamal: Attended faculty development programme on "Emerging Research Issues in speech & Natural Language Processing", Sponsored by NERIST TEQIP during 30th Sept. - 4th Oct. 2013 organized by Department of Computer Science & Technology. Dr. K. T. Kamal is also the Member of NEQIP Committee.

4.9 DEPARTMENT OF PHYSICS

4.9.1 Brief profile of the Department

At present the Department of Physics has one Professors, four Associate Professors, and **one** Assistant Professor. 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 covers 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.

Four Ph.D degrees (two in liquid crystals and one in solid state ionics) have been awarded to the research students worked in the projects mentioned above by NEHU, Shillong. 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 A
Diploma	PH3102	2-0-2	Physics-III B
Diploma	PH3103	3-0-3	Atmospheric Physics & climate change
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 310 1
Degree Module (Applied Science) : PH3203

New experiments have been introduced in the Diploma module.

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

Diploma Module (Technology) : PH 3201
Diploma Module (Technology) : PH 3202
Degree Module (Technology) : PH 4301 and PH 5101

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

Two more new laboratories have been started to later to the needs of M.Sc. Physics students. There are Electronics laboratory and Solid state Physics laboratory.

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

(c) Research Laboratories:

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

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

(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 indogeneously at NERIST which can operate upto 1200⁰C. One imported microprocessor based furnace which could be operated up to 1200⁰C is operational. One more furnace which can be operated upto 1000⁰C 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 organized at NERIST

18th National Conference on Liquid Crystals , by Prof. P. R. Alapati during 15-17 November, 2011, 80 Numbers of participants (Under the auspices of the Indian Liquid Crystal Society).

4.9.5 Publications

(a) Referred Journal

(i) Dr. Arvind Pandey

1. Electrochemical Impedance Spectroscopy Study on DSSC Sensitized with Bagoniamalabarica Lam., Lakshmi K. Singh, TadoKarlo and Arvind Pandey, Material Science Forum, Vol. 771 (2014) pp 133-141.
2. Performance of fruit extract of Melastomamalabathricum L. as sensitizer in DSSCs, Lakshmi K. Singh, T. Karlo, A. Pandey, SpectrochimicaActa Part A: Molecular Biomolecular Spectroscopy, Vol. 118 (2014) pp 938-943.
3. Begonia dye as an efficient anthocyanin sensitizer, Lakshmi K. Singh, T. Karlo and A. Pandey, Journal of Renewable and Sustainable Energy, Vol. 5 (2013) pp 043115.
4. Impedance Studies of La₂Mo₂O_{9.8}Oxide Ion Conductors, LakhiNath Borah and A. Pandey, Acta Metall. Sin. (Engl. Lett.), vol. 26 (4), (2013) pp 425-434.

(ii) Dr. Tado Karlo

1. Electrochemical Impedance Spectroscopy Study on DSSC Sensitized withBagoniamalabarica Lam., Lakshmi K. Singh, TadoKarlo and Arvind Pandey, Material Science Forum, Vol. 771 (2014) pp 133-141.
2. Performance of fruit extract of Melastomamalabathricum L. as sensitizer in DSSCs, Lakshmi K. Singh, T. Karlo, A. Pandey, Spectrochimica Acta Part A: Molecular Biomolecular Spectroscopy, Vol. 118 (2014) pp 938-943.
3. Begonia dye as an efficient anthocyanin sensitizer, Lakshmi K. Singh, T. Karlo and A. Pandey, Journal of Renewable and Sustainable Energy, Vol. 5 (2013) pp 043115.

(iii) Dr.Th. Gomti Devi

Paper Publication

1. Solvent dependent frequency shift and Raman noncoincidence effect of S=O mode of Dimethyl sulfoxide in liquid binary mixtures

(Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy 109 (2013)239-246)

2. Raman bandshape analysis on C-H stretching modes of dimethyl sulfoxide in liquid binary mixture: comparative study with quantum – chemical calculations (Communicated to Spectrochimica Acta)

Paper presented in conferences

1. Raman spectroscopic study of C-H stretching vibration of polar aprotic molecule: Comparative study with quantum-chemical calculations (National Conference on Physical sciences, 13-14th September 2013)
2. Vibrational and reorientational relaxation of CSC stretching mode of Dimethyl Sulphoxide: Comparative study with quantum-chemical calculations (National Seminar on Current Trends in Physics Research, 30th Jan-1st Feb,2014)
3. Comparative study of low temperature Titania nanoparticles synthesized at different routes (International Conference on Nanotechnology in the service of Health, Environment and Society (**NanoSciTech** 2014), 13-15th February, 2014)

Achievement

1. Organized a Faculty Development Programme on “**Optical Techniques and Devices in Scientific and Engineering System Applications**” w.e.f. 28th October, 2013 to 1st November,2013 under the coordinatorship of Dr. Gomti Devi (Physics Deptt.) and Mr. M. Singh, (Electrical Deptt.) NERIST.
2. One Ph.D student (Mr. Ganesh Upadhyay) has submitted thesis on March 2014. Title of thesis: **Study on vibrational and reorientational relaxation processes in binary liquid mixtures**

(iv) **Dr. P.R. Alapati**

Publication

1. Phase transition studies in symmetric dimeric liquid crystals: a density study P. Pardhasaradhi, D. Madhavi Latha, P.V. Datta Prasad, G. Padmaja Rani, P.R. Alapati, and V.G.K.M. Pisipati. J. Thermal analysis and colorimetry Vol. III, P.1483 (2013).
2. Optical studies of a liquid crystal compound 60.6 T.K. Devi, P.R. Alapati, Basana Chowdhury and A. Bhattacharjee. Liquid crystal, Vol. 40(b), P.810 (2013).
3. Solvent dependent frequency shift and Raman non coincidence effect of S=O stretching Mode of dim ethyl sulfured in liquid Binary moisture. G. Upadhyay, T.G. Devi, R.K. Singh, Singh and P.R. Alapati. SPECTROCHIMKA. Part A, Vol. 109, P.239 (2013)
 - Continued as executive council member of PANE and member of ACS, ILCS.
 - Ph. D degree of Mr. D. Bhuyan awarded under my guidance.
 - Delivered a lecture in a short term course organized by Dr. Gomti Devi.

Conference papers

1. Dye sensitized solar cells (DSSCs): A clean alternative to conventional solar cells, Lakshmi K. Singh, T. Karlo, A. Pandey, Proceeding of International Conference on Renewable Energy (ICORE 2011), 2-4 Nov, 2011, Tezpur University, Tezpur.
2. Prospects of Liquid crystal applications in dye sensitized solar cells, L. K. Singh, R. Medak, T. Karlo, A. Pandey, 18th National Conference on Liquid Crystals, 15-17 Nov., 2011.
3. Solvent dependence of the vibrational linewidth and shift in liquid binary mixtures, Proceedings of the 99th session of Indian Science Congress, p-71, 2012, T. Gomti Devi.

4.9.6 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.

4.10 DEPARTMENT OF MATHEMATICS**4.10.1 A Brief Profile of the Department**

The Department of Mathematics has Four Professors, Two Associate Professors and two Assistant Professors out of which one is under QIP leave. The department offers 29 & 17 courses in 1st and IInd Semester at different levels (Base, Diploma, Degree Modules and M.Sc. respectively). Most of these courses are multi-sectional. In addition to the above class loads, 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. program 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.**Supervisor: L.K. Arora**

- (i) Sri Biju Dutta has been awarded Ph.D. Degree entitled "A study of Special Functions and Generalized Fractional Operators with their Applications".

Project Guide: A.S.Rai

- (i) M.Sc Project : "Curve fitting of various type of curves"
by Mr. Tailyang Tabin Pussang

(ii) M.Sc. Project: Numerical Solution of Ordinary Deferential Equations by Runge-Kutta method of order Four” by Mr. Shamro Ronrang

Project Guide: B.K. Singh

(i) M.Sc Project : Test Of Hypothesis” by Mr. Santosh Kumar Maharaj

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

Dr. BK. Singh, Diganta Kalita and Sanjib Kalita (2014), “Exponential Ratio Cum Exponential Dual to Radio Estimator in Double Sampling”, 3rd Annual International Conference on Computational Mathematics , Computational Geometry & Statistics (CMCGS 2014), 3-4 February 2014, Singapore, pp.89-93. ISSN:2251-1911 doi: 10.5176/2251-1911-CMCGS14.05

Diganta Kalita and **B.K. Singh** (2013), “ A family of Product-Cum Dual to Ratio Estimators of Finite Population Mean in Simple Random Sampling”, Golden Jubilee National Conference on Recent Advances in Statistics and Applications (RASA), Pt. R.S. University, Raipur, November 15-17, abstract on pp.38.

B.K. Singh and W. Warseen Chanu (2013), “Improved Class of Ratio-Cum Product Estimator in Two Phase Sampling”, Golden Jubilee National Conference on Recent Advances in Statistics and Applications (RASA), Pt. R.S. University, Raipur, November 15-17, abstract on pp.42.

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

1. B. Chetia & **P.K. Das**, “Some results of Intuitionistic Fuzzy soft sets and its Application in Decision Making” Applied Mathematical Science, 7 (95), 2013, 4693-4712.
2. B.K. Saikia, Hiteswar Boruah & **P.K. Das** “Application of Intuitionistic Fuzzy Soft Matrices in Decision Making Problems”, International Journal of Mathematics: Trends and Technology 4(11), 2013, 254-265.
3. J. Mahanta & **P.K. Das** “On Fuzzy weakly closed sets”, International J. of Mathematical Science 7(2), (2013), 11-16
4. J.Mahanta & **P.K. Das** “Further results on g*s-closed sets” IEEE international Conference on Fuzzy systems, July,7-10, 2013, Hyderabad.

5. J. Mahanta & **P.K. Das** “Results on fuzzy soft topological spaces”, (submitted to Journal of Egyptian Mathematical Society), 2013
6. J.Mahanta & **P.K. Das** “On soft topological space via semiopen and semiclosed soft sets,” (accepted by Kyungpook Journal of Mathematics), 2013.
7. Biju Dutta & **L.K. Arora**: “On the existence and uniqueness of solutions of a class of initial value problems of fractional order” Math Sci, 2013, pp. 7-17 doi:10.1186/2251-74566.
8. Biju Dutta & **L.K. Arora**: “Hyers-Ulam stability of class of nonlinear fractional differential equation”, Rev. Bull Calcutta Math. Soc.21 (1) 2013.
9. Manoj Kumar, Veena Manocha and **B.K. Singh**, (2013), “Improved Product Type Estimators for Bivariate Normal Population”, Int. J. of Agricult. Stat. Sci, Vol. 9, No.1, pp.183-187, 2013. ISSN: 0973-1903
10. Diganta Kalita and B.K. Singh, (2013), “Exponential dual to Ratio and dual to Product-type Estimators for finite Population Mean in Double Sampling”, Elixir International Statistics, 59 (2013) 15458-125470. ISSN: 2229-712X.
11. **B.K. Singh**, Sanjib Choudhury and Diganta Kalita,(2013), “A Class of Exponential Chain Ration-Product Type Estimator with Auxiliary Variables under Double Sampling Scheme”, Electronic Journal of Applied Statistical Analysis, Vol. 06, Issue 02, 2013, 166-174 DOI: 10.1285/i20705948v6n2pl66. e-ISSN:2070-5948
12. Bipan Hazarika, Karang Tamang and **B.K. Singh**, (2013), “Zweier Ideal Convergent Sequence Spaces Defined By Orlicz Functions” Journal of mathematics and computer science, 8(2014), 307-318.
13. Sanjib Choudhury and **B.K. Singh**, (2013), “ Chain Product –Cum Dual to Ratio Estimator Using Two Auxiliary Characters under Double Sampling in Sample Surveys”, Journal of Applied Statistical Science, Vol.20, Number 2, pp.11-29. ISSN:1067-5817
14. Diganta Kalita, **B.K. Singh** and Sanjib Choudhury, (2013), “Improved Exponential Chain Ratio and Product-Type Estimators for Finite Population Mean in Double Sampling”, International Journal of Statistical Sciences, Vol.13,2013, pp.21-37 ISSN: 1683-5603
15. W. Warseen Chanu and **B.K. Singh**,(2014), “An Efficient Class of Double Sampling Dual to Ratio Estimators of Population Mean in Sample Surveys”, International Journal of Statistics and Economics, Vol. 14, Issue No.2 , pp. 25-40 ISSN: 0975-556X

4.10.8 Interaction 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 research 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, AICTE, Ministry of Human Resource Development, etc. Further, the faculty members are engaged in supervising research scholars on such subjects as Economics, Human Resource Management, Marketing Management, Financial Management, and 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 has also developed a Seminar Hall 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

Refereed Journal

Dr. B. D. Nayak

Economic Impact of NERIGA in Assam: A case study of Lakhimpur & Dhemaji District published in 'Soudh Amrit' An International refereed Journal of Humanities and social Sciences vol.3. Issue 3 ISSN:2231-6086 on June 23, 2013.

Conference papers

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

Dr. B. D. Nayak

- [1] **A study of impact of rural development schemes on rural economy of Arunachal Pradesh.** *NIRD, Guwahati, Assam on 12-13 Sept. 2013.*
- [2] **Influx of Illegal Migrants and its socio economic and Political consequences of Bangladeshi Immigration in Assam.** *Dishpur College, Guwahati, Assam on 23-24 Sept. 2013.*
- [3] **Role of Civil Societies in maintaining socio-cultural harmony in the state of Assam.** *Pandu College, Guwahati Assam on 30 Sept-01 Oct. 2013*

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

Dr. B. D. Nayak

Sustainability: Ecology, economy & Ethics: Natural Resource Management and Environmental Sustainability Issues –A case study of Capital Complex, Itanagar, Arunachal Pradesh: Published in ISBN-13:978-1-25-905869-1, ISBN-10, Mc Graw Hill Education, 2013.

4.11.5 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

4.11.6 Any other relevant information

Dr. B. D. Nayak

Ph.D. Supervised

Effectiveness of poverty alleviation Programme-A case study of Micro-Finance groups in Lakhimpur district of Assam (Mr. Mahendra Hazarika), Dept. of HSS, 2008; Awarded in 2013.

Dr. B. D. Nayak

Key Note Address Delivered. Role of Civil Societies in maintaining socio-cultural harmony in the state of Assam. *Pandu College, Guwahati Assam on 30 Sept-01 Oct. 2013*

Dr. B. D. Nayak

Chaired the Technical Session in National Conference on “Civil Societies and socio-cultural Harmony in Assam” organized by *Pandu College, Guwahati Assam on 30 Sept-01 Oct. 2013*

Additional responsibilities taken up by the Faculty Members of the Department

Dr. B.D. Nayak	Incharge Seminar Hall
Dr. P. Parida	Controller of Examination.
Mr. Ranendra Prasad	In-charge Computer Lab. In-charge Communication Skills Lab.
Dr. Shyamalee Sinha	Head of the Dept. Chairperson of NERIST K.G. School.
Mr. Raju Barthakur	In-charge, <i>Interface....</i> The NERIST News Letter Member of Library Advisory Committee. Advisor, Training and Placement.

4.12 CENTRE FOR MANAGEMENT STUDIES

4.12.1 A Brief Profile of the Centre

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

Courses Taught:

By Prof R.M. Pant

MB- 7201, MB-8202, HS-7004, MB-6007, MB-7102, MB-8102

Mr S. Choudhury

MB-6003, Mb-7103, MB-7105, MB-8201, MB-7202, MB- 7204

Departmental administrative responsibilities details

Mr. S. Choudhury is the Head of Centre, Computer Lab In charge. & T&P Counsellor.

