



## **SECTION – 1**

### **DIRECTOR'S SUMMARY**

It is a privilege to write a foreword to this 36<sup>th</sup> Annual Report 2022-23 of NERIST, Nirjuli, Arunachal Pradesh, which gives a glimpse of various activities of this Institute during the last 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 endeavor, the Institute shall always remain indebted to the President of the Society for NERIST, Lt Gen Kaiwalya Trivikram Parnaik, PVSM, UYSM, YSM (Retd) the Hon'ble Governor of Arunachal Pradesh for his guidance and support during the period of 2022-23. The Institute is also indebted to its Board of Management, which has been a constant source of inspiration and guidance. In this connection, the Institute shall also like to thank the Technical Bureau, IFD, Joint Secretary (NITs/CFTIs.), and other offices of the Ministry of Education for their support and cooperation from time to time.

During the period of the year 2022-23, a number of academic initiatives and infrastructure developmental activities have been taken up with support from all stakeholders. 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 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 institute has successfully undertaken teaching and research activities.

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

As per the Official Language Policy of the Government of India, the Official Languages Committee in the Institute conducts quarterly meetings to discuss and decide on policy matters and to accordingly take required actions. This includes achieving targets of the Annual Program for transacting the official work of the Union in Hindi, organizing Hindi Diwas/Week/ Pakheara, monitoring the internal progress of the Institute regarding Hindi usage, submitting the quarterly progress report and half-yearly Hindi language and typing training report.

To accelerate the efforts to achieve universal sanitation coverage and to put the focus on sanitation, our Institute aligns with the Swachh Bharat Mission by organizing various events on awareness programs, cleanliness, and plantation drives.

As part of the flagship program of the Ministry of Education, through the Unnat Bharat Abhiyan (UBA) initiative, our organization has been actively involved in various rural development projects, steadfastly working towards the enhancement of sustainable livelihoods. This effort plays an integral role in nurturing the overall growth and prosperity of rural communities through this outreach program.

**Director**



## SECTION – 2

### INTRODUCTION

#### 2.1 The Institute

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

The Institute came under the direct control of Ministry of Education (MoE), Government of India, from 1<sup>st</sup> April, 1994. It has been conferred with the “Deemed to be University” status u/s 3 of the UGC Act 1956 since May 31<sup>st</sup>, 2005.

The Institute follows a modular pattern of education, having multiple entries and exits system and is producing skilled manpower at different levels, i.e., Certificate, Diploma and Degree, through its innovative educational program. The system of education adopted at NERIST is aimed to bridge the technological gap of the eight north eastern states that comprise of Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, and Tripura and rest of the country. This subsequently will increase the pace of socio-economic development in this region.

The Institute has demonstrated successful implementation of modular pattern of education. This has been able to create skilled manpower in nine Certificate courses, six Diploma courses and seven Degree courses that are 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 and Humanities & Social Sciences also have a pivotal role as supporting departments. Although, the Institute admits students at a tender age (after Class-X) with heterogeneous academic standards but its academic and administrative set up has been quite effective to ensure appreciable academic growth of the students including the development of different traits of their personality.

The Post-Graduate academic programmes were started in 1996-97 in two subjects viz., Information Technology and Environmental Science & Engineering with due approval of AICTE and MoE. After acquiring ‘Deemed to be University’ status on 31<sup>st</sup> May, 2005, in subsequent years Ph.D. programmes (part-time and full-time) in all Engineering and Science departments were started. Since July, 2006, MBA program is also being offered. NERIST has the distinction of being the first institute in the state of Arunachal Pradesh to offer M. Tech. and MBA programmes

#### VISION OF THE INSTITUTE

To produce professionals with competency for pursuing excellence in science & technology education, research, and entrepreneurship with ethical values and social sensitivity for offering specialized services to the society meeting the global requirements and standards in a multicultural environment.

## **MISSION OF THE INSTITUTE**

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

## **2.2 Administrative set up**

The Institute is registered as a Society under the Societies Registration Act of 1860. At present, the Hon'ble Governor of Arunachal Pradesh is the ex-officio President of NERIST Society and Prof. Prof. T.G. Sitharam, Chairman, AICTE, New Delhi is the present Chairman, 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 the NE Region;
- Development of knowledge, skills and value-based education system;
- Highly qualified faculty and dedicated staff;
- P.G. and Ph.D. programmes;
- Well-equipped laboratories and workshops;
- Fully residential campus;
- Dedicated service for the development of NE Region.



## SECTION – 3

### ACADEMIC PROGRAMMES

#### 3.1 A Brief Profile of the Section

Academic Section is the backbone of any Academic Institute/University. Present Academic Branch is divided into three Cells, viz., Undergraduate, Postgraduate and Ph.D for better functioning. The Undergraduate Cell deals with admission process, scholarships/other academic affairs of Certificate, Diploma, B.Tech., & other Degree Modules. The Postgraduate Cell deals with admission and other related affairs of M. Tech., MBA, M.Sc. including scholarships of UG & PG students and the Ph.D Cell deals with all activities like admission of Ph.D scholars, conducting DPGC, BPGS, and other works related to Ph.D scholars including scholarships of Ph.D. students. Matters relating to Convocation, Academic Council Meeting, RTI, Correspondences with AICTE, UGC etc. and other miscellaneous academic matters are also dealt by the Academic Section. Besides, Academic Section also deals with all other matters related to academic affairs of the Institute with MoE/UGC/AICTE/AISHE and other miscellaneous academic matters. The branch is headed by Assistant Registrar (Academic). As on July-Dec. Semester 2022-23, the numbers of UG students are **1877**, PG students are **328** and Ph.D. Scholar are **233**. The total student strength was **2438**.

All the B.Tech. Programmes of the Institute have been provisionally accredited by NBA.

All the Undergraduate and Post-graduate Programmes in Engineering & Technology and MBA Courses are approved by the AICTE.

The Department of Forestry has been accredited with Indian Council of Forestry Research & Education (ICFRE), Dehradun with A\* grade in June,2020 for the period of three years.

#### 3.2 Status Report regarding activities

The structure of curriculum at NERIST in UG Courses 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

**Duration of a Module :** Under normal circumstances, a student is expected to complete the requirements of a module in two academic years for Base and in three academic years for Diploma Module. It is four years for the vertical entrants after Base Module and three years after Diploma in Degree Module of Technology. The period is four years for Degree Module in Forestry after 10+2 with PCB.

From 2020-21 onwards, Institute has started admitting students for B. Tech Programme through JEE under JoSAA. In pursuance of the resolution under Agenda Item No. 92.11.1 of the minutes of the 92nd meeting of Board of Management(BoM) of the NERIST, the Institute has started participating in the JoSAA for allocation of 88 seats for B.Tech as per the norms of this Institute from 2020-21 session onwards. Further the Institute has started offering 4 (Four) Years Degree programme. Further, the vertical mobility from Certificate Module to 4 (Four) years degree module, the minimum CGPA to be obtained by a candidate is 6.5 out of 10.00 within the specified duration of the course. The candidate, who fails to obtain CGPA of 6.5 out of 10.00 in the Base/Certificate Module, will be considered for 3 yrs Diploma Module (2 Yrs. Base Module + 1 year) program. Thus, w.e.f. academic session 2020-21, the Institute offers 2 yrs Base (Certificate) programs, 3 yrs (2+1) Diploma Programs and 4 yrs B.Tech. Programs (admitted after Class 10+2/NERIST Base Module Course) as approved by Academic Council and BoM of NERIST.

### Scholarship/Fellowship

Different kind of scholarships, viz. all the Centrally sponsored scholarship schemes through National Scholarship Portal, Ishan Uday Scholarship, Pragati Scholarships & Saksham Scholarship Scheme by AICTE, Stipends from the respective State Governments etc. are provided to the eligible students.

The GATE qualified candidates admitted to the AICTE approved programmes are eligible for AICTE – PG Scholarship (GATE). The Ph.D. Research Scholars are also provided Fellowship as per the norms of the Govt. and the Institute. Number of Ph.D. scholars are availing fellowship under NFST from Ministry of Tribal Affairs, Govt of India, CSIR-JRF, NET-JRF, Visvesvaraya Fellowship Scheme by MeITY, GoI, National Fellowship for OBC students, Inspire Fellowship from DST, GoI, AICTE Doctoral Fellowship etc.

However, irrespective of the source of scholarship/stipend, a student must attend at least 75% of classes in each course in which s/he has registered, failing which the scholarship/stipend may be terminated.

### 3.3 Courses offered for Under Graduate Programme

During 2022-23, the Institute offered the following courses in each module:

#### Base (Certificate) Module

Sl.No.	Base (Certificate) Module
1	Agricultural Engineering
2	Construction Technology
3	Electrical Engineering
4	Electronics Engineering
5	Mechanical Engineering

#### B. Tech. / Diploma Module (E&T Stream)

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

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

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

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

### 3.4 Courses Offered in Post Graduate Programme

The Institute started its Post Graduate Courses and the following Programmes were running during 2022-23.

#### **M.Tech. (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 Integrated Manufacturing under the Department of Mechanical Engineering.
- g) M.Tech. in Thermal and Fluid Engineering under the Department of Mechanical Engineering.
- h) M.Tech. in Electronics & Communication Engineering (Specialization in VLSI/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. (Full Time) & Ph.D. (Part Time)**

##### **Engineering streams**

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

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

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

### 3.5 Any other relevant information/data

Number of Students enrolled in July-December Semester, for the session 2020-21 are summarized and furnished in the following tables.