Administrative Responsibilities

By Prof R.M.Pant

- Member Core Committee, National Rural Livelihood Mission, Arunachal Pradesh
- Observer DOE for 'A' & 'O' level Exams for Arunachal Pradesh
- Advisor, Indian Journal of Development Research, Varanasi
- Chairman, BPGS, NERIST
- Director, IQAC, NERIST
- Dean (Academic), NERIST
- Acted as Director In Charge from time to time in the absence of regular Director
- Member BOM, NERIST

4.12.3 Dissertation reports completed by PG students

Sl. No	Name of the students	Roll No	Topic	Name of Supervisors
1	Mr. NONGKI YIRANG	MBA/12/02	A study on Public hearing with respect to environment impact assessment (EIA) of Hydro-power projects in Arunachal Pradesh	SCH
2	Mr. SANGE TSERING	MBA/12/03	Comparative study of Khadi and Village Industries of Arunachal Pradesh with Sikkim	SCH
3	Ms. SAROJ KUMARI	MBA/12/04	A study on student semester registration process in NERIST	RMP
4	Mr. ABU TOHSIN HUSSAIN	MBA/12/05	Problems and prospects of Mutual Funds in Itanagar Capital Complex	SCH
5	Mr. SAYED SAGIR RAHMAN	MBA/12/06	A study of customer relationship Management of Maruti Suzuki in Arunachal Pradesh	RMP
6	Mr. RUPJUTI HAZARIKA	MBA/12/09	Promoting Arunachalee Cuisine in India	RMP
7	Ms. TOKU ANIA	MBA/12/10	A study on how to popularize the local food of Arunachal Pradesh	RMP
8	Ms. APARNA MANDAL	MBA/12/13	Online Marketing for Arunachal Pradesh on Handloom	RMP
9	Mr. NIKANG TILLING	MBA/12/14	Consumer Behavior in buying cars in Capital Complex	BLS
10	Ms. YUMNYA RIRAM	MBA/12/15	Hostel Administration of NERIST	SCH
11	Ms. NUYANG MIZE	MBA/12/17	Accessibility of NERIST Library to the Students	RMP
12	Ms. JUNMOYEE GOGOI	MBA/12/18	A study report on Marketing Strategy of Traditional Ornaments of Arunachal Pradesh	RMP
13	Ms. PURNIMA MAHANTA	MBA/12/19	A study on the Marketing of NGOs in Arunachal Pradesh	RMP
14	Mr. PREM CHANDRA SINGH	MBA/12/20	Loan Schemes of Rural Bank in Arunachal Pradesh	SCH
15	Ms. MINNI MARA	MBA/12/21	Marketing Strategy for Dao of Arunachal Pradesh	RMP
16	Ms. CHIGING RUPA	MBA/12/22	The study of Leave Management of NERIST	RMP
17	Ms. JONAI DUSUSOW	MBA/12/23	Evaluation of Training Programme in NERIST	RMP
18	Ms. RANJEETA DUTTA	MBA/12/25	Organizational Involvement in Corporate Social responsibility (CSR) or Corporate sustainability activities: a theoretical and practical approach of SBI and HDFC at the Capital complex of Itanagar.	BLS
19	Ms. SHEELA BARAILEE	MBA/12/26	Comparison of Customer relationship management in Public and Private sector banks, within capital complex, Itanagar.	SCH

4.12.4 Short term course/seminars/workshop/conferences organized by the faculty

By Prof R.M.Pant

- Chaired session at GB Pant Institute of Himalayan Environment and Development, Itanagar
- Chaired a session in the International Conference, SAISE(Singapore), at IIE, Guwahati

Short term course/workshop attended by the faculty

4.12.5 Ph.D. Thesis evaluated/ external expert

By Prof R.M.Pant

- Manipur University
- Anna University, Chennai
- Dibrugarh University
- Jayati Vidyapeeth, Jaipur (2 nos.)
- **Ph.D. Guidance:** Guiding 08 PhD Scholars, Two scholars were awarded Ph. D degree under my supervision during 2013-14.

Ph.D. Proposals evaluation

- RGU, Rono Hills, A.P.
- Dibrugarh University, Dibrugarh

4.12.6 Papers presented in Conferences, Seminars, Workshops, Symposia

Prof. R.M.Pant

- **Papers Published-** Journal-1, Book volume-02, Key Note Speeches-02, Conference Proceeding-03

Invited Lectures/ Key note speakers

By Prof R.M.Pant

- Delivered Key Note address on the topic 'Entrepreneurship for economic development: Reflections from North East India' in the 1st International Conference at NIFTEM, Sonipat (Jan 10-11, 2013).
- Delivered Key Note Speech on the Topic 'Entrepreneurship: Global Scenario' in the 1st International Conference on Business Management, Economics, Tourism and Technology Management organized by SAISE at Indian Institute of Entrepreneurship, Guwahati (May 7-8, 2014).

- Delivered Key Note Speech on the Topic 'Tourism in Assam' in the UGC sponsored National Seminar at Government College, Panigaon, N. Lakhimpur 2013)

Delivered lectures as Resource Person at

By Prof R.M. Pant

- Training Programme for SHGs at Department of Tourism, Govt. of A.P.
- TEQIP Programmes at NERIST (03 nos.)
- Administration Training Institute, Naharlagan, Govt. of A.P.
- Joint Forest Management in Arunachal Pradesh: Analysis of Policies & Programmes, RCNAEDB, Shillong at NERIST.

Book chapters/Articles in Periodicals

Mr. S. Choudhury

- Conference Book chapters

Sl. No.	Title with page nos	Journal/ Book chapters	ISSN/ ISBN
1.	Digital Ecosystem through proposed assembly rules approach for North east India	International Proceedings of Economics Development and Research	ISBN : 978-981-09-0326-8 IPDER Vol. 79,2014
2.	Conflicting role of liquor industry towards the economic and social development of Arunachal Pradesh, India	International Proceedings of Economics Development and Research	ISBN : 978-981-09-0326-8 IPDER Vol. 79,2014
3.	Sustainability of Cultural Heritage: A Case Study of Bell Metal Industry of Sarthebari Town, Assam	Research and Sustainable Business	ISBN: 978-93-83842-19-3

4.12.7 Achievement of Centre

- Best Oral presentation in the South Asia Institute of Science and Engineering 2014 1st International conference on Business Management, Economics, Tourism, and Technology Management (ICBMETTM 2014) by S. Choudhury.
- Engaged in the development of question bank for national level test for Aptech limited, Mumbai by S. Choudhury.

4.12.8 Departmental Infrastructure development

- One new Conference room was constructed for MBA student through the sponsored by TEQIP

Library Advisory Committee Members

Sl	Name	Deptt	Member
1	Dr. S.K.Singh	Civil Engg.	Chairman
2	Dr. T.Karlo	Physics	Member
3	Prof. P.K.Tripathy	Chemistry	Member
4	Dr. M.M. Dixit	Mathematics	Member
5	Dr.Awadhesh Kumar	Forestry	Member
6	Mr. Anu Kr. Das	Electrical	Member
7	Mr. Manish Kumar	Electronics	Member
8	Mr. M.M.Singh	Computer	Member
9	Mr. D.Pal	Civil	Member
10	Dr. A. Bandyopadhyay	Agriculture	Member
11	Mr. Raju Borthakur	Humanities	Member
12	Dr. S. Samanta	Mechanical	Member
13	Mr. A.K. Gupta	Librarian	Member Secretary

List of INDEST Committee members

Sl. No.	Name	Member
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 Borthakur	Member
6.	Mr. Amar Taggu	Member
7.	Mr. S. Majumder	Member
8.	Mr. N.G. Sorum	Member
9.	Mr. Biplab Das	Member
10.	Dr. M.M. Dixit	Member
11.	Mr. S. Chowdhury	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 counseling the final year students in securing jobs in consonance with their knowledge and skills by organizing campus interviews, while simultaneously exploring various avenues for their placement. The workshops are also being organized by the Cell for the pre final and final year students to provide them with the substantial exposure in the areas pertaining to their recruitment and facilitate their entry into leading and highly professional organizations.

5.2.2 Status report regarding activities

Training

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 3rd June to 2nd July,2013 & 3rd June to 17th July'13 respectively, which is a compulsory requirement in partial fulfillment of the requirements of their curriculum. The organization where NERIST students have gone for their training during summer 2013 are : IIT (Guwahati, Kharagpur & Bombay), NHPC, IOC, OIL, BHEL, ONGC, NTPC, IBM, NIC, BSNL, IBM, NIC, AEGCL, CFMTTI, Visakhapatnam Steel Plant, NESAC, MeEcl, DRDO, NF Rly., NERIM, NEWALM, ICAR (Shillong), Power Grid Corporation of India td., CPWD, etc.

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 and JEC, Jorhat. Some of the prominent organizations that conducted campus/pool campus interviews and selected our students during the period are : Indian Army, Jindal Steel & Power, Bharti Inratel Ltd., PRADAN, etc.. A total number of 16 students got placement in different reputed companies.

5.2.3 List of Committee Members, if any

To revamp the T&P activities, the competent authority in the month of November'13, involved 03 more faculty members apart from the In-charge (T&P), as Advisors. The other 03 faculty members namely; Ms. M. Kathing, AP, Deptt. of CSE, Mr. R. Barthakur, AP, Deptt. of HSS and Dr. A. Bandyopadhyay, AP, Deptt. of AE, have been advising the In-charge, in all matters relating to Training & Placement of students from time to time.

5.4 SPONSORED RESEARCH AND INDUSTRIAL CONSULTANCY (SRIC)

5.4.1 Profile of the Section

The NERIST Board of Management in its 51st 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 PA and one Peon are attached with this Cell to help the day to day works of the Coordinator SRIC. The financial matters & other relevant records of all the projects of various departments like Forestry, Agriculture Engineering, Civil Engineering, Mechanical Engineering etc. are being dealt by the Finance Section.

5.4.2 Status Report regarding activities

Presently about 75 Nos. of projects in various departments of NERIST is going on. Each project is being run by a P.I and other office functionaries as per guidelines of the sponsoring agency.

5.5 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 number of faculty members have attended Seminar/ Workshops/ Short Term Courses/ Conferences during this period.

Various departments of NERIST have also organized some short term programmes in NERIST during this period.

5.6 KENDRIYA VIDYALAYA, NERIST

1. KV NERIST is a prestigious School in Itanagar. From class I to class XII, it is a single section school & presently 477 students are studying in the Vidyalaya.
2. KV NERIST follows the CBSE curriculum and organizes all co-curricular activities in the Vidyalaya. KV has also participated in different activities at regional and national levels like:
 - (a) Social Science exhibition: Vidyalaya has organized social science exhibition at Vidyalaya level and selected some projects, debate and dance for regional level participation. Vidyalaya has secured positions at regional level social science exhibition.
 - (b) Science exhibition: Vidyalaya has participated at regional level science exhibition in 2013 and one model has been selected for national level science exhibition.
 - (c) Scout & Guide: Our school plays an important role in Scout & Guide field. Many students have participated in different Scout Guide activities like Dwitya Sopan testing camp, Tritiya sopan testing camp, Pre-Rajaya Puruskar testing camp and they selected. Vidyalaya also organized different activities at Vidyalaya level time to time.

- (d) CCA: Vidyalaya organized CCA activities for all round development of students in Vidyalaya premises and distributed prizes for the same.
 - (e) Sports: Vidyalaya has organized sports day in Vidyalaya in 2013. 04 students have been selected at national level in KHO-KHO events.
 - (f) Olympiad: Vidyalaya participated in different Olympiads from time to time. One student of this Vidyalaya has secured 19th position in JMO at National level in the session 2013-14.
3. KV NERIST is one of the best schools in this region. Many teachers of this Vidyalaya got trainings and in-service courses. One teacher of this Vidyalaya has been awarded with a national teacher award from KVS.
 4. Vidyalaya has own “Vidyalaya Management Committee” and different school level committees.
 5. Result of this Vidyalaya: In class X the result was 100% with 81 PI in session 2013-14 and two students got 10 CGPA. In class XII the result was 92% with 68 PI in session 2013-14.
 6. Many students of this Vidyalaya have been selected in different prestigious Institution of Medical and Engineering, national level entrance examination.
 7. Being a project sector school, a grant of Rs.90,00,000 (Ninety lakh) was received for the financial year 2013-14. Accordingly, the account has already been submitted to Regional Office, Tinsukia with a copy to NERIST, Nirjuli.

5.7 NERIST K.G. SCHOOL

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

<u>Class Strength Min.</u>	<u>Age of Admission</u>
Play 16	2.5 Years
LKG 45	3 Years
UKG 45	4 Years

Organization structure:

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

5.7.1 Status report regarding activities

During the academic session (April 2013 - March 2014), various activities, competitions and celebrations were organized in addition to Kindergarten level teaching in a view to children grow and develop all round. National festivals were celebrated to grow patriotic feelings right from early age. Various other activities were conducted to develop competitive skill in the wards of school which includes:

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

School also organized sports on 26th January 2014 for physical development of the children. A school picnic was organized for entertainment. The school celebrated its Annual day on 14th of November, i. e. on Children's day. At times, parent-teachers meetings were organized for free interactions and conversations between parents/guardians and teachers.

5.7.2 Highlights

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

5.7.3 List of Committee Members

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

Structure of School Management Committee

- | | |
|-----------------------|------------------------|
| 1. Dr. A. Bhadra | – Chairperson |
| 2. Dr. Deepika Devi | – NFA representative |
| 3. Mr. T. Debnath | – NTSU representative |
| 4. Mr. Nabam Hari | – NTSU representative |
| 5. Mrs. Meenaxi Arora | – Principal, KG School |

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 Students' welfare Scheme for religious and social functions on payment basis;
- d) Providing vehicles for campus interview, seminars, conferences, Short term courses, short term training programmes, Study tours and workshops organized by faculty of various departments;
- e) Providing vehicle to various departments for conducting of Practical Training to students in different modules 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 camps 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

NERIST Health Unit is functioning with same number of staff and Officers as

1. Dr. Popi Camdir Tok	Chief Medical Officer
2. Dr. Susmita P Taggu	Medical Officer
3. Dr. P.K.Deb	Medical Officer
4. Mr. Hareendran P M	Pharmacist
5. Mrs. Mary Biswas	Nursing sister
6. Mr. Dhiren Kr Nath	Dresser
7. Mrs. O. Barman	Xerox operator
8. Mr. Minyo Blange	Lab Assistance
9. Mr. E. Deomari	Lab Attendant
10. Miss Poornima Deb	Attendant
11. Mrs. Koj Yallo	Helper
12. Mrs. Tana Parbati	Peon
13. Mrs. Taba Yapi	A N M
14. Mr. Mahesh Mallick	Sweeper

During the above period, an approximate 2400 students 18000 patients (including staff and relatives) were examined from the OPD. 120 patients were referred to nearby Hospital for further treatment from NERIST Health Unit.

The unit is providing OPD facility for all the staff and their relatives and also for the nearby public those who approach for treatment without any consultation cost. The medicine counter is providing free medicines to the authorized staff throughout the year.

The unit provides facilities for blood donation camp for NERIST NSS and AIDS Control Department, Naharlagun. And also participated in Pulse Immunization programme as per the Government Schedule. The DOT counter also is running in full swing.

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 62nd 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 31.03.2014 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	10
7.	Mechanical Engineering	14
8.	Physics	06
9.	Chemistry	09
10.	Mathematics	08
11.	Humanities & Social Sciences	05
12.	Centre for Management Studies	03

Total (I) = 120

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 31.03.2014 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'	71

Total = 86

(iii) Ministerial Staff

a	Group 'B'	14
b.	Group 'C'	66

Total = 80

(iv) Non Ministerial Staff-Group -C

a	Lab Attendants/Helpers/Pump Attendants/Project Operator	40
b	Security Guards	10
c	Malis, Labourers & Sweepers	18
d	Peons	35
e	Cook & Cook Helpers	69
	Total	172

Total (II) = 352

GRAND TOTAL (I+II) = 472

SECTION – 7

CAMPUS LIFE AND EXTRA CURRICULAR ACTIVITIES**7.1 HOSTEL MANAGEMENT COUNCIL (HMC)****7.1.1 A Brief Profile of the Section**

It is well known that students form the basis for existence of an educational institution like NERIST. In fact, it is the basic objective of the Institute to groom its students to become better citizens with technical skills and knowledge needed for nation building. Therefore, it becomes a national imperative, that the Institute gives top priority to students' needs. The Hostel Management Council (HMC) looks after the needs of the students beyond the class hours and discharges the following responsibilities/functions:

1. Accommodation

The accommodation needs of nearly 2000 students admitted into various courses of the Institute are taken care of by the HMC. Room allotments during admission time and change of rooms during academic session are routinely done by the Council.