**(a) Under Graduate Programmes**

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

Discipline	Certificate	B.Tech. (4 years)	B.Tech. (2+2+2) Pattern
Agricultural Engineering (AE)	42	38	2
Civil Engineering (CE)	44	54	2
Computer Science & Engineering (CSE)	0	47	1
Electrical Engineering (EE)	44	54	0
Electronics & Communication Engineering (ECE)	45	52	0
Mechanical Engineering (ME)	44	47	2
<b>Total</b>	<b>219</b>	<b>292</b>	<b>7</b>

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

Discipline	Certificate	B.Tech. 4 years		B.Tech./Degree (2+2+2) Pattern
		2 <sup>nd</sup> Yr	3 <sup>rd</sup> Yr	
Agricultural Engineering	50	47	54	25
Civil Engineering	46	75	66	60
Computer Science & Engineering	0	58	52	51
Electrical Engineering	45	64	58	56
Electronics & Communication Engineering	45	63	55	39
Mechanical Engineering	51	65	68	46
<b>Total</b>	<b>237</b>	<b>372</b>	<b>353</b>	<b>277</b>

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

Year	No. of students
First	31
Second	23
Third	27
Fourth	39
<b>Total</b>	<b>120</b>

**Table 4: Gender-wise Detail of Students (Certificate Module)**

Discipline	1 <sup>st</sup> Year		2 <sup>nd</sup> Year		Total		Total
	Male	Female	Male	Female	Male	Female	
Agricultural Engineering	25	17	32	18	57	35	<b>92</b>
Civil Engineering	32	12	35	11	67	23	<b>90</b>
Electrical Engineering	25	19	31	14	56	33	<b>89</b>
Electronics & Communication Engineering	30	15	29	16	59	31	<b>90</b>
Mechanical Engineering	35	9	44	7	79	16	<b>95</b>
<b>Total</b>	<b>147</b>	<b>72</b>	<b>171</b>	<b>66</b>	<b>318</b>	<b>138</b>	<b>456</b>

**Table 5: Gender-wise Detail of Students (B.Tech.) [Vertical & Lateral]**

Discipline	1 <sup>st</sup> Year		2 <sup>nd</sup> Year		3 <sup>rd</sup> Year		Total		Total
	M	F	M	F	M	F	M	F	
Agricultural Engineering	20	18	28	19	33	21	81	58	139
Civil Engineering	38	16	54	21	47	19	139	56	195
Computer Science & Engineering	39	8	41	17	41	11	121	36	157
Electrical Engineering	36	18	44	20	32	26	112	64	176
Electronics & Communication Engineering	38	14	40	23	42	13	120	50	170
Mechanical Engineering	38	9	58	7	58	10	154	26	180
<b>Total</b>	<b>209</b>	<b>83</b>	<b>265</b>	<b>107</b>	<b>253</b>	<b>100</b>	<b>727</b>	<b>290</b>	<b>1017</b>

**Table 6: Gender-wise Detail of Students in Engineering (Degree 2+2+2)**

Discipline	3 <sup>rd</sup> Year		4 <sup>th</sup> Year		Total		Total
	Male	Female	Male	Female	Male	Female	
AE	2	0	16	9	18	9	27
CE	1	1	42	18	43	19	62
CSE	1	0	30	21	31	21	52
EE	0	0	43	13	43	13	56
ECE	0	0	29	10	29	10	39
ME	2	0	38	8	40	8	48
<b>Total</b>	<b>6</b>	<b>1</b>	<b>198</b>	<b>79</b>	<b>204</b>	<b>80</b>	<b>284</b>

**Table 7: Gender-wise Detail of Students in Forestry (Degree Module)**

Discipline	1 <sup>st</sup> Year		2 <sup>nd</sup> Year		3 <sup>rd</sup> Year		4 <sup>th</sup> Year		Total		All Total
	M	F	M	F	M	F	M	F	M	F	
FO	10	21	10	13	7	20	12	11	39	65	104

**Table 8: Category-wise Detail of Students (Certificate Module)**

Discipline	GE		OBC		SC		ST		EWS		Total		All Total
	1 yr	2 yr	1 yr	2 yr	1 yr	2 yr	1 yr	2 yr	1 yr	2 yr	1 yr	2 yr	
AE	2	1	4	9	1	5	31	33	4	2	42	50	92
CE	0	5	16	4	1	3	23	29	4	5	44	46	90
EE	5	11	7	7	1	1	27	21	4	5	44	45	89
ECE	8	14	9	12	8	6	16	9	4	4	45	45	90
ME	5	11	13	12	3	4	19	19	4	5	44	51	95
<b>Total</b>	<b>20</b>	<b>42</b>	<b>49</b>	<b>44</b>	<b>14</b>	<b>19</b>	<b>116</b>	<b>111</b>	<b>20</b>	<b>21</b>	<b>219</b>	<b>237</b>	<b>456</b>



**Table 9: Category-wise Detail of Students (B.Tech. 1st & 2nd Year)**

Discipline	GE		OBC		SC		ST		EWS		Total		All Total
	1 yr	2 yr	1 yr	2 yr	1 yr	2 yr	1 yr	2 yr	1 yr	2 yr	1 yr	2 yr	
AE	1	1	5	11	2	6	27	25	3	4	38	47	85
CE	4	6	10	17	3	2	32	45	5	5	54	75	129
CSE	9	10	10	9	4	3	17	26	7	10	47	58	105
EE	9	10	10	10	4	1	26	36	5	7	54	64	118
ECE	14	13	14	22	4	8	15	13	5	7	52	63	115
ME	9	8	12	20	4	6	19	24	3	7	47	65	112
<b>Total</b>	<b>46</b>	<b>48</b>	<b>61</b>	<b>89</b>	<b>21</b>	<b>26</b>	<b>136</b>	<b>169</b>	<b>28</b>	<b>40</b>	<b>292</b>	<b>372</b>	<b>664</b>

**Table 10: Category-wise Detail of Students (B.Tech. 3rd & Degree 4th Year)**

Discipline	GE		OBC		SC		ST		EWS		Total		All Total
	3 yr	4 yr	3 yr	4 yr	3 yr	4 yr	3 yr	4 yr	3 yr	4 yr	3 yr	4 yr	
AE	6	5	6	2	3	0	40	18	1	0	54	27	81
CE	7	13	11	9	3	0	45	37	2	1	66	62	128
CSE	12	16	9	7	1	3	27	17	4	8	52	52	104
EE	8	13	16	10	5	4	26	27	3	2	58	56	114
ECE	11	13	16	10	7	1	18	14	3	1	55	39	94
ME	23	15	13	8	11	5	22	16	1	2	68	48	116
<b>Total</b>	<b>67</b>	<b>75</b>	<b>71</b>	<b>46</b>	<b>30</b>	<b>13</b>	<b>178</b>	<b>129</b>	<b>14</b>	<b>14</b>	<b>353</b>	<b>284</b>	<b>637</b>

**Table 11: Category-wise Detail of Students in Forestry (Degree Module)**

Discipline	Year	GE	OBC	SC	ST	EWS	Total
FO	First	2	6	1	21	1	31
	Second	3	0	3	14	3	23
	Third	3	4	2	15	3	27
	Fourth	1	7	3	11	1	23
<b>Total</b>		<b>9</b>	<b>17</b>	<b>9</b>	<b>61</b>	<b>8</b>	<b>104</b>

**Table 12: State-wise Detail of Students (First Year Certificate Module)**

Discipline	AI	AL	AM	MG	MN	MZ	NL	SK	TR	TOTAL
AE	3	19	8	4	1	0	4	0	3	42
CE	4	13	9	4	3	4	4	0	3	44
EE	4	15	9	4	4	0	4	0	4	44
ECE	8	8	8	4	3	1	4	0	9	45
ME	4	6	17	3	4	0	5	0	5	44
<b>Total</b>	<b>23</b>	<b>61</b>	<b>51</b>	<b>19</b>	<b>15</b>	<b>5</b>	<b>21</b>	<b>0</b>	<b>24</b>	<b>219</b>

**Table 13: State-wise Detail of Students (Second Year Certificate Module)**

Discipline	AI	AL	AM	MG	MN	MZ	NL	SK	TR	TOTAL
AE	6	15	4	4	8	0	6	0	7	50
CE	3	12	9	5	4	4	5	0	4	46
EE	4	12	11	4	6	0	4	0	4	45
ECE	8	0	16	4	6	0	4	0	7	45
ME	4	9	20	4	4	0	6	0	4	51
<b>Total</b>	<b>25</b>	<b>48</b>	<b>60</b>	<b>21</b>	<b>28</b>	<b>4</b>	<b>25</b>	<b>0</b>	<b>26</b>	<b>237</b>

**Table 14: State-wise Detail of Students (B.Tech. First & Second Year)**

Disp.	AI		AL		AM		MG		MN		MZ		NL		SK		TR		TOTAL
	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	
AE	5	7	13	10	5	12	5	4	4	3	1	1	4	8	0	0	1	2	85
CE	7	7	15	22	6	10	4	7	4	7	6	7	6	7	0	2	6	6	129
CSE	10	14	6	7	10	10	2	7	5	7	2	1	5	6	0	1	7	5	105
EE	7	8	17	15	8	14	3	5	5	5	1	2	6	9	0	0	7	5	118
ECE	7	13	7	8	14	16	5	5	5	12	0	1	3	3	1	1	10	5	115
ME	4	8	3	8	20	20	5	7	5	6	1	1	4	6	0	2	5	7	112
<b>Total</b>	<b>40</b>	<b>57</b>	<b>61</b>	<b>70</b>	<b>63</b>	<b>82</b>	<b>24</b>	<b>35</b>	<b>28</b>	<b>40</b>	<b>11</b>	<b>13</b>	<b>28</b>	<b>39</b>	<b>1</b>	<b>6</b>	<b>36</b>	<b>30</b>	<b>664</b>