2. Mess

Those admitted into 9 hostels of the Institute are provided mess services by the Council. Specific responsibilities include, among others, mess outsourcing, market survey, mess purchases, quality and quantity control.

3. Maintenance

One of the major responsibilities of the HMC is ensuring timely completion of civil and electrical maintenance works of the hostels. The dependence on Civil and Electrical Maintenance Cells of the Institute has slowed down maintenance works and created backlogs over several years. Clearing this huge backlog is a daunting task for HMC. Setting up of a separate cell for ensuring uninterrupted maintenance of essential services has been a challenging task.

4. Establishment

The routine establishment matters of the HMC staff members take up a lot of space. These include, among others, dealing with leave matters (CL, EL, HPL, Medical Leave, Maternity/Paternity), issue of service certificates, forwarding of applications for ILP/Ration Card, Children's Educational Allowance.

5. Discipline

Routine maintenance of discipline in the hostels is an important function of the Council. At the time of admission, HMC takes necessary measures for containing the menace of Ragging in compliance with the Hon'ble Supreme Court order. Such measures include setting up of Anti-Ragging Committee and Squads; intensive anti-ragging patrolling of the hostels for a month. Enforcing observance of discipline during various functions organized by students and regulating entry time and time extension for girls in hostels are time consuming duties.

6. Medical

In the event of medical emergencies, the HMC ensures timely medical attention by competent doctors by attending to such cases even in the middle of night and during holidays also.

7. Security

It is a very important responsibility of the HMC that safe and secure environment is ensured within the campuses of the hostels, particularly for girls, in view of the standing UGC order to that effect. The HMC takes the help of the Institute Security Service for any security matter.

8. Finance

LTC, TA for Medical Advance, Medical Bill Settlement, Leave Encashment, Computer Advance, Motor Cycle/Scooter Advance, Caution Money, Maintenance of Cashbook, Ledger Book, Hostel-wise accounts, Chairman's Account, Chief-Warden's Account, Payment of bills to Suppliers and Contractors, Collection of Mess Advance and Caution Money, Hostel-wise and HMC Office Imprest Money management, Labor Salaries, Procurement of materials for hostel maintenance, Payment of Gas Bills, Telephone Bills, etc. The HMC handles financial transactions of about 3 crores annually.

9. Sports

Physical fitness is a prerequisite for success in academics and in life. Promotion of sports activities among the hostellers after the class hours is a big responsibility of the HMC. Creation of necessary infra-structure and maintenance of the existing ones require deep involvement of the HMC. The Indoor Badminton Facility inside the Hostel Complex is a valuable sports asset that requires proper management. A Committee duly constituted by the HMC looks after its proper utilization and management

10. Uninterrupted Power Supply

The HMC is answerable to the students in the event of major power failures and is expected to take up issues of interrupted power supplies to hostels with the Electrical Engineer, specially, before and during examinations. Any break in this Essential Service requires off-time involvement, often during the night-hours, for immediate restoration.

11. Clean Water Supply

Hygienic water for the hostellers has become a scarce resource due to depletion and pollution at source. Finding alternative and better sources with the help of concerned parties is one responsibility proactively taken upon itself by the HMC. The responsibility of ensuring filtration, sanitization and necessary maintenance for continuous supply of potable water for hostellers falls on the HMC.

12. Public Dealing with Suppliers

HMC responsibilities also include Market Survey by duly constituted Committees, Rate negotiation with suppliers, quality and quantity control of supply of mess items, weekly purchase of mess items from local market in Assam, etc.

13. Public Dealing with Contractors

HMC deals with Labor Contractors in matters related to requisition and salary fixation for laborers in compliance with Labor laws. Management of labor force supplied by the Contractors is also a part of hostel management.

14. Food Waste Disposal

Food waste disposal is necessary for keeping the kitchen environment hygienic. Collectors from outside take away the food waste but there is competition by parties for the same, which requires proper management.

15. Store Keeping

The Maintenance Cell of the HMC is expected to have stock of materials required for uninterrupted and prompt maintenance services for the hostels. Keeping record of the materials in the store and providing them to the maintenance workers are newer responsibilities of the HMC.

16. Beautification

Not only is HMC required to keep the hostels and their campuses clean, it is also required to keep the surroundings beautiful. HMC engages its Malis (gardeners) for routine gardening.

17. Campus Development

The responsibility of initiating campus development of the hostels rests with the HMC. It initiates proposals for infra-structure up-gradation, renovation, better facilities, etc., for the hostellers as per requirement.

18. Hostel Canteens

Canteens operating inside hostel campuses require supervision and their services require quality control. Better quality canteens proposed for the hostels will require involvement of the HMC.

Given the complexities of the huge responsibilities of HMC, professionalism in hostel management is a must and that, in turn, requires competent professionals and supporting manpower, both in terms of quality and quantity.

The following structure and composition of regular manpower for HMC has been proposed for an effective delivery system:

Sl. No.	Position	Proposed	Existing	Required	Remarks
1.	Assistt. Registrar	1	0	1	A Caretaker holds the key to Hostel Management and therefore, must be a UDC with relevant additional qualification(s).
2.	Section Officer	1	0	1	
3.	Superintendent	1	1	0	
4.	Store Keeper	1	1	0	
5.	Caretakers	9	4	5	Negative sign (-) against a figure shows that so many are not required.
6.	UDC	1	2	-1	
7.	LDC	1	4	-3	
8.	Peon	1	0	1	

Currently, the HMC is managed by a team of faculty and staff, as given below:

Dr. Tado Karlo, Chairman-cum-Chief Warden

Dr. L. B. Singha, Addl. Chief Warden (Boys)

Dr. Gomti Devi, Addl. Chief Warden (Girls)

Mr. Ukil Singh, Warden, Block A

Mr. Kiran Singh, Warden, Block B

Mr. Marjit Singh, Warden, Block C

Mr. Biplab Das, Warden, Block D
Mr. L Meitei, Warden, Block E
Mr. Dinamani Singh, Warden, Block F
Dr. Aditi Bhadra, Warden, Block G
Dr. Ajanta Kalita, Warden, Block G
Mr. M. D. Singh, Warden, Block H (PG)
Ms. Margaret Kathing, Warden, Block I
Ms. Joyatri Bora, Warden, Block I

HOSTEL CARETAKERS

Mr. Prakash Das, Block A
Mr. Thomas Mathew, Block B
Mr. Parmeshwar Barman, Block C
Mr. Ananda Gogoi, Block D
Mr. V. P. Manikuttan, Block E
Mr. Dorjee Shongmu, Block F
Ms. Mousami Roychoudhury, Block G
Mr. E. N. V. Nair, Block H

HMC OFFICE STAFF

Mr. Radhe Tadu, Superintendent
Mr. Srijit Chatterjee, Assistant-cum-Store Keeper
Ms. Tripti Chakrabarty, UDC
Ms. Maya Devi, LDC
Mr. Bhupen Saikia, LDC

7.1.2 Status Report

Dr. Tado Karlo took charge of Hostel Management Council as its Chairman on 23/05/2013. On 27th and 28th May 2014, two meetings of students, caretakers, wardens and other connected officials were conducted, in which plan for synergetic and convergent actions of all concerned for better hostel management was unveiled.

In the next step that followed soon, Director, Prof. Dipankar Pal, visited the HMC Office and approved modification of the existing structure and addition of new building for HMC office in the adjoining space.

Two Additional Chief Wardens were appointed to assist the Chairman, HMC, in the process of clearing the developmental backlog of over 20 years. The HMC has done significant works on all fronts, particularly, in accommodation, maintenance, sports and security.

Chairman, BoM, Shri P. K. Borbora, Air Marshal (Rtd.) and Director, Prof. Pal, separately and also together, visited the hostels in order to accelerate the process of hostel maintenance works.

7.1.3 Highlights of Achievements

1. HMC Office Space Modification for Better Performance

Clumsy and cluttered Office of HMC was re-structured and put in order for increased performance output. An Office-cum-Meeting Room was created for better interaction with students, staff and public.

2. Regulation of Entry to HMC Office

Stopped thoroughfare through the HMC Office by those going to the other side of the building and thereby, stopped the disturbance created by those passing through and also, created space for material storage. Took possession of an adjoining room and repaired it for use as store.

3. Appointment of Additional Chief Wardens for Better Hostel Management

Got appointed two Additional Chief Wardens, one for the boys' hostels and the other for the girls' and the appointment helped greater performance output.

4. Web Page Up-gradation for Better Image of the Institute

Recognizing the fact that Institute Website is its face and finding that the HMC webpage was in a 'dilapidated' condition, it has been up-dated and up-graded to give it the much needed facelift.

5. Conversion of Type-V Quarters for PG Girls

Girls admitted to various PG programs of the Institute became vulnerable to potential crimes as they stayed outside, in rented rooms, some in remote parts of capital city. In tune with national concern for girls' security, proactive action was taken by way of conversion of 4 Type V quarters for their temporary accommodation through administrative action and followed by maintenance works on war footing.

6. Renovation of Indoor Badminton Facility

The Indoor Badminton Facility was up-graded by addition of better lighting system, drinking water facility, modification of the entrance, wire mesh for preventing entry of mosquitoes from windows and door, sealing of roof leakage, repairing of wooden court, white washing of the walls, replacement of all the exhaust fans and wall fans, purchase of ceiling materials, etc.

7. Restoration of Indoor Badminton Facility to Students

Due to long administrative neglect, the Indoor Badminton Facility went into the hands of non-students, including some influential insiders and outsiders. What Gymkhana could not do all these years, was done by HMC through the active support of Chairman, BoM. The Indoor Badminton Stadium was freed from the clutch of non-student users and restored to the students.

8. Tiling of Toilets

As desired by the Chairman, BoM, maintenance of the toilets has been taken up on priority basis. Tiles for toilets were purchased and tiling work has started in some hostels already.

9. HMC ESMC Building Construction

The dependence on IE office for hostel maintenance works has been the root cause of poor maintenance of the hostels. The contractor-engineer nexus in the working of IE office has led to financial inefficiency and quality compromise. As committed by the Director, formation of a separate maintenance cell for HMC required creation of necessary infrastructure for storage and seating space for the skilled and unskilled workers. An extension of the Indoor Badminton Facility was constructed for the purpose, amidst disturbances from contractors.

10. HMC Office Front Space Development

As mentioned in the address of HMC in its webpage, the Pipal tree standing in front of its office bears great significance. It is a tell-tale tree that was planted by President, Giani Zail Singh, while laying the foundation of NERIST on March 4, 1984. It is only befitting that a platform is built around it by filling with nutrient-rich soil and also for sheltering visitors in its shade during admission time in the hot month of July. The materials for the same were purchased before March ending.

11. Safe Drinking Water Facility Installation

Due to human settlements upstream the main source of water supply and also due to flood during rainy seasons, the water supplied to the hostels remained a potential source of all types of water borne diseases and therefore, potential cause for any epidemic like situation. Purchase of syntax tanks, conversion of the same as filters, followed by terrace-installation have started with remarkable success. It will ensure potable clean and safe water for drinking and cooking in the hostels.

12. Short-Cut Concrete Footpath for Students of Girls' Hostels

NERIST is known for its snake population, which surfaces during rainy seasons. The girls of PG and UG hostels have been taking a short route to their class rooms to save time. However, this short-cut meandered through the bushes and therefore, was unsafe for them. Necessary materials for a concrete path have been purchased and stocked.

13. Minimum Wage Up-gradation for Contract Laborers

HMC has been engaging contract laborers for a long time through 3 Contractors at Rs. 80/- per day, that is, Rs. 2500/- per month, which went against their fundamental rights to live with dignity. The minimum wage of the contract laborers were raised from Rs. 2500/- to Rs. 4000/- as per Govt. of India rule, with retrospective effect from April 1, 2013. Arrears were accordingly paid.

14. Sports Activity (see photos)

After renovation and restoration of the Indoor Badminton Stadium, the Sikkim Students' Association organized its Memorial Badminton Tournament. The Chairman, BoM gave away the prizes to the winners of the Memorial Basket Ball Tournament organized by Meghalaya Students' Association and also rededicated the Indoor Badminton Facility to the students. Chairman's team and Director's team played friendly match to mark the occasion.

15. Anti-Ragging Initiatives

Anti-ragging Committee and Squads were reconstituted. The squads visited the hostels regularly for a month, in the night, to prevent any incident of ragging within the hostel complex. Aggressive poster campaign was done for the whole campus. The vulnerable under-aged students of first year base modules were taken special care of. Result: no cases of ragging of these vulnerable sections. All the first year students of base, diploma and degree modules did not face any ragging problems.

16. Enquiry Committees and Case Investigations

An enquiry committee was set up to look into a case of alleged abuse of a girl by her former boy friend and the matter was solved amicably with the involvement of girl's parent. Another enquiry committee was set up to ascertain the claim by a PG student of 'ragging' and the claim found to be baseless.

17. Special Cleanliness Drive

Massive piling of garbage in the hostels, after the departure of students from hostels for vacation, required special arrangement for cleaning. The task was accomplished through a Special Cleanliness Drive by engaging a local contractor.

18. Discouraging Supplies by Students

The practice of student leaders doing chicken and fish supplies to mess was discouraged and discontinued. The issue of an inherited MoU signed between NERIST and Mess Suppliers (Chicken and Fish) was resolved through skillful and peaceful negotiations.

19. Discouraging Girls' Entry to Boys' Hostels

The practice of girls going to boys' hostels for partaking in 'Bhada Khana' following Block-wise Annual Sports Competition has been discontinued for security and other administrative reasons.

20. Regulation of Entry of Girls' through Boys' Hostel Complex

Over 100 girls used to pass through the UG boys' hostel complex on weekends to visit the Church, located near the Indoor Badminton Stadium, without proper regulation. Strict security regulation was imposed on the movement of the girls into the boys' hostel complex through proper documentation, etc.

21. Time Limit for Extension of Entry Time for Girls

The practice of girls attending functions up to midnight has been discouraged and regulated. Maximum limit of extension for entry of girls to the UG Girls' Hostel is maintained at 10:00 PM, further extendable by half-an-hour only in special cases. Time extensions for several defaulters were denied a deterrent punishment.

22. Prioritization and Streamlining of Hostel Maintenance Works

The tradition of IE office initiating proposals without requisition from HMC has been discouraged. Either need based requisition from HMC or vetting by Chairman, HMC is now a precondition for clearing proposals for hostel maintenance or infrastructure addition/up-gradation. The immediate positive effect of such a policy intervention is that misuse of fund through works started/completed without administrative approval has been checked and the contractor-engineer nexus for misplacing of priority discouraged. Rupee value has been kept.

23. Coordinated Action for Disaster Management

The accidental death of a student in the nearby river threw up challenges in disaster management. Recurrence of such incidents in the Institute's history requires HMC to be well equipped for disaster of any kind. The HMC started acquiring equipments for starting its Disaster Management Cell.

24. Conversion of 2 Common Rooms into 24 Rooms for Accommodation

In order to tide over accommodation crisis, two Common Rooms in the first floors of double-storey boys' hostels, namely, Block-E and Block-F were converted in time to smaller rooms, to accommodate students in waiting.

25. Out-sourcing of Mess of PG Girls' Hostel

A temporary kitchen was constructed in record time of two days and mess started in time, on contract basis, for the PG girls.

26. Mess Contractor's Rate Fixation

The deadlock between Mess Contractor of PG hostels and the boarders was resolved through stakeholders' meeting and rate fixed at Rs. 70/-, a nominal amount, too less, considering the market scenario.

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 2013-14 total students enrolled is given below:

Cadets Enrolled	SD (Boys)	SW (Girls)
1 st Year	87	19
2 nd Year	63	26
3 rd Year (Given extension)	14	5
Total	164	50

Man power status

	PRESENT	REQUIREMENT	DEFICIENCY
ANO/CTO	01	02	01
Supporting staff	02	04	02

Infra-structure

	PRESENT	REQUIREMENT	DEFICIENCY
Office	01	01	NIL
Store room (Big)	01	02	01

Budget allocation

During the session 2013-2014 a total of Rs.83,415 (Rupees Eighty Three Thousand Four Hundred Fifteenonly)was spent,towards the Independence parade (Rs 8,000/-), Republic day parade (Rs 10,000/-), onecamps expenditure (Rs 30,249/-), Impreset (Nil), washing and refreshment alloweddistribution for the students (Rs. 35,166/-) were incurred.

7.2.2 Status Report Regarding Activities

i) Parades Conducted

Total 31 parades

ii) Ceremonial Drill participated

- (i) Independence Day (15-08-2013) : 50 SD & 27 SW Cadets
(ii) Republic Day (26-01-2014) : 54 SD & 27 SW Cadets

iii) Camps Attended by the NCC cadets (Total 1 camps)

- (i) CATC Camp at Hanshora, North lakhimpur, Assam

W.e.f : 26-08-2013to 04-09-2013
No of students : 29 SD +12 SW

iv) ED Grades

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

Course	SD (Boys)	SW (Girls)	Total
ED-2288	39 Cadets	10 Cadets	49
ED-4288	15 Cadets	5 Cadet	20
ED-6288	16 Cadets	7 Cadet	23
Total	70	22	92

7.2.3 Highlights

i) List of “C” Certificate Exam Passed during **2013-14**: 3(2 SD +1 SW)

List of SD Boys “C” Certificate Exam Passed

Sl No	Regt. No	Name of Cadet	Rank	Date of Enrol.
1	APSD/10/12120	Mr. ShailendraPratap	L/CPL	July 2010
2	APSD/09/12122	MrChandan Kr. Jaiswal	L/CPL	July 2010

SW Girls

Sl No	Regt. No	Name of Cadet	Rank	Date of Enrol.
1	AP/GP/SW/11/13 043	Bijoya Das	L/CPL	July 2011

ii) List of B Certificate passed during 2013-14: 29 (26 SD +3 SW)

SD Boys

Sl No	Regt. No	Name of Cadet	Rank	Date of Enrol.
1	APSD/11/12029	Mr. ApurbaAdhikari	cadet	July 2011
2	APSD/11/12039	Mr. AvinashThapa	cadet	July 2011
3	APSD/11/12044	Mr. SudhanshuBhaskarRao	cadet	July 2011
4	APSD/11/12045	Mr. Surya Narayan Panigarhi	cadet	July 2011
5	APSD/11/12049	MrLamlunlalaThomte	cadet	July 2011
6	APSD/11/12038	Mr. Ashish Kumar Mishra	Cadet	July 2011
7	APSD/11/12043	Mr. Bhabatosh Das	Cadet	July 2011
8	APSD/11/12037	Mr. MaidanonLangthasa	Cadet	July 2011
9	APSD/11/12034	Mr. AkhilDeoGangwar	Cadet	July 2011
10	APSD/11/12020	Mr. Deepak Bhardwaj	Cadet	July 2011
11	APSD/11/12007	Mr. AbirMahanta	Cadet	July 2011
12	APSD/11/12005	Mr. MidoNyodu	Cadet	July 2011
13	APSD/11/12004	Mr. SanjitJamatia	Cadet	July 2011
14	APSD/11/12019	Mr. MinisrangBasumatry	Cadet	July 2011
15	APSD/11/12022	Mr. UdayPratap Singh	Cadet	July 2011
16	APSD/11/12033	Mr. Abhishek Kumar	Cadet	July 2011
17	APSD/11/12036	Mr. RajarshiSen	Cadet	July 2011
18	APSD/12/120100	Mr. TilakZamatia	Cadet	July 2012
19	APSD/12/120106	Mr. NamairakpamPremjit Singh	Cadet	July 2012
20	APSD/12/120121	Mr. AngshumanGogoi	Cadet	July 2012
21	APSD/12/120128	Mr. JadabSonowal	Cadet	July 2012
22	APSD/12/120126	Mr. AnishRoi	Cadet	July 2012
23	APSD/12/120127	Mr. Manish Pal	Cadet	July 2012
24	APSD/12/120131	Mr. Anand Kumar Sharma	Cadet	July 2012
25	APSD/12/120157	Mr. Talkeshwar Ray	Cadet	July 2012
26	APSD/12/120125	Mr. Reguitu	Cadet	July 2012

SW Girls

Sl No	Regt. No	Name of Cadet	Rank	Date of Enrol.
1	AP/GP/SW/12/13039	PoonamKumari	cadet	July 2012
2	AP/GP/SW/12/13064	Roji Barman	cadet	July 2012
3	AP/GP/SW/12/13067	Preeti	cadet	July 2012

iii) List of C appeared / result waiting : 14(6SD +8SW)

iv) List of B certificate appeared and result waiting : 10(10SD+ 0SW)

7.2.4 Any other Relevant Information/Data

- i **Mr. Reguitu (APSD/12/120125) was awarded a Gold Medal for the best Shooter of CATC Camp** which was held at Hanshora, North Lakhimpur, Assam.
- ii **Y. Rony Singh (APSD/11/12024) was awarded a cash of Rs 3,500/- for the best Cadet for CATC Camp** which was held at Hanshora, North Lakhimpur, Assam.
- iii **Five of our NCC cadets participated in the event Bharat Jagao Daud (Run for the Nation, a Mini marathon of approximately 3kms) on the 150th Birth Anniversary of Swami Vivekananda** organized by **Vivekanada Kendra Vidyalaya, Nirjuli.**

These Participants not only participate but also brought honour and glory to our Institute and their names are detailed below:

Name & Regimental No.	Position
1. Khuising Sareo (APSD/12/120130)	1 st
2. Reguitu Hega (APSD/12/120125)	3 rd
3. Tilak Jamatia (APSD/12/120100)	5 th
4. Uday Pratap Singh (APSD/11/12022)	6 th
5. Angshuman Gogoi (APSD/12/120121)	10 th

7.3 NATIONAL SERVICE SCHEME (NSS)

7.3.1 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 enrolled as NSS Volunteers. The Cell has one Group 'C' and one Group 'D' employee 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 year 2013-14 : 450 Nos.

7.3.2 Status Regarding Activities

NSS activities for the academic session 2013-14 took off with an orientation programme for the newly admitted volunteers on 17.8.2013. 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 Prof. P.R. Alapati, Dean (SA) about the aims and objectives of NSS. A lecture was also delivered by Dr. V.N. Sharma, Assistant Director-cum SLO, NSS, Directorate of Higher and Technical Education, Govt. of Arunachal Pradesh about the aims and objectives of NSS.

The National Service Scheme Cell of NERIST observed the NSS day on 24.09.2013. The occasion was marked by a function followed by plantation of tree and awareness campaign on Environment. The ceremony was attended by Program Officers, 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.

Regular activity was organized on 17.8.2013, 03.10.2013, 25.2.2014 at NERIST main campus and Degree block. Approximately 400 number of volunteers participated in it. The campus cleaning along with plantation of 250 saplings at Degree block.

A Massive Voluntary Blood donation camp was organised by NSS cell, NERIST, Nirjuli (A.P) in coordination with Naharlagun General Hospital and Medical Health Unit, NERIST on 24.8.2013, 08.2.2014. 100 Nos of NSS Volunteers, Programme Officer, donated blood out of which 10 were girls. The Blood donation camp was followed by a lunch party at NERIST Guest house for Doctors, Technician, Medical Staff and Programme officers.

7.3.3 Special Camp Report

Special camp was organized from 22.2.2014 to 04.02.2013 at the Model Village, Naharlagun (A.P). The camp was attended by around 200 student volunteers and Program officers of NERIST along with students and teachers of Govt. Middle School, Modern Village and its villagers. Around 200 saplings of amla (*Embilica indica*) and jack fruit (*Artocarpus hetrophylus*) were planted. This is followed by campus cleaning. The plantation and the maintenance of Eco System of Modern village will be taken care of by the NSS Cell, NERIST in future. A free medical checkup for the villagers and the students was also conducted by Dr. Sushmita P.Taggu, Medical Officer NERIST Health Unit. Around 150 villagers and students availed this free medical facility. A community lunch was also organized. This was followed by the interaction of the student volunteers with the villagers. Govt Middle School, Modern Village for all the possible help provided to make the camp a grand success.

List of NSS Committee

1. Dr. (Mrs). T. Tuithung	Coordinator (NSS)
2. Dr. P.R. Gujeral	Asstt. Coordinator
3. Mr. S.J. Bora	Asstt. Coordinator
4. Dr. S. Samanta	Programme Officer
5. Mrs. M. Kathing	Programme Officer
6. Dr.A. Pandey	Programme Officer
7. Shri A.D. Singh	Programme Officer
8. Dr. A. Kumar	Programme Officer
9. Shri K. K. Singh	Programme Officer
10. Mr. M. Dabi	Programme Officer
11. Dr. Manish Kumar	Programme Officer
12. Dr. Gumti Devi	Programme Officer
13. Dr. Ajanta Kalita	Programme Officer
14. Mr. N.L. Meitei	Programme Officer

7.4 ESTATE OFFICE

7.4.1 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 Papumpare, 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 records 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 employees- 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.

7.4.2 Status Report Regarding Activities

1. Court case matter related to 240 Acres land

Encroachment at 240 acres (Hill-top) land and notices issued to encroachers by the Additional District Magistrate – cum- Chief Estate Officer, Govt. of Arunachal Pradesh, Itanagar. First hearing was conducted on 30th June, 2009 to 31st August 2009 and the case is still pending in the same court till now. The present status of 240 acres (Hill-top) land is that the entire 240 acres has been encroached by the outsiders and the institutes Authority needs to pursue the matter to the Chief Estate Officer- cum-Addition 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 wall around the area.

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

A notice No. LRB-096083/2001/279 since dated 23.05.2011 was received from the Executive Magistrate Itanagar, Capital Complex, Itanagar Govt. of Arunachal Pradesh in which NERIST was accused of grabbing land along NH 52-A opposite to the GREF Office, 2.75 land, by complainants Shri Takam Pario and others and the Institute 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 01.6.2011, 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 NERIST Boys` Hostel` D ` Boundary Area Land

An FIR has been lodged by the Competent Authority of NERIST vide Office Order No. RR-41/2011/Vol .II, dated, 28.01.2014 to Shri Tana Bado Tara Nirjuli for unauthorized encroached the NERIST Land at back side of Boys` `D` Hostel Boundary land , NERIST

about the 10 x 50 meters land by erecting brick wall at the back side of the NERIST 'D' Hostel land. In this regards, the case is still pending in the honorable court, Govt. of Arunachal Pradesh.

4. Matter Related to 64 acres Land

An FIR has been lodged by the Competent Authority of NERIST to Shri Biki Lingri, Nirjuli for unauthorized encroached the NERIST 64 acres Land at back side of Nyikum Niya Hall, NERIST about the 8 x 4 meters land by erecting brick wall at the back side of the Nyikum niya ground. In this regards, the honorable Additional District Magistrate-cum Chief Estate Officer, Govt. of Arunachal Pradesh has directed to noticed to Mr. Biki Lingi for directed to attend his office to Show Cause his over the land where Mr. Biki Lingi has occupied the NERIST land vide the letter No. CEO/ICC/DAD-1250/14/185-92, dated 23rd April, 2014. Now, the case is disposed off and closed accordingly under the above order and direction.

5. Matter Related to Institute main Campus land, C/o 105 Land

A letter bearing Nos. AR(E&L)/ 26/2008-09, dated 26.8.2013 on the matter of Illegal dumping/throwing of debris/garbage regularly in side NERIST campus by outsider from multi storied building adjacent to IE/EE office near institute boundary walls, in this this regards, The Additional District Magistrate – cum Chief Estate Officer, Govt. of Arunachal Pradesh, Itanagar has issued a Public Notice vide his Office order No. CEO/ICC /Jud-978/2013 dated the Itanagar, the 30th August, 2013, under Section 133 of Cr. P.C. to avoid legal complicacy and financial loss due to such public nuisance and directed to all concern to stop any illegal dumping of debris/garbage in the said premises and also informed that if anyone found violating these conditions, necessary legal action shall be initiated against such violator. Now the case is disposed off and closed accordingly under the above order and direction.

6. Matter Related to Institute Main Canteen / Shop.

The date of deed of Agreement for running/operating of NERIST main Canteen is going to expire and the same has going to re-starting for advertising for Notice Inviting Quotation.

7. List of Committee members, if any

Estate Officer of this office is members of many important committees like House Allotment Committee, Space Allotment Committee, Eviction Committee condemnation Committee etc.etc.

7.5 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 2013-14, the Institute had an unspent balance of Rs. 643.73 lakhs. During the year, the Institute received Rs.6452.48 lakhs as grant-in-aid and Rs.208.73 as IRG. This included grant-in-aid of 0.00 lakhs sanctioned at the fag-end of 2012-13 but received in 2013-14. The unspent balance as on 31.03.2014 is Rs.780.59 lakhs which shall be utilized during 2014-15. Brief break-up of fund received and expenditure incurred is given as under:-

Details of account	HEAD			Grand Total (2+3+4)
	PLAN (Capital)	PLAN (General)	NON- PLAN	
(1)	(2)	(3)	(4)	(5)
Previous balance	32.70	42.53	568.50	643.73
Fund received during 2013-14	2114.69	309.79	4028.00	6452.48
IRG 2013-14	-	-	208.73	208.73
Expenditure incurred during 2013-14	2013.28	177.03	4334.04	6524.35
Unspent Balance as on 31.03.2014	134.11	175.29	471.19	780.59

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.