**Table 15: State-wise Detail of Students (B.Tech. Third & Degree Fourth Year)**

Disp.	AI		AL		AM		MG		MN		MZ		NL		SK		TR		TOTAL
	3 <sup>rd</sup>	4 <sup>th</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	
AE	4	2	22	6	9	2	5	5	5	5	0	0	10	4	0	0	1	1	81
CE	8	1	18	20	6	9	8	6	7	7	6	3	9	8	0	1	6	5	128
CSE	8	7	9	7	9	16	5	4	7	4	5	0	6	7	1	2	3	4	104
EE	8	6	10	16	10	10	7	3	7	7	3	1	7	6	0	2	6	5	114
ECE	10	6	9	1	11	12	4	4	9	9	0	1	5	1	0	1	7	4	94
ME	9	6	13	4	19	12	6	3	8	5	3	2	5	4	1	0	6	10	116
<b>Total</b>	<b>47</b>	<b>28</b>	<b>81</b>	<b>54</b>	<b>64</b>	<b>61</b>	<b>35</b>	<b>25</b>	<b>43</b>	<b>37</b>	<b>17</b>	<b>7</b>	<b>42</b>	<b>30</b>	<b>2</b>	<b>6</b>	<b>29</b>	<b>29</b>	<b>637</b>

**Table 16: State-wise Detail of Students (Forestry)**

Discipline	Year	AI	AL	AM	MG	MN	MZ	NL	SK	TR	TOTAL
FO	First	4	13	4	2	3	1	3	0	1	31
	Second	2	6	3	3	2	1	2	0	4	23
	Third	2	6	6	3	3	0	3	1	3	27
	Fourth	4	1	5	2	3	1	3	3	1	23
<b>Total</b>		<b>12</b>	<b>26</b>	<b>18</b>	<b>10</b>	<b>11</b>	<b>3</b>	<b>11</b>	<b>4</b>	<b>9</b>	<b>104</b>

**Post-Graduate Programmes**

**Table 17: No. of Students enrolled in M.Tech. (Full Time)**

Dept.	Name of the Programme	No. of students admitted				Total		All Total
		1 <sup>st</sup> Year		2 <sup>nd</sup> Year		Male	Female	
		Male	Female	Male	Female			
AE	Soil & Water Conservation Engineering	6	5	5	4	11	9	20
	Farm Machinery & Power	2	5	3	2	5	7	12
CE	Environmental Science & Engineering	9	7	10	2	19	9	28
	Geotechnical Engineering	7	6	9	8	16	14	30
CSE	Computer Science & Engineering	6	2	3	2	9	4	13
EE	Power System Engineering	6	7	6	2	12	9	21
ECE	Electronics & Comm. Engineering	8	3	5	4	13	7	20
ME	Computer Integrated Manufacturing	4	1	4	1	8	2	10
	Thermal and Fluid Engineering	4	1	7	1	11	2	13
<b>Total</b>		<b>52</b>	<b>37</b>	<b>52</b>	<b>26</b>	<b>104</b>	<b>63</b>	<b>167</b>

**Table 18: Category-wise No. of Students enrolled in M.Tech. (Full Time) 1st Year**

Sl. No.	Dept.	Name of the Programme	GE	SC	OBC	ST	EWS	Total
1.	AE	Soil & Water Conservation Engineering	0	0	2	9	0	11
		Farm Machinery & Power	1	0	1	5	0	7
2.	CE	Environmental Science & Engineering	0	0	3	11	2	16
		Geotechnical Engineering	0	1	1	11	0	13
3.	CSE	Computer Science & Engineering	0	1	2	5	0	8
4.	EE	Power System Engineering	0	2	0	10	1	13
5.	ECE	Electronics & Comm. Engineering	2	0	1	8	0	11
6.	ME	Computer Integrated Manufacturing	2	0	0	3	0	5
		Thermal and Fluid Engineering	0	0	0	5	0	5
<b>Total</b>			<b>5</b>	<b>4</b>	<b>10</b>	<b>67</b>	<b>3</b>	<b>89</b>

**Table 19: Category-wise No. of Students enrolled in M.Tech. (Full Time) 2nd Year**

Sl. No.	Dept.	Name of the Programme	GE	SC	OBC	ST	EWS	Total
1.	AE	Soil & Water Conservation Engineering	0	1	1	7	0	9
		Farm Machinery & Power	1	0	2	2	0	5
2.	CE	Environmental Science & Engineering	0	0	1	11	0	12
		Geotechnical Engineering	2	0	5	10	0	17
3.	CSE	Computer Science & Engineering	0	1	0	3	1	5
4.	EE	Power System Engineering	1	1	1	5	0	8
5.	ECE	Electronics & Comm. Engineering	2	0	4	3	0	9
6.	ME	Computer Integrated Manufacturing	2	1	1	0	1	5
		Thermal and Fluid Engineering	1	0	1	6	0	8
<b>Total</b>			<b>9</b>	<b>4</b>	<b>16</b>	<b>47</b>	<b>2</b>	<b>78</b>

**Table 20: No. of Students enrolled in M.Sc.**

Sl. No.	Dept.	Name of the Programme	No. of students admitted				Total		All Total
			1 <sup>st</sup> Year		2 <sup>nd</sup> Year		Male	Female	
			Male	Female	Male	Female			
1.	PH	M.Sc. in Physics	8	8	8	5	16	13	29
2.	CH	M.Sc. in Chemistry	4	9	9	7	13	16	29
3.	MA	M.Sc.in Mathematics	9	6	12	4	21	10	31
4.	FO	M.Sc. in Forestry	4	9	3	5	7	14	21
<b>Total</b>			<b>25</b>	<b>32</b>	<b>32</b>	<b>21</b>	<b>57</b>	<b>53</b>	<b>110</b>

**Table 21: Category-wise No. of Students enrolled in M.Sc. 1st Year**

Sl. No.	Dept.	Name of the Programme	GE	SC	OBC	ST	EWS	Total
1.	Physics	M.Sc. in Physics	1	0	5	7	3	16
2.	Chemistry	M.Sc. in Chemistry	3	0	3	5	2	13
3.	Mathematics	M.Sc.in Mathematics	4	0	6	4	1	15
4.	Forestry	M.Sc. in Forestry	1	0	4	8	0	13
<b>Total</b>			<b>9</b>	<b>0</b>	<b>18</b>	<b>24</b>	<b>6</b>	<b>57</b>

**Table 22: Category-wise No. of Students enrolled in M.Sc. 2nd Year**

Sl. No.	Dept.	Name of the Programme	GE	SC	OBC	ST	EWS	Total
1.	Physics	M.Sc. in Physics	1	0	3	8	1	13
2.	Chemistry	M.Sc. in Chemistry	3	0	10	1	2	16
3.	Mathematics	M.Sc.in Mathematics	2	1	3	8	2	16
4.	Forestry	M.Sc. in Forestry	0	1	1	5	1	8
<b>Total</b>			<b>6</b>	<b>2</b>	<b>17</b>	<b>22</b>	<b>6</b>	<b>53</b>

**Table 23: No. of Students enrolled in MBA**

Sl. No.	Centre	Name of the Programme	No. of students admitted				Total		All Total
			1 <sup>st</sup> Year		2 <sup>nd</sup> Year		Male	Female	
			Male	Female	Male	Female			
1.	CMS	Management Studies	16	7	14	14	30	21	51

**Table 24: Category-wise No. of Students enrolled in MBA 1st Year**

Sl. No.	Centre	Name of the Programme	GE	SC	OBC	ST	EWS	Total
1.	Management Studies	MBA	1	5	5	12	0	23

**Table 25: Category-wise No. of Students enrolled in MBA 2nd Year**

Sl. No.	Centre	Name of the Programme	GE	SC	OBC	ST	EWS	Total
1.	Management Studies	MBA	2	3	9	14	0	28

**Table 26: 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		All Total
		Part Time		Full Time		Male	Female	
		Male	Female	Male	Female			
1.	Agricultural Engineering	3	2	14	5	17	7	24
2.	Civil Engineering	7	2	18	6	25	8	33
3.	Computer Science and Engineering	5	0	2	2	7	2	9
4.	Electrical Engineering	6	1	8	1	14	2	16
5.	Electronics and Communication Engineering	10	1	0	2	10	3	13
6.	Mechanical Engineering	7	0	8	2	15	2	17
<b>Total (A)</b>		<b>38</b>	<b>6</b>	<b>50</b>	<b>18</b>	<b>88</b>	<b>24</b>	<b>112</b>

Science, Humanities & Management Studies Disciplines (B)								
Sl. No.	Name of the Dept.	No. of Students admitted				Total		All Total
		Part Time		Full Time		Male	Female	
		Male	Female	Male	Female			
1.	Physics	2	0	2	2	4	2	6
2.	Chemistry	2	2	8	5	10	7	17
3.	Mathematics	9	1	7	5	16	6	22
4.	Forestry	5	9	19	18	24	27	51
5.	Humanities & Social Sciences	2	1	0	4	2	5	7
6.	Management Studies	5	3	7	3	12	6	18
<b>Total (B)</b>		<b>25</b>	<b>16</b>	<b>43</b>	<b>37</b>	<b>68</b>	<b>53</b>	<b>121</b>

Total (A) + (B)	Male	Female	Total
		156	77

**Table 27: Category-wise No. of Students enrolled in Ph.D. (Part Time & Full Time)**

Engineering Disciplines (A)						
Sl. No.	Name of the Dept.	GE	SC	OBC	ST	Total
1.	Agricultural Engineering	8	0	5	11	24
2.	Civil Engineering	8	3	6	16	33
3.	Computer Science and Engineering	5	1	2	1	9
4.	Electrical Engineering	7	1	2	6	16
5.	Electronics and Communication Engineering	4	2	6	1	13
6.	Mechanical Engineering	6	3	6	2	17
<b>Total (A)</b>		<b>38</b>	<b>10</b>	<b>27</b>	<b>37</b>	<b>112</b>

Science, Humanities Social Sciences & Management Studies Disciplines (B)						
Sl. No.	Name of the Dept.	GE	SC	OBC	ST	Total
1.	Physics	1	0	4	1	6
2.	Chemistry	6	0	5	6	17
3.	Mathematics	10	0	6	6	22
4.	Forestry	10	1	14	26	51
5.	Humanities & Social Sciences	2	1	0	4	7
6.	Management Studies	9	0	3	6	18
<b>Total (B)</b>		<b>38</b>	<b>2</b>	<b>32</b>	<b>49</b>	<b>121</b>

Total (A) + (B)	GE	SC	OBC	ST	Total
	76	12	59	86	233

### 3.6 Miscellaneous

The Automation Process for Academic Section and Examination Cell activities of the Institute has become operational since July-December, 2016 session. The admission and the counselling process was conducted through online mode. The ERP is fully functional for academic related matters. All kind of fees related to Academic and Examination are being collected through digital mode only.