MEMBERS of NERIST SOCIETY as on 31.03.2014

1. Lt. Gen. (Retd.) Nirbhay Sharma, PVSM,UYSM,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. Joint Secretary (TEL), MHRD, Govt. of India,	-	Member
11. The Financial Adviser, IFD, MHRD, New Delhi	-	Member
12. Air Marshal (Retd.) Pranab Kumar Barbora, 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 th 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

MEMBERS of NERIST BOARD OF MANAGEMENT as on 31.03.2014

1. Air Marshal (Retd.) Pranab Kumar Barbora, C-1201, Celebrity Homes, Palam Vihar, Gurgaon – 122017	-	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. Joint Secretary (TEL) ,MHRD, Govt. of India	-	Member
14. Dr. L. Joyprakash Singh, Associate Professor Department of Electronics and Communication Engineering, NEHU, Shillong - 793022, Meghalaya	-	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. A.S. Rai, 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

MEMBERS OF NERIST FINANCE COMMITTEE AS ON 31.03.2014

- | | | |
|--|---|------------------------------------|
| 1. Air Marshal (Retd.) Pranab Kumar Barbora,
Chairman, BoM, NERIST | - | Chairman |
| 2. Secretary to H.E. the Governor of
Arunachal Pradesh, Itanagar | - | Member |
| 3. The Vice Chancellor, Rajiv Gandhi
University, Doimukh, Arunachal Pradesh | - | Member |
| 4. The Commissioner (Education),
Govt. of AP., Itanagar | - | Member |
| 5. Additional Secretary & FA
MHRD, Govt. of India, New Delhi | - | Member |
| 6. Joint Secretary (TEL), MHRD, Govt. of India, | - | Member |
| 7. Prof. Dipankar Pal, Director, NERIST | - | Member |
| 8. Dr. R.P. Bhattacharjee, Registrar, NERIST | - | Member |
| 9. Dy. Registrar (Fin), NERIST | - | Ex-officio
Non-Member Secretary |

MEMBERS OF ACADEMIC COUNCIL AS ON 31.03.2014

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

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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

MEMBERS OF BUILDING AND WORKS COMMITTEE ON 31.03.2014

- | | |
|---|----------------------|
| 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 Secretary |

INSTITUTE ADMINISTRATION AS ON 31.03.2014

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)	-	Mr. Mai Ranjit
5.	Finance Officer	-	Dr. R.P.Bhattacharjee
6.	Assistant Registrars:		
	Administration	-	Mr. K.K.Rajesh
	Store & Purchase	-	Mr. Gautam Kr Roy
7.	Medical Officers:	-	Dr. Susmita P Taggu Dr. P.Camdir Tok Dr. P.K. Deb
8.	Librarian	-	Mr. Ashim Kr. Gupta
9.	Assistant Workshop Superintendent	-	Mr. Harshendra Mishra
10.	Security Officer	-	Mr. Passang Simi
11.	Liaison Officer, SC/ST	-	Mr. N.G.Sorum
12.	Executive Engineer	-	Mr. Jilek Hiri
13.	Estate Officer	-	Mr. K.K. Rajesh
14.	Vigilance Officer	-	Prof. P.P. Dabral
15.	Sports Officer	-	Mr. B.S. Raja
16.	Hindi Officer	-	Mr. Ratan Singh
17.	Head of the Departments:		
	Forestry	-	Dr. C.L. Sharma
	Agricultural Engineering	-	Dr. P.P. Dabral
	Civil Engineering	-	Dr. R.K. Prasad
	Computer Science & Engg.	-	Mr. S.J. Borah
	Electrical Engineering	-	Dr. R.K. Mehta
	Electronics & Communication Engg.	-	Mr. Madhusudan Mishra
	Mechanical Engineering	-	Dr. Asis Giri
	Physics	-	Prof. M. Sengupta
	Chemistry	-	Prof. M.F.Hussain
	Mathematics	-	Prof. S.K. Pandey
	Humanities & Social Sciences	-	Dr. P. Parida
	Centre for Management Studies	-	Shri S. Choudhury
18.	Head of Centre (CATRD)	-	Dr. S.K.Shrivastava
19.	Chairman:		
	NEE Committee	-	Dr. Arvind Pandey
	HMC	-	Dr. Tado Karlo
	Gymkhana	-	Mr. Nabum Teyi

	Telecom	-	Mr. M. Mishra
	TPT	-	Dr. M. Chandrasekaran
	Library	-	Prof. S.K.Singh
	HAC	-	Dr. R.P. Bhattacharjee
20.	Training & Placement i/c	-	Dr. P.K. Pranav
21.	ET Cell i/c	-	Dr. Sarsing Gao
22.	Coordinators:		
	SRIC	-	Prof. P. Rethy
	NSS	-	Dr. (Mrs.) T.Tuithung
	CEP	-	Dr. C.L. Sharma
	CRF	-	Dr. K.D. Ram
	ACCF	-	Dr. Sarsing Gao
	DOE	-	Mr. T.V.P. Singh
23.	Controller of Examination	-	Dr. P. Parida
24.	Secretary NEE Committee	-	Mr. Mai Ranjit
25.	NCC Officer	-	Mr. K.Kiran Singh

MEMBERS OF LIBRARY COMMITTEE AS ON 31.03.2014

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

MEMBERS OF NEE COMMITTEE AS ON 31.03.2014

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

MEMBERS OF HOSTEL MANAGEMENT COUNCIL AS ON 31.03.2014

Chairman-cum-Chief Warden

Dr. Tado Karlo

Addl. Chief Warden (Boys)

Dr. L.B. Singha

Addl. Chief Warden (Girls)

Dr. Gomti Devi

Wardens

a)	Mr. Ukil Singh	Hostel Block – A
b)	Mr. K. Kiran Singh	Hostel Block – B
c)	Mr. Marjit Singh	Hostel Block – C
d)	Mr. Biplab Das	Hostel Block – D
e)	Mr. N.L. Meitei	Hostel Block – E
f)	Mr. A.D. Singh	Hostel Block – F
g)	Dr. Aditi Bhadra	Hostel Block – G
	Dr. Ajanta Kalita	———— do ————
h)	Mr. M. D. Singh	Hostel Block – H (PG)
i)	Ms. Margaret Kathing	Hostel Block – I
j)	Ms. Joyatri Bora	———— do ————

NERIST ENTRANCE EXAMINATION**1. Admission notice:**

The admission Notice was released to newspapers on 20.01.2013. As such the admission notice included details of all the three NEEs.

The admission notification was published in the following newspapers:

- | | |
|---|------------|
| 1. Arunachal Times, Itanagar | 09.01.2013 |
| 2. Assam Tribune, Guwahati | 20.01.2013 |
| 3. All editions of Hindustan Times viz :
(Education Horizon) | 20.01.2013 |
| 4. Arunachal Front | 09.01.2013 |
| 5. Shillong Times | 20.01.2013 |
| 6. Sikkim Express | 20.01.2013 |
| 7. Nagaland Post | 20.01.2013 |
| 8. Tripura Times | -do- |
| 9. Mizoram Post | -do- |
| 10. Sangai Express, Imphal | -do- |

**Date of Examination : 20.04.2013 - NEE – II & III
21.04.2013 - NEE - I**

Candidates admitted and appeared in NEE-2013 (State - wise)

Name of state	Module						Total	
	NEE-I		NEE-II		NEE-III		Appld.	Apprd.
	Appld.	Apprd.	Appld.	Apprd.	Appld.	Apprd.		
Arunachal	4346	3549	2196	1734	333	226	6875	5509
Assam	1247	1024	1075	878	212	174	2534	2076
Manipur	361	330	348	287	44	34	753	651
Meghalaya	207	154	298	221	51	47	556	422
Mizoram	59	51	60	46	24	27	143	124
Nagaland	218	169	371	305	26	20	615	501
Sikkim	76	34	119	95	25	16	220	145
Tripura	542	476	140	114	71	62	753	652
All India		334		260		72		666
PD		21		7		6		34
Total		6142		954		691		10780

DETAILS OF CANDIDATES APPEARED IN NEE-III, 2013

Name of centre	AE	CE	CSE	ECE	EE	ME	TOTAL
Agartala		22	4	5	25	3	59
Aizwal		7	4	5	2	4	22
Dibrugarh	1	10	2	3	15	10	41
Gangtok		3	4	4	5	1	17
Guwahati	6	35	22	25	29	33	150
Imphal	1	9	6	9	6	10	41
Tezpur		3	1	2	0	1	7
Kohima		8	6	4	0	2	20
Shillong	2	21	5	3	6	6	43
Silchar		12	0	9		7	28
Itanagar	5	154	29	10	44	17	259
Total	15	285	84	79	133	95	691

RESULT ANNOUNCEMENT

- 1) Result approved on : 15.05.2013
 2) Declaration on notice boards : 15.05.2013
 3) Result given in NERIST website : 15.05.2013
 4) Result sent to all the Directorates of Higher Education of Eight NE states through email: : 16.05.2013

Candidates selected (state and category-wise): 2013

Name of state & category	MODULE				Grand total
	NEE-I	NEE-II		NEE-III	
		Technology	Forestry		
PRC	14	6	2	5+2	29
PHYSICAL HANDICAPPED	6	2	1	2	11
Arunachal pradesh	20	8	3	7	38
Assam	20	8	3	6	37
Manipur	20	8	3	7	38
Meghalaya	20	8	3	7	38
Mizoram	20	8	2	6	36
Nagaland	20	8	3	7	38
Sikkim	17	7	3	4	31
Tripura	20	8	3	7	38
All India	20	8	3	7	38
Total	197	79	29	67	372

Candidates wait-listed (state & category-wise) 2013

Name of state & category	MODULE				
	NEE-I	NEE-II		NEE-III	Grand total
		Technology	Forestry		
PRC	14	6	2	5+2	29
PHYSICAL HANDICAPPED	6	2	1	2	11
Arunachal pradesh	20+20	8+8	3+3	6+6	75
Assam	20	8	3	6	36
Manipur	20	8	3	5	36
Meghalaya	16	8	3	6	33
Mizoram	20	8	2	4	34
Nagaland	20	8	3	5	36
Sikkim	7	6	3	1	17
Tripura	20	8	2	5	35
All India	20	8	3	6	37
Total	203	86	31	59	379

COUNSELLING SCHEDULE

1	8.07.2013 (Monday)	Selected List of NEE – I (Base) (Excluding Arunachal Pradesh)
2	9.07.2013 (Tuesday)	Waiting List of NEE – I (Excluding Arunachal Pradesh)
3	10.07.2013 (Wednesday)	Selected & Waiting List of NEE – I (for the candidates of Arunachal Pradesh state Quota)
4	11.07.2013 (Thursday)	Selected List of NEE –II & III (Excluding Arunachal Pradesh)
5	12.07.2013 (Friday)	Waiting List of NEE-II & III (Excluding Arunachal Pradesh)
6	13.07.2013 (Saturday)	Selected & Waiting List of NEE – II & III (for the candidates of Arunachal Pradesh state Quota)

Candidates admitted in the year 2013 (State and category-wise):

Name of State & category	Module											
	NEE-I			NEE-II (Technology)			NEE-II (forestry)			NEE-III		
	Selected	Wait	Total	Selected	Wait	Total	Selected	Wait	Total	Selected	Wait	Total
PRC	5	9	14	1	1	2				3	1	4
PD	6		6	1		1				1	1	2
Arunachal	14	6	20	3	3	6	1	1	2		5	5
Assam	11	9	20	2	3	5	2		2	5	1	6
Manipur	16	4	20	5	3	8	1	1	2	4	3	7
Meghalaya	11	8	19	1	5	6	1	1	2	5	1	6
Mizoram	13	4	17	7	1	8	1		1	2	2	4
Nagaland	15	4	19	2	2	4				4	3	7
Sikkim	12	5	17	4	1	5	1		1	2	1	3

Tripura	10	8	18	2	3	5	1		1	6		6
All India	16	4	20	5	1	6	2		2	3	2	5
Floating										1	1	2
Total			190			56			13			57

CANDIDATES ADMITTED IN BASE MODULE (NEE-I) AS PER COUNSELLING REPORT – 2013 (Branch-wise):

DISCIPLINE	PD	PRC	AP	AS	MN	MG	MZ	NL	SK	TR	AI	TOTAL
AE	2	2	4	4	4	4	4	4	4	4	4	40
CE	1	3	4	4	4	4	4	4	4	4	4	40
EC	1	3	4	4	4	3	1	3	1	2	4	30
EE	1	3	4	4	4	4	4	4	4	4	4	40
ME	1	3	4	4	4	4	4	4	4	4	4	40
TOTAL	6	14	20	20	20	19	17	19	17	18	20	190

CANDIDATES ADMITTED IN DIPLOMA MODULE (NEE-II) AS PER COUNSELLING REPORT – 2013 (Branch-wise):

DISCIPLINE	PD	PRC	AP	AS	MN	MG	MZ	NL	SK	TR	AI	TOTAL
AE						1	1			1		3
CE	1		1	1	1	1	1	1	1	1	1	10
CS			1		2	1	2					6
EC					1		1	1	1		1	5
EE		1	1	1	1	1	1	1	1	1	1	10
ME		1	1	1	1		1	1	1	1	1	9
FO			2	2	2	2	1		1	1	2	13
TOTAL	1	2	6	5	8	6	8	4	5	5	6	56

CANDIDATES ADMITTED IN DEGREE MODULE (NEE-III) AS PER COUNSELING REPORT – 2013 (Branch wise):

DISCIPLINE	PD	PRC	AP	AS	MN	MG	MZ	NL	SK	TR	AI	TOTAL
AE					1	1		1				3
CE	1	1	2	1	2	1	1	1	1	2	1	14
CS		1	1	1	1	1	1	2	1	1	1	11
EC		1		1	1	1	1	1		1	1	8
EE	1		1	1	1	1		1	1		1	8
ME		1	1	2	1	1	1	1		1	2	11+2(floating)
TOTAL	2	4	5	6	7	5	4	7	3	5	6	57

Branch wise admission in NEE-2013

Branch	NEE											
	I			II			III			Grand Total		
	M	F	Total	M	F	Total	M	F	Total	M	F	Total
AE	34	6	40	2	1	3	2	1	3	38	8	46
CE	29	11	40	10	0	10	13	1	14	52	12	64
CS				5	1	6	5	6	11	10	7	17

ECE	22	8	30	3	2	5	8	0	8	33	10	43
EE	34	6	40	9	1	10	5	3	8	48	10	58
ME	34	6	40	9	0	9	12	1	13	55	7	62
FO	7	6		7	6	13				7	6	13
Total			190			56			57			303

SUMMARY OF NEE-2013

POSITION	NEE-I	NEE-II	NEE-III	Total
No. of application forms issued	13025			
No. of application received	6142	3947	691	10780
No. of candidates appeared	6142	3947	691	10780
No. of candidates selected (Technology)	197	79	67	343
No. of candidates selected (Forestry)		29		29
No. of candidates waitlisted (Technology)	203	86	59	348
No. of candidates waitlisted (Forestry)		31		31
No. of candidates attended counseling of selected list(T)	141	37	37	215
No. of candidates attended counseling of wait list (T)	49	19	20	88
No. of candidates attended counseling of selected (FO)		8		8
No. of candidates attended counseling of wait list (FO)		5		5

HIGHLIGHTS OF NEE-2013

Sl.No.	Events	2012	2013	Remarks
01.	Number of applicants	13140	13025	Decreased by 115 Nos.
02.	No. of candidates appeared	11681	10780	Decreased by 901 Nos.
03.	No. of candidates taken admission through counseling	NEE-I 194 NEE-II 73 <u>NEE-III 53</u> 320	NEE-I 190 NEE-II 69 <u>NEE-III 57</u> 316	Marginal decrease in NEE-I & NEE-II
04.	No. of male candidates got registered	254	202	Decreased by 52 Nos.
05.	No. of female candidates got registered	66	67	Increased by 01 Nos.
06.	The most preferred branch	61	CE with 64	Increased by 3
07.	Less preferred branch	CS 24	CS with 17	Decreased by 7
08.	No. of students admitted from selected list	241	223	Increased by 18 Nos.
09.	No. of students admitted From wait list	79	93	Increased by 17 Nos.

Adoption of online registration neeonline.ac.in and OMR answer sheets has helped the NEE Cell to publish the NEE result in time as per the schedule. The Challan were made available to the applicants by the Axis Bank Branches throughout the country at major places of choice. Payment mode for application was also available to the candidates via debit cards and credit cards. For up to date information, NERIST website was used for the sell being of the applicants and general public. Some of the information was not included in this report as it was not available with NEE cell due to sad demise of Dr. S. Roy.

Thus the total process of NEE-2013 completed successfully.

LIST OF FACULTY AS ON 31.03.2014

Name of the faculty members	Date of joining	Specialization
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1. Department of Applied Science (Forestry)

Professor

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	31.03.09	Biodiversity Conservation & Silviculture

Associate Professor

Dr. C.L. Sharma, Ph.D & HoD	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

Assistant Professor

Dr. P.R. Gajurel, Ph.D	20.06.06	Botany Taxonomy
Dr. L.B. Singha, Ph.D	23.06.06	Botany Taxonomy
Dr. O.P. Tripathi, Ph.D	26.06.06	Forest Ecology
Shri Gobinda Pangging, M.Sc	23.06.06	Forestry Economics & Mngt
Dr. Awadhesh Kumar, Ph.D.	29.06.06	Wild life Biology
Dr. K.Suresh Kr. Singh, Ph.D	13.07.06	Social Microbial Ecology

2. Department of Agricultural Engineering

Professor

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.

Associate Professor

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

Assistant Professor

Shri Deepak Jhajaria, 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.Pranav, 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. Evapotranspiration

3. Department of Civil Engineering**Professor**

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

Dr. R.K. Prasad, Ph.D & 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	Social Mechanics & Fntn. 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 Mechanic & 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 Mechanic & Foundation Engg.
Shri Dibyendu Pal, M.Tech	09.02.10	Transportation Sys. Engg.