Institute has participated in the National Institutional Ranking Framework (NIRF) 2022 and was placed in the rank band of 201-250 in Engineering.

All the Undergraduate and Postgraduate courses of the Engineering and Technology and MBA of the Institute are recognized by the All India Council for Technical Education, New Delhi.

The Accreditation Board of ICFRE has granted accreditation of the Forestry courses run by the Department of Forestry, North Eastern Regional Institute of Science and Technology with the Grade A\* for the period of three years from date of issue of order ie 18.06.2020.

All the Under Graduate Program of the Institute is NBA accredited.

The data of the Institute has been successfully uploaded in the All India Survey on Higher Education (AISHE) for the year 2021-22.

Online Anti-Ragging undertaking has been introduced from July, 2016. The students submit the Anti-Ragging (online) undertaking every year in the month of July during Semester Registration.

The Ministry of Tribal Affairs, Govt. of India, has selected 07(Seven) Ph.D. Scholars of NERIST for “National Fellowship and Scholarship for Higher Education of ST students for the year 2021-22.

## SECTION – 4

### 4.1 DEPARTMENT OF FORESTRY

#### 4.1.1 A Brief Profile of the Department

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

The backbone 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 fields of forestry and allied subjects and guiding Ph. D. students in their respective fields of specializations. The Department has produced so far more than 40 doctoral theses leading to Ph.D. degrees.

#### List of Faculty member with their designations and fields of specialization

Sl. No.	Name	Designation	Area of specializations
1.	Dr. B. Singh	Professor	Horticulture & Agroforestry
2.	Dr. C. L. Sharma	Professor	Wood Science & Technology, Ethnobotany
3.	Dr. M. B. Sharma	Professor & Head	Wood Science, Forest Products and their Utilization, Ethnobiology
4.	Dr. Karuna Shrivastava	Professor	Fungal Diversity, Plant-Microbe Interactions, Plant Biotechnology
5.	Dr. P. R. Gajurel	Professor	Plant diversity & Taxonomy Ethnobotany
6.	Dr. A. Kumar	Professor	Wildlife behavioral ecology & Conservation
7.	Dr. O. P. Tripathi (On Lien)	Associate Professor	Forest Ecology, Biodiversity, Forest Geoinformatics, Climate Change
8.	Dr. L. B. Singha (On Lien)	Associate Professor	Forest ecology and Biodiversity, Bamboos of Northeast, Nutrition Science
9.	Dr. G. Pangging	Associate Professor	Forest Economics & Management

10.	Dr. Ashish Paul	Assistant Professor	Forest Ecology, Biodiversity Conservation, Carbon Sequestration & Climate Mitigation
11.	Dr. Madhu Kamle	Assistant Professor	Plant Biotechnology, Molecular Disease Diagnostics, Fungal-Plant Interaction
12.	Dr. Pradeep Kumar (On Lien)	Assistant Professor	Biotechnology, Phytochemistry, Plant Pathology & Biocontrol

#### 4.1.2 ACADEMIC ACTIVITIES

Education and research in Forestry and its allied disciplines are the major academic activities of the Department. The various academic courses presently offered in Forestry sciences include:

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

All 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, Microbiology and Biotechnology, Soil biology and management etc. have been covered along with related interdisciplinary subjects like Biochemistry, Biostatistics, Surveying, Marketing etc. particularly in B. Sc. Forestry. The department has the potential to do justice with the Forestry education in NERIST. Industrial training for 90 days is an integral component of B.Sc. Forestry course wherein students are attached with forest departments, zoological parks, research institution across the country. The major topics undertaken in industrial training are natural resource management, wildlife management, tea cultivation and management, rural management, remote sensing, NWFP, Biodiversity conservation and forest ecology, etc.

The Department has in its credit more than 90 completed and 16 ongoing externally funded 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. Currently, 37 full time and 11 part-time Ph.D. scholars are enrolled who are doing their research work on varied forestry-oriented topics. The faculty members working in different areas of forestry and allied disciplines have contributed significantly to the overall knowledge dissemination through publications in scientific journals of national and international repute. The Department has a strong collaboration at national and international level with leading institutes and organization.

#### 4.1.3 LABORATORIES AND LABORATORY DEVELOPMENT

The Department has eight well equipped laboratories for conducting practical classes and R & D activities beside three field labs (Nursery, Net house & Mist chamber) which cater the need of research activities of the department. It is worth mentioning that the department has undertaken more than 90 research projects (completed/ongoing) sponsored by several funding agencies like MHRD, DST, CSIR, AICTE, MoEF, UNESCO, GBPIHED, ICAR, ICFRE, DBT, ISRO, DSIR, UNDP, NEC etc. and completed them successfully. All laboratories of Forestry department 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, Laboratory refrigerator, Deep freezers, Hot air oven, UV-vis Spectrophotometer, Atomic Absorption Spectro Photometer, Flame photometer, Autoclave, Digital electronic balance, Research microscopes (Leica), Stereomicroscope (Zeiss), Phase-contrast microscope (Olympus), Spectro-fluorimeter, Wood microtome, Circular saw, Automatic weather station, Real-time & Gradient PCR systems, Gel documentation system, Gel electrophoresis, Gas Chromatograph, Socs Plus and Fibra Plus, Kelplus, Flame photometer, GPSs, GIS software etc. for conducting different experiments for student practices as well as for research activities. Well-developed Departmental



computer center and library provide the resources to students and faculties to carry out their academic and research activities. The Department has good number of computers with internet and printing facilities.

The Department has an established Forest nursery cum herbal garden which is spread over 2 acres of land and harbors more than 100 tree/plant species including important timber, medicinal, aromatic, and some indigenous plant species of the region.

### Existing Laboratories:

Lab No.	Name of Lab / Facilities	In-charge
Lab 1	Wood Science & Forest Products	Dr. M.B. Sharma
Lab 2	Plant-Microbe Interaction & Biotechnology	Dr. Karuna Shrivastava
Lab 3	Forest Systematic Ethnobotany & Horticulture	Dr. P. R. Gajurel
Lab 4	Environment, NRM & Restoration Ecology	Dr. G. Pangging
Lab 5	Forest Ecology & Biodiversity Conservation	Dr. Ashish Paul
Lab 6	Wildlife Conservation	Dr. A. Kumar
Lab 7	GIS & Remote Sensing	Dr. Ashish Paul
Lab 8	Applied Microbiology	Dr. M. Kamle
Facility 1	Computing Facility	Dr. A. Kumar
Facility 2	Forest Nursery	Dr. P. R. Gajurel
Facility 3	Forestry Herbarium	Dr. P. R. Gajurel
Facility 4	Department Library	Dr. A. Kumar
Facility 5	Bioinformatics	Dr. Ashish Paul

### New Equipment/items added:

Sl. No.	Name of Labs / Facilities	New Equipment purchased	
		From institute fund	From project grants
1.	Forest Ecology & Biodiversity Conservation	-	1. KEL PLUS Nitrogen Analyser 1. Atomic Absorption Spectro Photometer
2.	Forest Ecology & Biodiversity Conservation	-	2. KEL PLUS Nitrogen Analyser 3. Atomic Absorption Spectro Photometer

#### 4.1.4 PROJECT/THESES COMPLETED BY PG / PH. D. STUDENTS

(i) Ph.D. Thesis (awarded/submitted): During April, 2022–March, 2023, five scholars have been awarded with Ph.D. degree and one scholar has submitted his thesis. The details are given below:

Sl. No.	Name and Roll No.	Supervisor(s)	Status	Title of Ph.D. Thesis
1.	Mr. Abdus Samad (Ph.D./PT/17/FO/02)	Prof. B. Singh & Prof. P. R. Gajurel	Awarded	Propagation techniques of three selected underutilized vegetable plants of North East India
2.	Ms. DhanashreeLaishram (Ph.D./FT/16/FO/05)	Prof. C. L. Sharma& Prof. M. B. Sharma	Awarded	Evaluationofanatomicalandphysical propertiesofbamboospeciesof Manipur, India
3.	Mr. Liagi Tajo (Ph.D. / PT/17/FO/01)	Prof. O. P. Tripathi & Prof. C. L. Sharma	Awarded	Ecological implications on productivity of selected crops of tropical agroforestry systems of Papum Pare District, Arunachal Pradesh
4.	Ms. ReetashreeBordoloi (Ph.D./FT/17/FO/01)	Prof. O. P. Tripathi & Prof. L. B. Singha	Awarded	Land use change implications on terrestrial ecosystem carbon dynamics of Western Arunachal Pradesh, India
5.	Mr. Rakesh Basnett (Ph.D./FT/15/FO/02)	Prof. A. Kumar	Awarded	Ecology and Human-Asiatic black bear ( <i>Ursus thibetanus</i> ) conflict in and around Khangchendzonga National Park, Sikkim, India
6.	Mr. Anurag Vishwakarma (Ph.D./PR/18/FO/01)	Prof. A. Kumar	Submitted	Community and habitat characteristics of avifauna with reference to avitourism in Pakke Tiger Reserve, Arunachal Pradesh, India