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 System
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	-

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

Dr. O.P. Roy, Ph. D	02.08.07	Electric Drive, Micro.
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 Hydo-Energy System
Shri T.V. Prakash Singh, M.E	02.08.07	Control and Instrumentation

Assistant Professor

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. Meitei, M.Tech	24.12.09	-
Ms. Somila Hashunao, M. Tech	15.01.10	-

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 Tripurari Sharan, M.Tech	31.03.09	-
Shri M. Mishra, M.Tech & HoD	24.07.06	-
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 Manish Kumar, M.Tech	09.03.07	-
Shri Rushni Kima Mangang, ME	23.02.10	Applied Electronics

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 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
Dr. Sutanu Samanta, M.E	02.08.07	Production Engineering
Shri Narendra Kumar Rana, M.E	05.07.06	IndustrialMaterial& Metallurgy
Shri Maryom Dabi, B.Tech	06.07.06	-
Dr. Satyam Shivam Gautom, Ph.D.	03.08.06	Mechanical
Shri Biplab Das, M.Tech	22.12.09	
Shri Nabam Teyi, M.Tech	11.01.10	

8. Department of Physics**Professor**

Dr. P.R. Alapati, Ph.D.	31.03.09	Condensed matter (Liquid Crys)
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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

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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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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Asstt. 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

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. & HoD	11.01.01	Organisational Behaviour/ Managerial effectiveness
Dr. Shyamalee Sinha, Ph.D	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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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

**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 2014**

Separate Audit Report of the Comptroller & Auditor General of India on the
Accounts of North-Eastern Regional Institute of Science & Technology, Nirjuli
for the year ended 31 March 2014

We have audited the Balance Sheet of North Eastern Regional Institute of Science & Technology (NERIST), Nirjuli, for the year ended 31 March 2014, the Income & Expenditure Account/and the Receipt & Payment Account for the year ended on that date under Section 20 (1) of the Comptroller and Auditor General's (Duties, Powers & Conditions of Service) Act, 1971, read with 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 & Auditor General of India (C&AG) on the accounting treatment only with regard to their classification, conformity with the best accounting practices, accounting standards, disclosure norms, etc. Audit observations on financial transactions with regard to compliance with the Law, Rules & Regulations (Propriety & Regularity) and efficiency-cum-performance aspects, etc., if any, are reported through Inspection Reports/CAG's Audit Reports separately.

3. We have conducted our audit in accordance with auditing standards generally accepted in India. These standards require 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 and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of financial statements. We believe that our audit provides a reasonable basis for our opinion.

4. Based on our audit, we report that:

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

A. Balance Sheet

Corpur/Capital Fund and Liabilities

Current Liabilities & Provisions – Rs. 352.55 lakh (Schedule-3)

No provision was made for terminal benefits such as gratuity, leave encashment and other pensionary benefits of Rs. 32.56 lakh by the Institute.

This resulted in under-statement of 'Provisions' by Rs. 32.56 lakh, which consequently led to under-statement of 'Excess of Expenditure over Income' (Deficit) to the same extent.

Assets

Fixed Assets – Rs. 10786.79 lakh (Schedule-4)

i) The above included 'Condemned Assets' of Rs. 5.62 lakh. As these assets were not utilized, they should have been recovered from 'Fixed Assets' (Schedule-4) and charged to income & expenditure accounts.

Thus, due to retention of 'Condemned Assets' under 'Fixed Assets', there was over-statement in 'Fixed Assets' and corresponding under-statement of 'Excess of Expenditure over Income' by 5.62 lakh. The condemned Assets should be charged to Income and Expenditure account and value in Fixed Assets should be nominal say Re-1 only.

ii) The above included software, valued at Rs. 7.87 lakh, purchased in September 2013 and capitalized under 'LAN/WAN – Lab Equipment'. As the software was usable only for a period of one year, it should not have been considered as creation of assets for use for more than one accounting year. This resulted in over-statement of 'Assets' by Rs. 7.87 lakh with a corresponding under-statement of 'Excess of Expenditure over Income' to the same extent.

iii) Scrutiny of records of the Institute revealed that it had free-hold land and also earned. But in the Balance Sheet, the value of land was not shown under 'Fixed Assets'. This resulted in under-statement of 'Fixed Assets' to the extent of value of the land.

B. General

General Observations on the Format of Annual Accounts/Schedule

1. Schedule attached to the Balance Sheet – 'Earmarked Funds' (Schedule – 5) – was not shown in the specified format as per the '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 had to be shown separately for each category of fund.
2. The Balance Sheet should be titled as 'Balance Sheet as **AT** March, 2014' instead of 'Balance Sheet as **ON** 31st March 2014'. The same applies for all Schedules attached to the Balance Sheet.

C. Accounting Policy

Accounting Policy and Notes on Accounts

Significant Accounting Policies disclosed in the accounts of the Institute showed the following shortcomings:

1. Disclosures were inadequate, as policies regarding important accounting points such as Revenue Recognition, Investments, Depreciation (method and rates applicable), etc., were disclosed.
2. Notes on Accounts were also found to be just attached to the Annual Accounts. As these are also an integral part of the Annual Accounts, they should be shown under appropriate Schedules with numbers and referred to in places where such disclosures or notes are required.

D. Grants-in-Aid

The Institute is financed mainly by grants received from the Government of India (GoI). During the year, the Institute had funds of Rs. 7304.95 lakh, which included Grants-in-Aid of Rs. 6452.48 lakh (Rs. 958.43 lakh received during March 2014) received from the Government of India and an Opening Balance of Rs. 643.74 lakh. The Institute also generated Rs. 208.73 lakh. From the total available funds Rs. 8068.86 lakh, the Institute spent Rs. 6524.36 lakh, leaving a balance of Rs. 780.59 lakh, as on 31 March 2014.

- 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 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 2014; and
 - b. In so far as it relates to the Income & Expenditure Account of the deficit for the year ended on that date.

Place: Itanagar

Dated: 15th January 2015

Sd/-
Accountant General
Arunachal Pradesh

Annexure

1. Adequacy of Internal Control System

Regarding the Internal Control Mechanism of the Institute, the following shortcomings were noticed:

1. The Institute did not have any Accounting or Administrative Manual.
2. For internal Audit purposes, the Institute appointed an Auditor who was confined with pre-check of Bills only. No Internal Audit was conducted till date of Audit (07/2014). Therefore, no Internal Audit Inspection Report was available.
3. Physical verification for 2013-14 was not conducted till date of audit (07/2014).
4. Instances of use of inappropriate Forms were noticed while preparing and passing Bills for construction works.

2. Adequacy of Physical Verification of Fixed Assets and Inventories

Audit scrutiny revealed that physical verification of assets and inventories was not conducted for during 2013-14.

3. Regularity in Payment of Statutory Dues

The Institute was not regular in deduction of Statutory Dues.

Sd/-
Accountant General
Arunachal Pradesh

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

BALANCE SHEET AS ON 31ST MARCH, 2014

Amount in Rs.

CORPUS/CAPITAL FUND AND LIABILITIES	SCHEDULE	CURRENT YEAR	PREVIOUS YEAR
CORPUS/CAPITAL FUND	1	1169267408.00	994080901.18
Earmarked/Endowment Funds	2	1727341.00	1878376.00
Current Liabilities & Provisions	3	35255169.75	29145823.75
Total		1206249918.75	1025105100.93

ASSETS	SCHEDULE	CURRENT YEAR	PREVIOUS YEAR
FIXED ASSETS	4	1078679021.25	916409139.43
Investment from Earmarked/Endowment Funds	5	469337.00	462102.00
Current Assets, Loan, Advances etc.	6	127101560.50	108233859.50
Total		1206249918.75	1025105100.93

Sd/- Finance Officer
NERIST

Sd/-Director
NERIST

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

**SCHEDULES FORMING PART OF BALANCE SHEET
AS ON 31ST MARCH, 2014**

SCHEDULE-1 CORPUS FUNDS/CAPITAL FUND	CURRENT Y	AR
Balance at the beginning of the year	994080901.18	990881355.91
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.		
a) Plan (Capital)		
F No.9-8/2013-TS.VII dtd.12.07.2013	5963000.00	225000.00
F No.9-8/2013-TS.VII dtd.12.07.2013	2981000.00	15976000.00
F No.9-8/2013-TS.VII dtd.12.07.2013	30807000.00	3744000.00
F No.9-8/2013-TS.VII dtd.21.11.2013	1491000.00	6195000.00
F No.9-8/2013-TS.VII dtd21.11.2013	15405000.00	372000.00
F No.9-8/2013-TS.VII dtd21.11.2013	2981000.00	26433000.00
F No.9-8/2013-TS.VII dtd.19.02.2014	1491000.00	--
F No.9-8/2013-TS.VII dtd19.02.2014	2981000.00	--
F No.9-8/2013-TS.VII dtd19.02.2014	15400000.00	--
F No.9-8/2013-TS.VII dtd.28.02.2014	39020000.00	--
F No.9-8/2013-TS.VII dtd.28.02.2014	7552000.00	--
F No.9-8/2013-TS.VII dtd.28.02.2014	3776000.00	--
F No.9-20/2013-TS.VII dtd07.03.2014	5960000.00	--
F No.9-20/2013-TS.VII dtd07.03.2014	63338000.00	--
F No.9-20/2013-TS.VII dtd07.03.2014	12323000.00	--
Total (a)	211469000.00	52945000.00
b) Plan (General)		
F No.9-8/2013-TS.VII dtd.12.07.2013	1125000.00	1001000.00
F No.9-8/2013-TS.VII dtd.12.07.2013	5812000.00	4004000.00
F No.9-8/2013-TS.VII dtd.12.07.2013	562000.00	50000.00
F No.9-8/2013-TS.VII dtd.21.11.2013	282000.00	--
F No.9-8/2013-TS.VII dtd21.11.2013	563000.00	--
F No.9-8/2013-TS.VII dtd21.11.2013	2913000.00	--
F No.9-8/2013-TS.VII dtd.28.02.2014	7362000.00	--
F No.9-8/2013-TS.VII dtd28.02.2014	1425000.00	--
F No.9-8/2013-TS.VII dtd28.02.2014	713000.00	--
F No.9-20/2013-TSVII dtd07.02.2014	7896000.00	--
F No.9-20/2013-TSVII dtd07.02.2014	842000.00	--
F No.9-20/2013-TSVII dtd07.02.2014	1484000.00	--
Total (b)	30979000.00	5055000.00
Total	1236528901.18	1048881355.91
Add/deduct: Balance of net (Income/ expenditure from Income & Expenditure Account)	(-)67261493.18	(-)54800454.73
Total	1169267408.00	994080901.18

SCHEDULE – 2 EARMARKED /ENDOWMENT FUNDS	CURRENT YEAR	PREVIOUS YEAR
Opening balance of Funds donated by HE the Governor of Arunachal Pradesh:	234256.00	233837.00
Gold Medal : Topper of Diploma Module	83977.00	83977.00
Student Welfare Funds	1258004.00	1416274.00
Donation for SHRISTI -2009	151104.00	144288.00
TOTAL	1727341.00	1878376.00

SCHEDULE-3 CURRENT LIABILITIES & PROVISIONS	CURRENT YEAR	PREVIOUS YEAR
A: Current Liabilities		
1.Caution Money of Students	13040070.00	11623798.00
2.Security Deposits and others	20035099.75	16132025.75
Total(A)	33075169.75	27755823.75
B. Provisions: Outstanding Expenses, Total (B)	2180000.00	1390000.00
Total (A+B)	35255169.75	29145823.75

Sd/- Finance Officer
NERIST

Sd/-Director
NERIST

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

SCHEDULE FORMING PART OF BALANCE SHEET AS ON 31ST MARCH, 2014

SCHEDULE-4 FIXED ASSETS

Sl. No	Description	GROSS BLOCK				DESCRIPTION				NET BLOCK	
		Cost/Valuation at the beginning of the year	Addition during the year	Deduction during the year	Total upto the year end	As at the beginning of the year	Addition during the year	Deduction during the year	Total upto the year end	As at the current year end	As at the previous year end
	A. Fixed Assets										
1.	Buildings	914611487.00	24630984.00	0.00	939242471.00	288662390.77	31297454.81	0.00	319959845.58	619282625.42	625949096.23
2.	Plant, Machinery & Equipment	307711118.46	17070814.00	4297453.00	320484479.46	198662999.74	15266736.62	3967176.00	209962560.36	110521919.10	109048118.72
3.	Furniture & Fixture	67185254.43	2676562.00	403720.00	69458096.43	28408048.06	3877720.64	330206.00	31955562.70	37502533.73	38777206.37
4.	Vehicles	12265641.75	0.00	0.00	12265641.75	6610992.25	791650.93	0.00	7402643.18	4862998.57	5654649.50
5.	Office Equipment	30418221.23	527357.00	1055801.00	29889777.23	14547552.32	1587066.89	897218.00	15237401.21	14652376.02	15870668.91
6.	Sports Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7.	Medical Equipment	1642595.79	55000.00	0.00	1697595.79	916304.14	72629.17	0.00	988933.31	708662.48	726291.65
8.	Hostel Equipment	532381.08	0.00	0.00	532381.08	503437.70	4052.07	0.00	507489.77	24891.31	28943.38
9.	Library Equipment	995263.00	0.00	0.00	995263.00	839117.53	21860.37	0.00	860977.90	134285.10	156145.47
10.	Computer/Peripherals	0.00	357470.00	0.00	357470.00	0.00	0.00	0.00	0.00	357470.00	0.00
11.	Guest House Equipment	106705.00	0.00	0.00	106705.00	98512.03	1147.02	0.00	99659.05	7045.95	8192.97
12.	Musical Equipment	63593.00	0.00	0.00	63593.00	62402.40	166.68	0.00	62569.08	1023.92	1190.60
13.	Electric Installations	0.00	531856.00	0.00	531856.00	0.00	0.00	0.00	0.00	531856.00	0.00
14.	Library Books	57782184.26	3961579.00	0.00	61743763.26	36021891.91	3264043.85	0.00	39285935.76	22457827.50	21760292.35
15.	Air Conditioner	1204273.22	0.00	0.00	1204273.22	1064397.00	13987.62	0.00	1078384.62	125888.60	139876.22
16.	Tubewell & Water Supply	0.00	62855.00	0.00	62855.00	0.00	0.00	0.00	0.00	62855.00	0.00
17.	Canteen Utensils	25842.00	0.00	0.00	25842.00	22661.34	318.07	0.00	22979.41	2862.59	3180.66
18.	Hostel Utensils	55090.00	0.00	0.00	55090.00	54321.45	107.60	0.00	54429.05	660.95	768.55
19.	Other fixed assets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20.	Club Equipment	90200.60	0.00	0.00	90200.60	85451.75	664.84	0.00	86116.59	4084.01	4748.85
	TOTAL OF CURRENT YEAR	1394689850.82	49874477.00	5756974.00	1438807353.82	576560480.39	56199607.18	5194600.00	627565487.57	811241866.25	818129370.43
	B. Building in Progress	98279769.00	193788370.00	24630984.00	267437155.00	0.00	0.00	0.00	0.00	267437155.00	98279769.00
	TOTAL	1492969619.82	243662847.00	30387958.00	1706244508.82	576560480.39	56199607.18	5194600.00	627565487.57	1078679021.25	916409139.43
	Previous Year	1402791526.82	112717029.00	22538936.00	1492969619.82	521451171.66	55109308.73	0.00	576560480.39	916409139.43	881340355.16

Sd/- Finance Officer
NERIST

Sd/-Director
NERIST

SCHDULE-5 INVESTMENT FROM EARMARKED/ENDOWMENT FUNDS	CURRENT YEAR	PREVIOUS YEAR
1. Investment with SBI Nirjuli, Donation by HE, the Governor of Arunachal Pradesh – Gold Medal : Toppers: of Diploma Module	234256.00	233837.00
2. Investment with SBI, Nirjuli – Institute’s Gold Medal	83977.00	83977.00
3 Donation for Shristi	151104.00	144288.00
Total	469337.00	462102.00

SCHDULE-6 CURRENT ASSETS, LOAN ADVANCES ETC	CURRENT YEAR	PREVIOUS YEAR
A:CURRENT ASSETS		
1) Cash in Hand	0.27	400.27
2) Imprest	352650.00	334650.00
Total	352650.27	335050.27
Bank Balance with Schedule Banks		
a) On Current Account with SBI, Nirjuli (Society for NERIST)	93479027.23	82328679.23
b) NERIST Entrance Exam. A/c	14889.00	14889.00
c) AXIS BANK	6078577.00	4448157.00
Total	99572493.23	86791725.23
Total (A)	99925143.50	87126775.50
<u>B: LOANS, ADVANCES AND OTHERS</u>		
1) Loan /Advances		
a) Staff	9819157.00	10180233.00
2) advances and other amounts recoverable in Cash or kind or for value to be received		
a) On Current Accounts		
I) United India Insurance Co. Ltd.	20000.00	20000.00
IV) Nodal Centre	185000.00	450000.00
V) Out standing Shop Rent	189993.00	168780.00
VI) Short Term Deposit (AXIS Bank)	9103771.00	8094220.00
VII) Short Term Deposit (NEE Account)	2425048.00	2193851.00
VIII)Secuirity Deposit by Institute To Executive Engineer (Elect) Deptt of Power, Naharlagun, Govt Of Arunachal Pradesh	5433448.00	---
Total (B)	27176417.00	21107084.00
Total A+B)	127101560.50	108233859.50

Sd/- Finance Officer
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Sd/-Director
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NORTH EASTERN REGIONAL INSTITUTE OF SCIENCE & TECHNOLOGY
NIRJULI :: ARUNACHAL PRADESH

Income & Expenditure Accounts for year ended 31st March, 2014

(Amount. Rs.)