(ii) Project work completed by PG students: Following ten (10) M.Sc. (Forestry) and one (01) M. Tech. (Civil Engg.) thesis were submitted and approved:

Sl. No.	Name and Roll No.	Supervisor(s)	Dissertation Title
<b>M.Sc. (Forestry) Dissertation</b>			
1.	Mr. Sangam Rai (MS/20/FO/10)	Prof. B. Singh	Study on homestead garden in Bihpuria village of North Lakhimpur district Assam
2.	Ms. Rashila Gurung (MS/20/FO/013)	Prof. C. L. Sharma	Documentation and utilization patterns of spices and condiments used by ethnic communities of Sikkim
3.	Ms. Kritika Parasar (MS/20/FO/004)	Prof. M. B. Sharma	Evaluation of fibre characteristics of some shrubs of Papum Pare district of Arunachal Pradesh
4.	Mr. MidingMoyong (MS/20/FO/001)	Prof. Karuna Shrivastava	Diversity and antibacterial activity of fungal endophytes of selected plant species in east Siang district of Arunachal Pradesh
5.	Ms. SubuAngkha (MS/20/FO/002)	Prof. P.R. Gajurel	Diversity and marketing status of NTFPs in local markets of Itanagar capital region, Arunachal Pradesh

6.	Mr. Daniel Liyak MS/20/FO/007	Prof. A. Kumar	Influence of noise on avifaunal diversity in edges of natural forest and urban area
7.	Mr. Alex Singh Angom (MS/20/FO/006)	Dr. G. Pangging	Study on the economic analysis, biological yield and growing stock of traditional aqua forestry system: A case study from Lakhimpur district, Assam
8.	Ms. Raktima Basumatry (MS/20/FO/011)	Dr. Ashish Paul	Contribution of trees outside forests to landscape carbon in Goalpara district, Assam
9.	Mr. Akiju Dele (MS/20/FO/005)	Dr. Madhu Kamle	Isolation and characterization of leaf spot pathogen from <i>Amomum subulatum</i> Roxb. and its bio-control using essential oils
10.	Sukanta Roy (MS/20/FO/008)	Dr. Pradeep Kumar	Isolation and characterization of <i>Bacillus thuringiensis</i> and evaluation for their larvicidal activity
<b>M. Tech. (Civil Engg.) Dissertation</b>			
1.	Mr. Suman Sarkar (MT/20/ESE/012)	Dr. Pradeep Kumar & Prof. Ajay Bharti	Isolation and Characterization of Antibiotic Resistant Bacteria from Solid Waste Dumping sites of Arunachal Pradesh

#### 4.1.5 SHORT-TERM COURSES/SEMINARS/WORKSHOPS/CONFERENCES ORGANIZED AT NERIST:

The following program was conducted by Forestry Department

Sl. No.	Name of coordinator	Title	Funding Agency	Venue	Duration	No. of participants
1.	Prof. Karuna Shrivastava & Prof. P.R. Gajurel	Techniques of Nursery Development and Management for Ornamental Bananas and other Bioresources	DBT	Parbuk village, Roing, Lower Dibang Valley, Arunachal Pradesh	2 days (7 <sup>th</sup> -8 <sup>th</sup> October, 2022)	>100

#### 4.1.6 COURSES/SEMINARS/WORKSHOPS/CONFERENCES/TRAINING ATTENDED BY THE FACULTY:

Sl. No.	Name of faculty	Details of programme attended
1.	Prof. K. Shrivastava	Attended 'Technology Vision 2047 - A Brainstorming Workshop' as invitee Jointly Organized by Indian Institute of Technology Guwahati & Technology Information, Forecasting and Assessment Council (An autonomous body of DST) New Delhi held on 14 <sup>th</sup> -15 <sup>th</sup> March, 2023 at IITG.
2.	Prof. P.R. Gajurel	Presented a talk in the national seminar Tribes, State and the Environment: Contemporary Research in India's North East India during 6 <sup>th</sup> -7 <sup>th</sup> March, 2023 Rajiv Gandhi University
		Presented a talk Integration of herbal medicine of NE India in Clinical practice during 4 <sup>th</sup> Nov, 2022 at Dibrugarh University.
		Presented a talk National Seminar on History of Science & Traditional Knowledge Systems in India, on 10 <sup>th</sup> Oct. 2022 at Rajiv Gandhi University, Itanagar

		Presented a talk Documentation of Traditional Healing Practices of Traditional Healers of NER, on 28 <sup>th</sup> Sept. 2022 at NEIAFMR, Pasighat
3.	Dr. G. Pangging	Attended National Intellectual Property Awareness Mission on 28 <sup>th</sup> September 2022 organised by Intellectual Property Office, India.
		Attended one week Faculty Development Programme on Entrepreneurship Development organised by NITTTR, Kolkata from 9 <sup>th</sup> January to 13 <sup>th</sup> January 2023.
		Attended 6 days AICTE-Sponsored STTP (Offline mode) training programme on “Digital tools for writing, authoring, reviewing research articles and managing classes for effective teaching”. organised by Depart. of Electronics and Communication, NERIST, from 16-21 January 2023.
		Attended FDP on Disaster Management organised by NIDM and NERIST from 22 <sup>nd</sup> February to 24 <sup>th</sup> February 2023.
4.	Dr. Ashish Paul	Participated and completed successfully Two Weeks AICTE Training and Learning (ATAL) Academy Faculty Development Programme on ‘ <i>Artificial Intelligence, Machine Learning and Internet of Things towards Engineering Applications</i> ’ organized by Department of Electronics & Communication Engineering, North Eastern Regional Institute of Science and Technology, Arunachal Pradesh, during 20 <sup>th</sup> February – 03 <sup>rd</sup> March 2023. Sponsored by All India Council for Technical Education (AICTE), New Delhi, Government of India.
		Participated and completed successfully Two Weeks AICTE Training and Learning (ATAL) Academy Faculty Development Programme on ‘ <i>Capacity Building</i> ’ organized by Department of Mechanical Engineering, North Eastern Regional Institute of Science and Technology, Arunachal Pradesh, during 30 <sup>th</sup> January – 10 <sup>th</sup> February 2023. Sponsored by All India Council for Technical Education (AICTE), New Delhi, Government of India.
5.	Dr. Madhu Kamle	Refresher course on “Current trends and technologies in Life Sciences” 16 <sup>th</sup> – 29 <sup>th</sup> July 2022 organized by UGC-HRDC & Department of Biotechnology, DDU Gorakhpur University, Gorakhpur (Online)

#### 4.1.7 ACHIEVEMENTS, AWARDS, RECOGNITION EARNED BY THE FACULTY:

1.	Prof. K. Shrivastava	Moderator of ‘Human and Animal Health’ session during Technology Vision 2047 - A Brainstorming Workshop Jointly Organized by Indian Institute of Technology Guwahati & Technology Information, Forecasting and Assessment Council (An autonomous body of DST, Govt. of India) New Delhi held on 14 <sup>th</sup> -15 <sup>th</sup> March, 2023 at IITG.
2.	Prof. P.R. Gajurel	Nominated as Member of Scientific Advisory Committee of North East Inst. Folk Medicine (NEIFM under AYUSH) Pasighat (2023 – 2026)
		Elected as Executive Board member of the Indian Association of Angiosperm Taxonomy (2022-24)
		Editorial board member of the journal <i>Pleione &amp; Plant Science Today</i>
3.	Dr. G. Pangging	Nominated as Member of Scientific Advisory Committee of North East Inst. Folk Medicine (NEIFM under AYUSH) Pasighat (2023 – 2026)
		Champion in Table Tennis event organised by Think India, NERIST from 31/08/2022 to 3/09/2022.