A. Income	Schedule	Current Year	Previous Year
Grant-in-Aid	7	402800000.00	376000000.00
Fees from Students	8	16905318.00	18593064.00
Interest earned	9	716486.00	1893644.00
Other Income	10	3272500.00	2476760.00
Total (A)		423694304.00	398963468.00
B. Expenditure			
<i>Establishment Expenses</i>	11	371658782.00	353601122.00
<i>Other Administrative Expenses</i>	12	62535034.00	45053492.00
<i>Fixed asset written off</i>		562374.00	---
<i>Depreciation</i>		56199607.18	55109308.73
Total(B)		490955797.18	453763922.73
<i>Balance being excess/deficit of Expenditure over income (A-B)</i>		(-)67261493.18	(-)54800454.73

Sd/- Finance Officer
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**Schedule Forming Part of Income and Expenditure Accounts for the Year ended
31st March 2014**

(Amount – Rs.)

SCHEDULE 7 – GRANTS	Current Year	Previous Year
Ministry of Human Resource Development, Deptt. Of Higher Education, vide Sanction order No		
Salary Components & Non Salary Components		
F No.9-9/2013-TS.VII dtd.10.06.2013	90700000.00	50667000.00
F No.9-9/2013-TS.VII dtd.27.08.2013	90700000.00	81000000.00
F No.9-9/2013-TS.VII dtd.30.10.2013	90700000.00	81333000.00
F No.9-9/2013-TS.VII dtd.27.02.2014	90700000.00	87232000.00
F No.9-9/2013-TS.VII dtd.10.06.2013	10000000.00	35768000.00
F No.9-9/2013-TS.VII dtd.27.08.2013	10000000.00	10000000.00
F No.9-9/2013-TS.VII dtd.30.10.2013	5000000.00	10000000.00
F No.9-9/2013-TS.VII dtd.27.02.2014	11000000.00	10000000.00
F No.9-9/2013-TS.VII dtd.12.03.2014	4000000.00	6000000.00
	----	4000000.00
Total	402800000.00	376000000.00

SCHEDULES 8 –FEES FROM STUDENTS

1. Academic	7884975.00	12952029.00
2. Examination	1975275.00	
3. Other fee	4045420.00	
4. Entrance Fees /Sale of publication	2999648.00	5641035.00
Total	16905318.00	18593064.00

SCHEDULES 9-INTEREST EARNED

On Short Term Deposit with State Bank of India and Axis Bank	716486.00	1893644.00
Total	716486.00	1893644.00

SCHEDULES 10- OTHER INCOME

Income from Land & Building	2983553.00	2476760.00
Other Income/ Miscellaneous Income	288947.00	
Total	3272500.00	2476760.00

SCHEDULES 11-ESTABLISHMENT EXPENSES

a)	Salary & Wages	277352277.00	257137852.00
b)	Allowance & Bonus	1336698.00	1374537.00
c)	Contribution to Provident Fund	27094496.00	27100039.00
d)	Contribution to Other fund (Specify)	--	--
i	CPS	9093418.00	7843419.00
ii	EPF	3617763.00	2450409.00
iii	GPF	48960.00	73448.00
e)	Staff Welfare Expenses	----	---
f)	Retirement and terminal benefit s etc	4028303.00	9310545.00
g)	LTC facility	4599053.00	--
h)	Medical facility	15757780.00	12504118.00
i)	Children Educational Allowances	5426933.00	7044736.00
j)	Honorarium	6350900.00	--

k)	TA/DA Expenses	----	--
l)	Other (Specify		
i)	Liveries & Uniforms	311011.00	99490.00
ii)	Professional Development Allowance to Faculty	2759964.00	14442529.00
iii)	Salary & Wages for Kendriya Vidyalaya	13881226.00	14220000.00
	TOTAL	371658782.00	353601122.00

SCHEDULES 12 – OTHER ADMINISTRATIVE/ACADEMIC EXPENSES ETC.

(Amount in Rs.)

SCHEDULE 12 A -- Academic Expenses		Current Year	Previous Year
i)	Laboratory Expenses	1741471.00	--
ii)	Work/ Participation	---	--
iii)	Seminar/Workshop	---	--
iv)	Payment to visiting faculty	260071.00	--
v)	Examination	407683.00	--
vi)	Student Welfare Expenses	4022567.00	--
vii)	Admission Expenses	210485.00	--
viii)	Convocation Expenses	---	--
ix)	Publications	---	--
x)	Stipend/means cum merit scholarship	4660888.00	--
xi)	Subscription expenses	--	--
xii)	Other Specy	---	--
	NCC/NSS"	145031.00	--
	TOTAL	11448196.00	--

(Amount in Rs.)

SCHEDULE 12 (B)-- Other Administrative Expenses		Current Year	Previous Year
i)	Consumable item for Teaching	---	1768438.00
ii)	Entrance Examination	3710530.00	3306124.00
iii)	Printing & Stationary	1556149.00	1227600.00
iv)	Traveling Allowances	3549786.00	2891848.00
v)	ARMO (Vehicle)		2356073.00
vi)	Advertisement/Publicity	362444.00	361092.00
vii)	Annual Repair & Maintenance		12218465.00
viii)	Postage, & Telegram	584410.00	2470671.00
ix)	Telephone & Internet Charges	4194052.00	--
x)	Electricity and Power	11062815.00	9344039.00
xi)	Water Charges	495240.00	--
xii)	Insurance	---	--
xiii)	Rent,Rates and taxes (Including Property Tax)	---	--
xiv)	Expenses on Seminar /Workshops	19000.00	--
xv)	Hospitality	---	--
xvi)	Auditors Remuneration	88270.00	--
xvii)	Office Expenses/Misc. Expenses	4960612.00	3845376.00
xviii)	Sports, Extra Curricular Activities & Study Tour of students	---	1710875.00
xix)	Legal Charges/Professional charges	873252.00	117650.00
xx)	NCC/NSS"	---	202866.00

xxi)	Convocation	---	2844954.00
xxii)	Maintainance of Lab./ Office Equipment	---	387421.00
xxiii)	Magazines & Journals	31173.00	--
xxiv)	Other specify	---	--
Total		31487733.00	45053492.00

SCHEDULE 12 (C)-- Transportatio0n Expenses		Current Year	Previous Year
i) Vehicles (owned by educational Institution)			--
a)	Running Expenses	1565584.00	--
b)	Repair & Maintenance	831890.00	--
c)	Insurance Expenses	342402.00	--
2. Vehicles taken on rent/lease		--	--
a)	Rent /Lease Expenses	47500.00	--
Total		2787376.00	--

SCHEDULE 12 (D) Repair and Maintainance		Current Year	Previous Year
i)	Buildings	14255578.00	--
ii)	Furniture & Fixture	4500.00	--
iii)	Plant & Machinery	227054.00	--
iv)	Office Equipment	225967.00	--
v)	Cleaning Material & services	2092120.00	--
vi)	Other	16805219.00	--

SCHEDULE 12 (E)-- Finance Cost		Current Year	Previous Year
i)	Interest on fixed loans	--	--
ii)	Interest on other loan	--	--
iii)	Bank Charges	6510.00	--
iv)	Other	--	--
Total		6510.00	--

Total (A+B+C+D+E)	62535034.00	45053492.00
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1. Fixed Asset written off	562374.00	0.00
2. Depreciation	56199607.18	55109308.73
Total	56761981.18	55109308.73

Sd/- Finance Officer
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Sd/-Director
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**NORTH EASTERN REGIONAL INSTITUTE OF SCIENCE AND TECHNOLOGY
NIRJULI :: ITANAGAR :: ARUNACHAL PRADESH**

RECEIPTS & PAYMENTS ACCOUNTS FOR THE YEAR ENDED 31ST MARCH, 2014 (CASH FLOW STATEMENT)

Opening Balance		Current Year	Previous Year		Current Year	Previous Year	
a) Cash in Hand		400.27	0.27	a) Establishment Expenses	16	370948782.00	353988122.00
b) Imprest	13	334650.00	324650.00	b) Administrative Expenses	17	62455034.00	45253492.00
c) Bank Balance		86791725.23	98113891.23			0.00	0.00
		0.00	0.00	2. Expenditure on fixed Assets & on capital work in progress		0.00	0.00
2. Grants-in-aid Received from Ministry of HRD Deptt. Of Education, Govt. of India, New Delhi, Vide Sanction Order No. Non Plan Salary & Non Salary		0.00	0.00	a) Purchase of fixed Assets		0.00	0.00
F.No.9-9/2013-TS.VII dtd. 10.06.2013		9070000.00	50667000.00	b) Expenditure on capital work in Progress	18	219031863.00	90178093.00
F.No.9-9/2013-TS.VII dtd. 27.08.2013		9070000.00	81000000.00			0.00	0.00
F.No.9-9/2013-TS.VII dtd. 30.10.2013		9070000.00	81333000.00	3. Other payments	19	54524718.00	62683148.00
F.No.9-9/2013-TS.VII dtd. 27.02.2014		9070000.00	87232000.00			0.00	0.00
F.No.9-9/2013-TS.VII dtd. 10.06.2013		1000000.00	35768000.00	Closing Balance		0.00	0.00
F.No.9-9/2013-TS.VII dtd. 27.08.2013		1000000.00	10000000.00	a) Cash in hand	20	0.27	400.27
F.No.9-9/2013-TS.VII dtd. 30.10.2013		500000.00	10000000.00	b) Imprest		352650.00	334650.00
F.No.9-9/2013-TS.VII dtd. 27.02.2014		1100000.00	10000000.00			0.00	0.00
F.No.9-9/2013-TS.VII dtd. 12.03.2014		400000.00	6000000.00	Bank Balance		0.00	0.00
		0.00	4000000.00	a) In Current Accounts		99572493.23	86791725.23
		0.00	0.00			0.00	0.00
Plan (Capital), Plan SC-Capital & Plan ST-Capital F.No. 9-8/2013-TS.VII dtd 12.07.2013, 21.11.2013 & 28.02.2014		129848000.00	225000.00	Details of Bank Balance		0.00	0.00
			15976000.00	1) Plan Fund (Capital) – 13411227.00		0.00	0.00
F.No. 9-20/2013-TS.VII dtd 07.03.2014		81621000.00	3744000.00	2) Plan Fund (General) – 1759372.00		0.00	0.00
			6195000.00	3) Non Plan Fund (Salary) – 31049101.91		0.00	0.00
			372000.00	4) Non Plan Fund – 16070283.00		0.00	0.00
Plan (General), Plan SC-General & Plan ST-General F.No. 9-8/2013-TS.VII dtd 12.07.2013, 21.11.2013, 19.02.2014 & 28.02.2014		20757000.00	26433000.00	5) Security Deposits, – 8472439.32 EMD and others		0.00	0.00
			1001000.00			0.00	0.00
F.No. 9-20/2013-TS.VII dtd 07.03.2014		10222000.00	4004000.00			0.00	0.00
			50000.00			0.00	0.00
		0.00	0.00			0.00	0.00
3. Interest earned on Short Term Deposit with SBI/UTI etc.	14	716486.00	1893644.00			0.00	0.00

		0.00	0.00			0.00	0.00
4. Other Income		20156605.00	21012074.00			0.00	0.00
		0.00	0.00			0.00	0.00
5. Any other Receipt	15	53637674.00	83885371.00			0.00	0.00
	TOTAL	806885540.50	639229630.50			806885540.50	639229630.50

Sd/- Finance Officer
NERIST

Sd/-Director
NERIST

Receipt and payments

**SCHEDULE FORMING PART OF RECEIPTS AND PAYMENTS ACCOUNTS
FOR THE YEAR ENDED 31ST MARCH, 2014**

(Amount in Rs.)

SCHEDULE 13A -- Opening Balance		Current Year	Previous Year
i)	Cash in hand	400.27	0.27
ii)	Imprest	334650.00	324650.00
iii)	AXIS Bank A/c	4448157.00	4226382.00
iv)	State Bank of India (NEE A/c)	14889.00	2193851.00
v)	State Bank of India (Society for NERIST A/c)	82328679.23	91693658.23
TOTAL		87126775.50	98438541.50

SCHEDULE 13B -- GRANTS from MHRD		Current Year	Previous Year
a) Plan (Capital)			
	F No.9-8/2013-TS.VII dtd.12.07.2013	5963000.00	225000.00
	F No.9-8/2013-TS.VII dtd.12.07.2013	2981000.00	15976000.00
	F No.9-8/2013-TS.VII dtd.12.07.2013	30807000.00	3744000.00
	F No.9-8/2013-TS.VII dtd.21.11.2013	1491000.00	6195000.00
	F No.9-8/2013-TS.VII dtd21.11.2013	15405000.00	372000.00
	F No.9-8/2013-TS.VII dtd21.11.2013	2981000.00	26433000.00
	F No.9-8/2013-TS.VII dtd.19.02.2014	1491000.00	--
	F No.9-8/2013-TS.VII dtd19.02.2014	2981000.00	--
	F No.9-8/2013-TS.VII dtd19.02.2014	15400000.00	--
	F No.9-8/2013-TS.VII dtd.28.02.2014	39020000.00	--
	F No.9-8/2013-TS.VII dtd.28.02.2014	7552000.00	--
	F No.9-8/2013-TS.VII dtd.28.02.2014	3776000.00	--
	F No.9-20/2013-TS.VII dtd07.03.2014	5960000.00	--
	F No.9-20/2013-TS.VII dtd07.03.2014	63338000.00	--
	F No.9-20/2013-TS.VII dtd07.03.2014	12323000.00	--
	Total (a)	211469000.00	52945000.00
b) Plan (General)			
	F No.9-8/2013-TS.VII dtd.12.07.2013	1125000.00	1001000.00
	F No.9-8/2013-TS.VII dtd.12.07.2013	5812000.00	4004000.00
	F No.9-8/2013-TS.VII dtd.12.07.2013	562000.00	50000.00
	F No.9-8/2013-TS.VII dtd.21.11.2013	282000.00	--
	F No.9-8/2013-TS.VII dtd21.11.2013	563000.00	--
	F No.9-8/2013-TS.VII dtd21.11.2013	2913000.00	--
	F No.9-8/2013-TS.VII dtd.28.02.2014	7362000.00	--
	F No.9-8/2013-TS.VII dtd28.02.2014	1425000.00	--
	F No.9-8/2013-TS.VII dtd28.02.2014	713000.00	--
	F No.9-20/2013-TSVII dtd07.02.2014	7896000.00	--
	F No.9-20/2013-TSVII dtd07.02.2014	842000.00	--
	F No.9-20/2013-TSVII dtd07.02.2014	1484000.00	--
	Total (b)	30979000.00	5055000.00