#### 4.1.8 PROJECTS SANCTIONED BY OUTSIDE AGENCIES TO THE FACULTY OF THE DEPARTMENT

Sl. No.	Name of PI/Co-PI	Title of project	Funding agency with date of sanction	Total Amount (Rs.)	Fund received (Rs.)
1.	Prof. Karuna Shrivastava: PI Prof. P.R. Gajurel: Co PI Dr. Bijoylaxmi Sarma: Co PI	Mass Propagation, Packaging and Marketing of Wild Ornamental Banana from North Eastern India	DBT, New Delhi Dated: 31.03.2021	120.8191 Lakh	II <sup>nd</sup> year fund yet to be received
2.	Prof. Karuna Shrivastava: PI Prof. S. Sureshkumar Singh: Co PI	Distribution, population, ethnomycology and cultivation of high value wild edible macrofungi (WEM) from higher altitudes of Arunachal Pradesh: Exploration for conservation and biotechnological evaluation of their nutraceuticals/novel metabolites	DBT, New Delhi Dated: 01.10.2019 (Project extended up to 31 March, 2023)	45.57 Lakh	II <sup>nd</sup> & III <sup>rd</sup> year funds yet to be received
3.	Prof. P.R. Gajurel: PI	Exploration of native legumes of North-Eastern region of India and molecular characterization of associated nitrogen fixing micro symbionts: towards development of effective rhizobial consortium	DBT, New Delhi	37.14 Lakh	11.0 Lakh
4.	Prof. H.S. Yadav: PI Prof. K.N. Dewangan: Co PI Prof. R.K. Prasad: Co PI Prof. A. Bandyopadhyay: Co PI Dr. P.K. Pandey: Co PI Dr. Meera Yadav: Co PI Dr. Ashish Paul: Co PI	Impact of Climate Change on Water Resources of Arunachal Pradesh	DST, New Delhi Dated: 28.12.2020	246.52 Lakh	134.57 Lakh
5.	Dr. Ashish Paul: PI Prof. O.P. Tripathi: Co PI Prof. L.B. Singha: Co PI	Impacts of climate change on bioresources and livelihoods of local people of Arunachal Pradesh	DST, HICAB New Delhi Dated: 07.03.2019	56.91 Lakh	50.86 Lakh
6.	Prof. O.P. Tripathi: PI Dr. Ashish Paul:	Characterizing pattern and process of alpine ecosystem in Indian Himalaya with special	SAC-ISRO Ahmedabad Dated:	23.71 Lakh	22.22 Lakh



	Co PI Dr. Madhusudan Misra: Co PI	emphasis to Arunachal Pradesh (PRACRITI II)	20.02.2019		
7.	Dr. Ashish Paul: PI Prof. O.P. Tripathi: Co PI Prof. L.B. Singha: Co PI	Diversity, population status of rhododendron and genetic diversity of <i>Rhododendron</i> <i>arboreum</i> in Eastern Himalayas and Western Ghats	DBT, New Delhi Dated: 07.09.2018	31.97 Lakh	16.98 Lakh
8.	Dr. Madhu Kamle: PI Dr. Pradeep Kumar: Co PI	Micropropagation of <i>Litsea</i> <i>cubeba</i> (Lour.) Pers: an indigenous plant of North East India for genetic conservation	GBPHNIESD Dated: 28.03.2018	8.0 Lakh	8.00 Lakh
9.	Dr. Pradeep Kumar: PI & Coordinator Dr. Madhu Kamle: Co PI	Screening of Phytochemical and Bioactive compounds against human pathogenic bacteria of some selected indigenous medicinal plants of Arunachal Pradesh, India	DBT, New Delhi Dated:11.01.2019	82.00 Lakh	26.00 Lakh
10.	Dr. Madhu Kamle: PI & Coordinator Dr. Pradeep Kumar: Co PI	Use of non-toxic nano formulations for prolonging shelf life and reduction of post-harvest loss of Khasi mandarin orange ( <i>Citrus reticulata</i> ) of North East India	DBT, New Delhi Dated: 04.03.2021	293.27 Lakh	37.77 Lakh
11.	Dr. Pradeep Kumar: Co PI	Multiplication of <i>Trichoderma</i> <i>harzianum</i> in Agro-waste for Production of Bio agent	DST SERB 31.07.2017	43.92 Lakh	32.50 Lakh



#### 4.1.9 PUBLICATIONS

##### (a) Referred Journal

Journal Articles	
1.	Gogoi, J. and Sharma, M. (2022) Medicinal uses of wild edible plants by the Wancho Tribe in Longding district of Arunachal Pradesh. <i>International Journal of Pharmaceutical Research &amp; Allied Sciences</i> 11(4): 107-114.
2.	Sharma, M., Sharma, C. L., Marak, L. M., Wangkhem, M. and Tali, M. (2022) Anatomical and physical characteristics of some <i>Ficus</i> species of Meghalaya, NE India. <i>Journal of the Indian Academy of Wood Science</i> 19(2): 67-78.
3.	Laishram, D., Sharma, C. L. and Sharma, M. (2022) Evaluation of physical properties of some selected <i>Bambusa</i> species of Manipur. <i>Agricultural Science Digest</i> . DOI: 10.18805/ag.D-5588.
4.	Laishram, D., Sharma C. L. and Sharma, M. (2022) Physical properties of some <i>Dendrocalamus</i> species of Manipur. <i>Indian Journal of Hill Farming</i> 34 (2): 130-137.
5.	Gogoi, J., Sharma, M.B., Sharma, C.L. and Pangging, G. (2022) Market survey of Wild Edible Plants Consumed by the Wancho Tribe in Longding district of Arunachal Pradesh. <i>Advances in Zoology and Botany</i> . 11(2). Accepted paper.
6.	Teron, G., Tapley, B., Sharma, A.R., Thungon, L.T., Paul, A. and Tripathi, O.P. (2023) New locality record of endangered <i>Cuoramouhotii</i> (Gray 1862) from Doimara Reserve Forest, Arunachal Pradesh, Northeast India. <i>Reptiles &amp; Amphibians</i> 30(1): e18262.
7.	Das, B., PatnaiK, S.K., Bordoloi, Pual, A. and Tripathi, O.P. (2022) Prediction of forest aboveground biomass using an integrated approach of space-based parameters, and forest inventory data. <i>Geology, Ecology, and Landscapes</i> , DOI: 10.1080/24749508.2022.2139484. Taylor and Francis Group. Scopus
8.	Bordoloi, R., Sharma, A.R., Das, B., Teron, G., Thungon, L.T., Paul, A., Singha, L.B. and Tripathi, O.P. (2022) Plant diversity and variation in soil properties of selected land use types of Arunachal Pradesh: a local climate change perspective. <i>Vegetos</i> , <a href="https://doi.org/10.1007/s42535-022-00484-2">https://doi.org/10.1007/s42535-022-00484-2</a> . Springer, Nature. Scopus
9.	Kashung, Y., Gap, N., Debbarma, D., Das, B., Paul, A., Singha, L.B. and Tripathi, O.P. (2022) Carbon stock and pool assessment in tropical and subtropical bamboo brakes of Arunachal Pradesh, India. <i>Vegetos</i> , <a href="https://doi.org/10.1007/s42535-022-00484-2">https://doi.org/10.1007/s42535-022-00484-2</a> . Springer, Nature. Scopus.
10.	Gajurel, P. R., Singh, B, Kashung, S., Adhikary, P., Nopi, S., Barman, R., Yakang, T., Doni, T., Gogoi, D. (2022) <b>Foods from the wild:</b> A review on diversity and use pattern of wild edible plants of Arunachal Himalaya for sustainable management. <i>Plant Science Today</i> doi:10.14719/pst.1857 IF 0.83
11.	Kashung, S., Gajurel, P. R., Singh, B Barman, R. and Yakang, T. (2022) <i>Aristolochiarethyae</i> , a new species from Arunachal Pradesh, India <i>Phytotaxa</i> 564 (1): 001-007 IF 1.12
12.	Samad, A. Singh, B. and Gajurel, P. R. (2022) Influence of growth regulators and length of cuttings on the propagation potential of <i>Piper pedicellatum</i> C. DC. – A threatened wild leafy vegetable of North-East India. <i>Journal of Applied Horticulture</i> , 34(2): 178-183
13.	Lindsay, S. Middleton, D.J., .....Gajurel, P. R....et al. (2022) Flora of Singapore: Checklist and bibliography <i>Gardens' Bulletin Singapore</i> 74 (Suppl. 1): 3-860. (suppl.1).2022-01
14.	Ulman, Y., Kumar, A. and Sharma, M. (2022) Traditional agroforestry systems and practices of Assam. <i>Indian Journal of Traditional Knowledge</i> 21(2): 414-424.
15.	Vishwakarma, A., Kumar, A. and Krishna, M. (2022) Hornbills: A Flagship Species in Pakke Tiger Reserve, Arunachal Pradesh, India. <i>International Journal of Ecology and Environmental Sciences</i> 48: 663-669.
16.	Vishwakarma, A., Kumar, A. and Maravi, D. K. (2022) Record of a possible hybrid of Australian Shoveler spatula rynchotis and Northern Shoveler <i>Spatula clypeata</i> (Family Anatidae) from Assam, Northeast India. <i>J. Bombay Nat. Hist. Soc.</i> , 119: DOI: 10.17087/jbnhs/2022/v119/160005
17.	Vishwakarma, A., Kumar, A. Yomcha, T., Barman, D. and Padi, D. (2022) Sighting of Mandarin duck <i>Aix galericulata</i> (Linnaeus) (Family: Anatidae) from Dotung river, Sadiya, Assam, Northeast India. <i>J. Bombay Nat. Hist. Soc.</i> , 119 (3). DOI:10.17087/jbnhs/2022/v119/1693489
18.	Basnett, R., Kumar, A. and Yomcha, T. (2023) Potential distribution of the Asiatic black bear in Khangchendzonga National Park, Sikkim Eastern Himalaya using maxent modeling. <i>European Journal</i>

	of Ecology 9.1: 31-40. (In press)
19.	Bora, H., Kamle, M. and Kumar, P. (2022) Phytochemical analysis, antioxidant and antimicrobial screening of leaves extract of <i>Tetrastigmathomsonianum</i> Planch. <i>Indian Journal of Natural Sciences</i> 13(75):1-12.
20.	Bora, H., Kamle, M., Chopra, S. and Kumar, P. (2022) Evaluation of Phytochemical components, antioxidant, and antibacterial activities of <i>Coptisteeta</i> Walls. <i>International Journal of Pharmaceutical Research &amp; Allied Sciences</i> 11(4):140-150.
21.	Bora, H., Kamle, M., Hassan, H., et al. (2022) Exploration of Potent Antiviral Phytomedicines from Lauraceae Family Plants against SARS-CoV-2 Main Protease. <i>Viruses</i> . 2022;14(12):2783.
22.	Kumar, P., Gupta, A., Mahato, D.K., Pandhi, S., Pandey, A.K., Kargwal, R., Mishra, S., Suhag, R., Sharma, N., Saurabh, V., Paul, V., Kumar, M., Selvakumar, R., Gamlath, S., Kamle, M., Enshasy, H.A.E., Mokhtar, J.A., Harakeh, S. (2022) Aflatoxins in Cereals and Cereal-Based Products: Occurrence, Toxicity, Impact on Human Health, and Their Detoxification and Management Strategies. <i>Toxins</i> . 14(10):687.
23.	Kumar, P., Mahato, D.K., Gupta, A., Pandey, S., Paul, V., Saurabh, V., Pandey, A.K., Selvakumar, R., Barua, S., Kapri, M., Kumar, M., Kaur, C., Tripathi, A.D., Gamlath, S., Kamle, M., Varzakas, T., Agriopoulou, S. (2022) Nivalenol Mycotoxin Concerns in Foods: An Overview on Occurrence, Impact on Human and Animal Health and Its Detection and Management Strategies. <i>Toxins</i> . 14(8):527.
24.	Kamle M, Mahato DK, Gupta A, Pandhi S, Sharma B, Dhawan K, Vasundhara, Mishra S, Kumar M, Tripathi AD, Rasane P, Selvakumar R, Kumar A, Gamlath S, Kumar P. (2022) Deoxynivalenol: An Overview on Occurrence, Chemistry, Biosynthesis, Health Effects and Its Detection, Management, and Control Strategies in Food and Feed. <i>Microbiology Research</i> . 2022; 13(2):292-314.
25.	Kumar P, Mahato DK, Gupta A, Pandhi S, Mishra S, Barua S, Tyagi V, Kumar A, Kumar M and Kamle, M. (2022), Use of essential oils and phytochemicals against the mycotoxins producing fungi for shelf-life enhancement and food preservation. <i>Int J Food Sci Technol</i> . <a href="https://doi.org/10.1111/ijfs.15563">https://doi.org/10.1111/ijfs.15563</a>
26.	Kamle M, Mahato DK, Gupta A, Pandhi S, Sharma N, Sharma B, Mishra S, Arora S, Selvakumar R, Saurabh V, Dhakane-Lad J, Kumar M, Barua S, Kumar A, Gamlath S, Kumar P (2022) Citrinin Mycotoxin Contamination in Food and Feed: Impact on Agriculture, Human Health, and Detection and Management Strategies. <i>Toxins</i> . 14(2):85.
27.	Mahato DK, Kargwal R, Kamle M, Sharma B, Pandhi S, Mishra S, Gupta A, Mahmud MMC, Kumar Gupta M, Singha LB, Kumar P (2022) Ethnopharmacological properties and Nutraceutical potential of <i>Moringa oleifera</i> . <i>Phytomedicine Plus</i> . 2(1) 100168.
28.	Kumar S, Singh N, Devi LS, Kumar S, Kamle M, Kumar P, Mukherjee A (2022) Neem oil and its nanoemulsion in sustainable food preservation and packaging: Current status and future prospects. <i>Journal of Agriculture and Food Research</i> 7: 100254.
29.	Mahato DK, Pandhi S, Kamle M, Gupta A, Sharma B, Panda BK, Srivastava S, Kumar M, Selvakumar R, Pandey AK, Suthar P, Arora S, Kumar A, Gamlath S, Bharti A, Kumar, P. (2022) Trichothecenes in food and feed: Occurrence, impact on human health and their detection and management strategies. <i>Toxicon</i> . 208:62-77. doi: 10.1016/j.toxicon.2022.01.011.
30.	Chhetry, B.S.K., Dewangan, K.N., Mahato, D.K. and Kumar, P. (2022) Endotoxins Affecting Human Health during Agricultural Practices: An Overview. <i>Applied Chem</i> . 3(1):11-31.



**(b) Conference Papers:**

Papers presented in conferences/Invited/Plenary lectured delivered/Abstract Published		
In International Conferences/Symposium		
1.	Prof. M. B. Sharma	Wangkhem, M, Sharma, M and Sharma, C. L. 2022. Physico-anatomical evaluation of some Rhododendron species of Arunachal Pradesh, India. A poster paper presented in International conference on Bioresource and Bioeconomy held on 19-21, sept, 2022 at Dept. of Botany, Nagaland University, Lumami-798627
2.	Prof. C. L. Sharma	Tali, M., Sharma C. L, and Sharma, M. 2022. Evaluation of physical properties of some Calamus species of Arunachal Pradesh. A poster paper presented in International conference on Bioresource and Bioeconomy held on 19-21, sept, 2022 at Dept. of Botany, Nagaland University, Lumami-798627 Debbarma, J. Sharma C. L, and Sharma, M. 2022. Spices and condiments used as medicines by two communities of Tripura.” A poster paper presented in International conference on Bioresource and Bioeconomy held on 19-21, sept, 2022 at Dept. of Botany, Nagaland University, Lumami-798627
3.	Prof. Karuna Shrivastava	CheebumMallo, Karuna Shrivastava. ‘Antimicrobial activity of fungal endophytes isolated from <i>Piper mullesua</i> Buch.-Ham. Ex D. Don’ presented in International conference on Biodiversity: Exploration, Exploitation, Conservation for sustainable development, 2023 from February 10th-11th at Pandit Deendayal Upadhyaya Adarsha Mahavidyalaya, Behali, Assam, India. Bhaskar Jyoti Sharma, Karuna Shrivastava, S. Sureshkumar Singh. ‘Morphological characterization and genome grouping of Bharat Moni cultivar of <i>Musa</i> sp.’ presented in International Conference on Bioresources and Bioeconomy, 2022 from September 19th to 21th at Nagaland University. Alokesh Barman, Karuna Shrivastava, S. Sureshkumar Singh. ‘Diversity and ethnomycological study of wild mushrooms of higher altitude districts of Arunachal Pradesh, India’ presented in International Conference on Bioresources and Bioeconomy, 2022 from September 19th to 21th at Nagaland University. Swastika Sharma, S. Sureshkumar Singh, Karuna Shrivastava. ‘Cellulolytic activities of filamentous fungi isolated from forest soils of Arunachal Pradesh, North Eastern India’ presented in presented in International Conference on Bioresources and Bioeconomy, 2022 from September 19th to 21th at Nagaland University. Tage Yama, S. Sureshkumar Singh, Karuna Shrivastava. ‘Isolation and Optimization for production of red and purple pigments by two bacterial isolates from forest soils of Arunachal Pradesh.’ presented in International Conference on Bioresources and Bioeconomy, 2022 from September 19th to 21th at Nagaland University.

**(c) Books/ Book Chapter:**

Sl. No.	Author	Title of Book	Publisher	Year of publication
1.	Yakang, T., Gajurel, P.R. and Singh, B.	Distributional pattern and ethnobotanical values of <i>Piper wallichii</i> (Miq.) Hand.-Mazz. (Piperaceae) in Das et al (eds.)	Proceeding Volume for the National Seminar on Plant Taxonomy and Traditional Knowledge in the Himalayas and North East India.	2022
2.	Gajurel, P.R. and Yakang, T.	The genus <i>Piper</i> L. (Piperaceae) in Indian Flora in Seetalakshmi K. K. et al (eds) Conspectus on	BIVA, Kerala. Pp. 225-246	2022



		Realms of Biodiversity.		
3.	P Kumar, M Kamle, DK Mahato (Editors)	Mycotoxins in Food and Feed: Detection and Management Strategies	CRC Press / Taylor & Francis Group, LLC, Boca Raton, FL 33487	2023
4.	Sharma C, Kamle M, Kumar P	Green Synthesis of Nanoparticles Using Various Plant Parts and Their Antifungal Activity. In book: Plants as Bioreactors for Industrial Molecules Book Editor(s): <a href="#">SantoshKumar Upadhyay</a> , <a href="#">Sudhir P. Singh</a>	Wiley publisher, USA	2023
5.	Kamle M, Gogoi P, Mahato DK, Gupta A, Kumar P	Food Preservation by Coating Technology: Nanotechnology Approach. In book: Emerging Technologies in Food Preservation DOI: 10.1201/9781003147978-12	CRC Press / Taylor & Francis Group, LLC, Boca Raton, FL 33487	2023
6.	Pandey AK, Vashishth R, Mahato DK, Kamle M, Selvakumar R, Mathur M, Kumar P	Ochratoxins in Food and Feed: Detection and Management Strategies. In Mycotoxins in Food and Feed Detection and Management Strategies. Editors: Kumar P, Kamle M, Mahato DK.	CRC Press / Taylor & Francis Group, LLC, Boca Raton, FL 33487	2023
7.	Mathur M, Kargwal R, Selvakumar R, Mahato DK, Kamle M, Kumar P	Climate Change's Impact on Mycotoxin Production in Food and Feed. In Mycotoxins in Food and Feed Detection and Management Strategies. Editors: Kumar P, Kamle M, Mahato DK.	CRC Press / Taylor & Francis Group, LLC, Boca Raton, FL 33487	2023
8.	Srivastava S, Yadav AK, Ghosh M, Mahato DK, Kamle M, Pandey P, Chakraborty S, Kumar P	Fumonisin in Food and Feed: Their Detection and Management Strategies. In Mycotoxins in Food and Feed Detection and Management Strategies. Editors: Kumar P, Kamle M, Mahato DK.	CRC Press / Taylor & Francis Group, LLC, Boca Raton, FL 33487	2023

#### 4.1.10 INTERACTION OF FACULTY/DEPARTMENT WITH OUTSIDE AGENCIES (Give details regarding membership of outside committee, executive committee of professional bodies etc.)