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c) Non Plan (Salary Components)			
F No.9-9/2013-TS.VII	dt.d.10.06.2013	90700000.00	50667000.00
F No.9-9/2013-TS.VII	dt.d.27.08.2013	90700000.00	81000000.00
F No.9-9/2013-TS.VII	dt.d.30.10.2013	90700000.00	81333000.00
F No.9-9/2013-TS.VII	dt.d.27.02.2014	90700000.00	87232000.00
		-----	35768000.00
Total (c)		362800000.00	336000000.00
Total d) Non Plan (Non Salary Components			
F No.9-9/2013-TS.VII	dt.d.10.06.2013	10000000.00	10000000.00
F No.9-9/2013-TS.VII	dt.d.27.08.2013	10000000.00	10000000.00
F No.9-9/2013-TS.VII	dt.d.30.10.2013	5000000.00	10000000.00
F No.9-9/2013-TS.VII	dt.d.27.02.2014	11000000.00	6000000.00
F No.9-9/2013-TS.VII	dt.d.12.03.2014	4000000.00	4000000.00
Total (d)		40000000.00	40000000.00
Total Grants (a+b+c+d)		645248000.00	434000000.00

SCHEDULE 14A – (ACADEMIC RECEIPTS) Other Income

		Current Year	Previous Year
Fees from Students			12952029.00
a)Academic			
1	Tuition fee	7670790.00	
2	Admission fee	97895.00	
3	Enrolment fee	--	
4	Library admission fee	----	
5	Laboratory fee	---	
6	Art & Craft fee	--	
7	Registration fee	36235.00	
8	Syllabus fee	80055.00	
Total (a)		7884975.00	
b) Examination			
i)	Admission test fee	--	
2)	Annual Examination fee	1081305.00	
3)	Mark sheet, certificate fee	776920.00	
4)	Convocation fee	117050.00	
Total (b)		1975275.00	
c)Other fee			
1	Identity Card fee	35940.00	
2	Fine/Miscellaneous fee	693120.00	
3	Medical fee	224560.00	
4	Transportation fee	---	
5	Hostel fee	798455.00	
6	ECA fee	850120.00	
7	Other fee	1443225.00	
Total (c)		4045420.00	

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d)Sale of publication			
1	Sale of syllabus and Question Paper etc	---	5641035.00
2	Sale of prospectus including admission forms	2999648.00	
Total d)		2999648.00	5641035.00
Total 14 (A) (a+b+c+d)		16905318.00	18593064.00

SCHEDULE 14B – (MISC RECEIPTS) Other Income

		Current Year	Previous Year
a) Income from Land & Building			*
1	Hostel Room Rent/ Guest house Seat Rent	795500.00	
2	Licence fee	---	
3	Hire charges of Auditorium/Play ground/Convention Centre	28800.00	
4	Electricity & Water Charges	2045493.00	
5	Building and ATM rent	92547.00	
Total (a)		2962340.00	
b. Interest on term deposit			
1	Society for NERIST A/c	---	1893644.00
2	NEE A/c	231197.00	
3	AXIS Bank A/c	485289.00	
Tota (b)		716486.00	1893644.00
c .Other			
1	Income from consultancy	---	2419010.00
2	RTI fee	5670.00	
3	Income from Royalty	---	
4	Sale of application form (Recruitment)	10400.00	
5	Misc Receipt(Sale of tender form, waste paper, etc	22230.00	
6	Bus Fare / Hire charges	192262.00	
7	Profit on Sale/disposal Assets	58385.00	
Total (c)		288947.00	*2419010.00
TOTAL 14 (B) (a+b+c)		3967773.00	4312654..00
TOTAL 14 (A) +14 (B)		20873091.00	22905718.00

SCHEDULE 15--- Any Other receipts

i)	Caution Money from Students	3270633.00	3087140.00
ii)	Advances Received from Staff	4236926.00	3727056.00
iii)	Security Deposit	4178765.00	3421668.00
iv)	Earnest Money Deposit	800000.00	5000.00
iv)	Students Welfare Fund	232730.00	199635.00
v)	Alumani association etc	156360.00	140600.00

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vi)	Loan/ advance to Project A/c etc	30115297.00	1677000.00
vii)	Loan/ advance to Nodal Centre etc	265000.00	---
viii)	Other Advance (Solar Plant)	---	69600.00
ix)	Other misc advance	93892.00	
x)	Investment	10288071.00	50000000.00
xi)	Transfer Entry	----	21557672.00
	TOTAL	53637674.00	83885371.00

SCHEDULE 16—Establishment Expenses

a)	Salary & Wages	277352277.00	257137852.00
b)	Allowance & Bonus	1336698.00	1374537.00
c)	Contribution to Provident Fund	27094496.00	27100039.00
d)	Contribution to Other fund (Specify)		--
i	CPS	9093418.00	7843419.00
ii	EPF	3617763.00	2450409.00
iii	GPF	48960.00	73448.00
e)	Staff Welfare Expenses	---	---
f)	Retirement and terminal benefit s etc	4028303.00	9310545.00
g)	LTC facility	4599053.00	--
h)	Medical facility	15047780.00	12891118.00
i)	Children Educational Allowances	5426933.00	7044736.00
j)	Honorarium	6350900.00	--
k)	TA/DA Expenses	---	
l)	Other (Specify		
i)	Liveries & Uniforms	311011.00	99490.00
ii)	Professional Development Allowance to Faculty	2759964.00	14442529.00
iii)	Salary & Wages for Kendriya Vidyalaya	13881226.00	14220000.00
	TOTAL	370948782.00	353988122.00

(Amount in Rs.)

SCHEDULE 17 A -- Academic Expenses		Current Year	Previous Year
i)	Laboratory Expenses*	1741471.00	
ii)	Field Work/ Participation	--	--
iii)	Seminar/Workshop	---	--
iv)	Payment to visiting faculty	260071.00	--
v)	Examination	407683.00	--
vi)	Student Welfare Expenses**	4022567.00	--
vii)	Admission Expenses	210485.00	--
viii)	Convocation Expenses	----	--
ix)	Publications	---	--
x)	Stipend/means cum merit scholarship	4660888.00	--
xi)	Subscription expenses	---	--
xii)	Other Specy (NCC/NSS)#	145031.00	--
	TOTAL	11448196.00	

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(Amount in Rs.)

SCHEDULE 17 (B)-- Other Administrative Expenses		Current Year	Previous Year
i)	Consumable item for Teaching*	--	1768438.00
ii)	Entrance Examination	3710530.00	3306124.00
iii)	Printing & Stationary	1556149.00	1227600.00
iv)	Traveling Allowances	3549786.00	2891848.00
v)	ARMO (Vehicle)@		2356073.00
vi)	Advertisement/Publicity	362444.00	361092.00
vii)	Annual Repair & Maintenance		12218465.00
viii)	Postage, & Telegram	584410.00	2470671.00
ix)	Telephone & Internet Charges	4194052.00	
x)	Electricity and Power	10982815.00	9374039.00
xi)	Water Charges	495240.00	--
xii)	Insurance	--	--
xiii)	Rent,Rates and taxes (Including Property Tax)	---	--
xiv)	Expenses on Seminar /Workshops	19000.00	--
xv)	Hospitality	---	--
xvi)	Auditors Remunerationm	88270.00	--
xvii)	Office Expenses/Misc. Expenses	4960612.00	4015376.00
xviii)	Sports, Extra Curricular Activities & Study Tour of students**	---	1710875.00
xix)	Legal Charges/Professional charges	873252.00	117650.00
xx)	NCC/NSS#	---	202866.00
xxi)	Convocation	---	2844954.00
xxii)	Maintainance of Lab./ Office Equipment		387421.00
xxiii)	Magazines & Journals	31173.00	--
xxiv)	Other specify	--	--
	Total	31407733.00	45253492.00
SCHEDULE 17 (C)-- Transportatio0n Expenses		Current Year	Previous Year
1) Vehicles (owned by educational Institution)@			
a)	Running Expenses	1565584.00	--
b)	Repair& Maintenance	831890.00	--
c)	Insurance Expenses	342402.00	--
2. Vehicles taken on rent/lease			
a)	Rent /Lease Expenses	47500.00	--
Total		2787376.00	--
SCHEDULE 17 (D) Repair and Maintainance		Current Year	Previous Year
i)	Buildings	14255578.00	--
ii)	Furniture & Fixture	4500.00	----
iii)	Plant & Machinery	227054.00	---
iv)	Office Equipment	225967.00	--
v)	Cleaning Material & services	2092120.00	--
vi)	Other	--	--
	Total	16805219.00	--
SCHEDULE 17 (E)-- Finance Cost		Current Year	Previous Year
i)	Interest on fixed loans	--	--
ii)	Interest on other loan	--	--
iii)	Bank Charges	6510.00	--
iv)	Other	--	--
	Total	6510.00	--
Total 17 (A to E)		62455034.00	45253492.00

SCHEDULE 18A -- Expenditure on Capital Works in Progress		Current Year	Previous Year
	a)Plan (Capital) works		
i)	Constn of Road	6277966.00	34792077.00
ii)	Construction of 24 no Class Rooms	10528618.00	
iii)	Construction of CEP Building	30000000.00	
iv)	Construction of Silver Jubilee Hall	70000000.00	
v)	Construction of Girl's Hostel	27065423.00	
vi)	Construction of Boy,s Hostel	26765671.00	
vii)	Other Construction works	5447219.00	
	Total	176084897.00	42774636.00
SCHEDULE 18B -- Expenditure on the Purchase of Lab/Workshop/ office equipments		Current Year	Previous Year
Equipments			
i)	Mechanical Engg. Department	844200.00	759584.00
ii)	Applied Science Department	(-)145432.00	1722560.00
iii)	Electrical Engg. Department	784911.00	3495061.00
iv)	Chemistry Department	97713.00	350764.00
v)	Computer Science & Engg. Department	(-)37363.00	1454963.00
vi)	Agricultural Engg. Department	(-)5979.00	1829408.00
vii)	Humanities & Social Science Department	(-)131273.00	131273.00
viii)	Physics Department	(-)777703.00	1160276.00
ix)	E.T.Cell	100450.00	354927.00
x)	CMS	--	199475.00
xi)	ACCF	--	.00
xii)	Electronics & Commn. Engg.	--	2519874.00
xiii)	Civil Engg. Department	111343.00	1544689.00
xiv)	CRF	--	722988.00
xv)	Maths	--	86391.00
xvi)	CATARD	--	.00
xvii)	Medical Equipment	55000.00	(-)13476.00
xviii)	LAN/WAN	15473652.00	7164477.00
xix)	Computer Peripherals	357470.00	---
xx)	Electrical appliance	82840.00	--
xxi)	Plant & Machinery	673455.00	--
xxii)	Office Equipment	527357.00	2324784.00
xxiii)	Electrical Installation	531856.00	--
xxiv)	Tube well & Water supply system	62855.00	--
	TOTAL	18605352.00	25808018.00
SCHEDULE 18C		Current Year	Previous Year
Library Books/Journals			
i)	Library Books/Journals	3961579.00	3039143.00
SCHEDULE 18D -		Current Year	Previous Year
Furniture & Fixtures		2676562.00	6975455.00.00
SCHEDULE 18E		Current Year	Previous Year
Vehicle		--	(-)137768.00
SCHEDULE 18F		Current Year	Previous Year
Plan (General)Activities Expenditure			
Constn of C.C.Drain		1414120.00	11718609.00
Constn of Retaining Wall		4009835.00	
Renovation works for buildings		5353013.00	
Other campus development works		6926505.00	
Total		17703473.00	11718609.00

Total 18 (A to F)	219031863.00	90178093.00
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SCHEDULE 19 -- Other payments		Current Year	Previous Year
i)	Advances to Staff & others	3875850.00	3095400.00
ii)	Security Deposits to contractors	948759.00	897557.00
iii)	Caution Money of Students	1854361.00	1925245.00
iv)	Investment (Short Term Deposit receipt of Axis Bank / SBI	11528819.00	56714946.00
vi)	Student Welfare fund	391000.00	50000.00
vii)	Alumani Association	365630.00	0.00
viii)	Loan to Project A/c	30000000.00	0.00
ix)	Security Deposit by Institute to EE(E), Deptt of Power, NLG	5433448.00	0.00
x)	Other misc advance	126851.00	--
Total		54524718.00	62683148.00
SCHEDULE 20 -- Closing Balance		Current Year	Previous Year
i)	Cash in hand	0.27	400.27
ii)	Imprest	352650.00	334650.00
iii)	AXIS Bank	6078577.00	4448157.00
iv)	State Bank of India (NEE A/c)	14889.00	14889.00
v)	State Bank of India (Society for NERIST)	93479027.23	82328679.23
Total		99925143.50	87126775.50

Sd/- Finance Officer
NERIST

Sd/-Director
NERIST

Accounting Policy and Notes

On Accounting Policy of the Institute, we follow the procedure as:

1.
 - a. The Institute followed mercantile procedure for maintaining its accounts. As per implementation of accounting standard in educational institutions many sub-heads are included. Also Cash Flow Statement have been prepared in prescribed proforma.
 - 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/guidelines 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.

2. Provision of out standing expenses/out standing dues

Provision of outstanding expenses/outstanding dues under Income and Expenditure A/c are as follows

S1 no.	Heads	Current year	Previous year	Remarks
1	Medicine	1250000.00	540000.00	Outstanding expenses
2	Electricity	800000.00	720000.00	-do-
3	Administrative Expenses (Audit fee)	130000.00	130000.00	-do-
4	Shop Rent	189993.00	168780.00	Outstanding Dues

3. No. of students as on 31.03.2014 – 1669

Under Graduate Students	Post Graduate Students	Ph.D. Students (Full Time)	Ph.D. Students (Part Time)	Total
1259	253	68	89	1669

4. No. of Teacher as on 31.03.2014 – 120

Name of Educational Institution – NERIST

Cash Flow Statement for the year ended 2013-14

Cash Flow from operating Activities

Surplus/(deficit) for the year		(-) 67261493.18
Adjustment for the non-operating incomes/expenses		
Depreciation	56199607.18	
Write Offs	562374.00	
Interest Expenses on loan	-	
(Interest income)	-	
(Divident income)	-	
(Grants relating to assets to the extent recognized as Income in the income & Expenditure Account)	-	
		<u>56761981.18</u>
Surplus/(deficit) before change in the current Assets/Current Liabilities		
(Increase / Decrease in Current Assets)	49874477.00	
(Increase / Decrease in Current Liabilities)	6109346.00	
		55983823.00
Net Cash from operating Activities		
Cash flow from Investing Activities		
Purchase / sale of fixed assets	58385.00	
Purchase / sale of investment	10288071.00	
Interest Received	716486.00	
		11062942.00
Net cash from investing activities		
Addition to general fund during the year	645248000.00	
Grants/Fonds in nature of founders/promoters contribution	-	
Grants/Funds related to assets not requiring Fulfillment of any obligation	-	
Endowments fund (principal sum)	1727341.00	
Proceeds from long term borrowing	-	
(Repayment of long term borrowing)	-	
Interest paid on loans	-	
		646975341.00
Net cash flow from financing Activities		
Net increase/decrease in cash equivalents		703522594.00
Cash and cash equivalent at the beginning Of the period		-
Cash and cash equivalent at the end of the period		703522594.00

Sd/- Finance Officer, NERIST

Sd/- Director, NERIST

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