The following faculty members have actively interacted with the following outside agencies/ organizations for academic, research and development works

Sl. No.	Name of faculty	Name of outside committee/professional body
1.	Prof. K. Shrivastava	Chairperson, Institutional Ethical Committee, RGU Doimukh, A.P. and attended the meeting convened on 8 February, 2023.
		Evaluator and viva-vocea M.Phil. dissertation of Botany dept., RGU in May, 2022.
		External examiner for M.Sc. Botany practical exams.
2.	Prof. P.R. Gajurel	Undertook collaborative research with the following Institute NBRI, Lucknow ATREE, Bangalore JNTBGRI, Trivandrum
3.	Prof. Awadhesh Kumar	Appointed as External Expert in the interview Panel for recruitment of JRFs by Zoological Survey of India on 5 <sup>th</sup> July, 2022.
		Appointed as External Examiner for Ph.D. Viva-Voce of Mr. Aman Kumar from Guru Ghasidas Vishwavidyalaya, Bilaspur, Chhattisgarh on 02/03/2023.
4.	Dr. Ashish Paul	Chaired the Technical Session on sub theme Biodiversity Conservation as Session Chair in the International Conference on Biodiversity: Exploration, Exploitation, Conservation and for Sustainable Development (ICB-02) during 10 <sup>th</sup> – 11 <sup>th</sup> February, 2023, organized by the Department of Botany, Pandit Deendayal Upadhyaya Adarsha Mahavidyalaya, Behali, Assam, India.

#### 4.1.11 ACHIEVEMENTS OF STUDENTS

Some of the current students (9 nos.) have been selected for higher education in various Institutes. Three Ph.D. scholars have got government jobs. One each Ph.D. scholar has been awarded DST Inspire Fellow and EDGE Fellow by DST, New Delhi and the Zoological Society of London to pursue Ph.D. degree in the Department of Forestry. The details of the achievements of students are mentioned below:

##### **B.Sc. students selected for higher education in various institutes:**

1. Mr. Karnajit Singh, M.Sc. Wood Science & Technology, FRI, Dehradun (B.Sc. Forestry 2022 batch)
2. Ms. Sapam Rozina, M.Sc. Forestry, Manipur University (B.Sc. Forestry 2022 batch)
3. Ms. Thokchom Sharda Devi, M.Sc. Forestry, Mizoram University (B.Sc. Forestry 2022 batch)
4. Ms. Habiaha Ina Shabong, M.Sc. Forestry, NERIST (B.Sc. Forestry 2022 batch)
5. Ms. Joyful Dkhar, M.Sc. Forestry, NERIST (B.Sc. Forestry 2022 batch)
6. Ms. Moushomi Tripura, M.Sc. Forestry, NERIST (B.Sc. Forestry 2022 batch)
7. Ms. Linda Darlong, M.Sc. Forestry, Tripura University (B.Sc. Forestry 2022 batch)
8. Mr. Lhouyangdar KH, Master Forest and Nature Conservation, Wageningen University, Netherlands (B.Sc. Forestry 2020 batch)

**Ph.D. students who got Government jobs and awarded National and International fellowship:**

1. Ms. Rimi Barman, Assistant Professor, Department of Botany, Srikishan Sarda College, Hailakandi, Assam.
2. Dr. Dhanashree Laishram appointed as Assistant Professor (Forestry) in FEEDS College, Manipur
3. Dr. Kuladip Sharma appointed as Assistant Professor in the Department of Zoology, Guwahati University, Assam.
4. Mr. Genus Teron (PhD/FT/19/FO/18) awarded EDGE Fellow by the Zoological Society of London, United Kingdom.
5. Ms. JopiSiram (Ph.D./FT/21/FO/01) awarded DST Inspire Fellow by the DST, Government of India.
6. Mr. Bhaskar Jyoti Sharma (Roll No. (Ph.D./FT/18/FO/10) was nominated to attend 'Student Conclave' held during Technology Vision 2047 - A Brainstorming Workshop Jointly Organized by Indian Institute of Technology Guwahati & Technology Information, Forecasting and Assessment Council (An autonomous body of Dept. of Science & Technology, Govt. of India) New Delhi from 14th-15th March, 2023 held at IIT Guwahati.

## 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, 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 may join postgraduate programmes and Ph.D.

Department has 13 faculty members of which 01 are on lien and 01 is on study leave. Five sponsored research projects (DST, NECTAR and AICTE) on emerging areas of Agricultural Engineering are running in the department besides one All India Coordinated Research Project (AICRP) on Human Engineering and Safety in Agriculture, funded by ICAR, New Delhi.

### 4.2.2. Laboratories and Laboratory Development:

The following equipment and instruments were purchased in the AICRP on ESA, NERIST Center:

1. Manually operated chaff cutter
2. Power thresher

### 4.2.3. Project completed by the Ph.D./PG/UG students.

#### A. Ph.D.

S.No	Title of the project	Name of the Supervisor /Co-supervisor	Name of the student
1.	Hydrological Simulation Using RHESSys and SWAT Under Projected Climatic Scenarios for Pare River Basin of Arunachal Pradesh	Arnab Bandyopadhyay/ Aditi Bhadra	Waikhom Rahul Singh

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

S.No	Title of the project	Name of the guide/Co-guide	Name of the student
1	Study of occupational health issues in rice mills	K.N. Dewangan	Sentipong B. Longkumer
2	Comparison of rice mill dusts with dust on capital complex of Arunachal Pradesh	K.N. Dewangan	Tapi Tada
3	Effect of use of pesticides on health of farmers	K.N. Dewangan	Abhishek Verma
4	Stationarity analysis of rainfall of humid north-eastern region	Salil Kumar Shrivastava	Toshimenla Longchar
5	Analysis of long-term dependence in rainfall and temperature of humid north eastern region	Salil Kumar Shrivastava	Punwang Lowang
6	Assessing the Effects of Snowmelt Dynamics	Aditi Bhadra/	Salam

	on Streamflow in Alaknanda river basin of Western Himalaya using ArcSWAT Model	Arnab Bandyopadhyay	LamyambaLuwang
7	Development of Automatic Calibration Tool for Spatially Distributed Snow and Glacier Melt Runoff Model (SDSGRM) using a Shuffled Complex Evolution Algorithm	Aditi Bhadra/ Arnab Bandyopadhyay	Akhilesh Kumar
8	Spatio-temporal variations in the Snow Cover and Snow Parameters using SDSGRM for Subansiri River Basin of Arunachal Pradesh	Aditi Bhadra/ Arnab Bandyopadhyay	Geetanjali Samjetsabam
9	Analysis of the temporal variations in glaciers' surface area in Glaciated River Basins of Arunachal Pradesh	Arnab Bandyopadhyay/ Aditi Bhadra	RimumMurtem
10	Spatio-temporal mapping of glacier lakes and high-altitude lakes in Subansiri and Dibang river basin of Arunachal Pradesh	Arnab Bandyopadhyay/ Aditi Bhadra	Megozeno
11	An Analysis of Long-term Rainfall Trend and Variability in Arunachal Pradesh	Pankaj K. Pandey/ Vanita Pandey	Tailyang Rema
12	Energy consumption and opportunities for renewable energy technologies in Indian villages	T. Patel	SubhabrataBasu
13	Effectiveness of an ergonomic intervention in sherpa mode of load carriage	T. Patel	SenthungloLapon
14	Development of Prediction Models to Predict the Performance of Disc Plough	TageTapang/ M. Ukil Singh	PashinKhamniungan
15	Development of Push Type Multipurpose Sprayer cum Weeder	M. Ukil Singh/ TageTapang	LiponiLothaOvung
16	Evaluating The Effect Of Short Term And Long-Term Persistence On Trend In Rainfall Time Series Of Mizoram	Vanita Pandey/ Pankaj K. Pandey	Bivek Chakma
17	Ensemble Forecasting Of Standardized Precipitation Index Time Series For Drought Identification In Manipur	Vanita Pandey/ Pankaj K. Pandey	ChanamthabamJeenson
18	Surface Water Dynamic Analysis Based On Sentinel-2 Imagery And Google Earth Engine Over Selected Districts Of Manipur	Vanita Pandey/ Pankaj K. Pandey	Naorem Nirmala Devi
19	Development of GPS based guiding system for tractor	Anubhab Pal	Pankaj Kumar
20	Development of a set up for anthropometric body dimension measurement from camera image	Anubhab Pal	KeneiselieKhro

### C. Degree projects

S.No	Title of the project	Name of the guide/Co-guide	Name of the student
1.	Study of ergonomical issues in hand tools and machinery used in north east India	K.N. Dewangan	GyatiNapi, Punyo Asha, Salomy Sangma
2.	Probability analysis of rainfall for the estimation of flood at selected states of humid northeast India	Salil Kumar Shrivastava	Rajkumar Dennis Singh, HafangJamatia, Nitto N Chishi
3.	Assessing the spatio-temporal variation in cover management factor (C) for Alaknanda basin	Aditi Bhadra	Tasso Yaka, RubuSunia, LhingdeihoiKholhou
4.	Temporal variation in glacier lakes for Mago river basin of Arunachal Pradesh	Arnab Bandyopadhyay	IhalungHerie, Tasso Tare, Mori Kamdak
5.	Effect of local calibration on the performance of the Hargreaves equation	Pankaj K. Pandey/ Vanita Pandey	KrishnamoniKonwar, Rupali Taye, LipliPhukan
6.	Comparative Study of Anthropometric Database for Agricultural Workers of India	T Patel	Bhoirab Kashyap, S.P. Mohanta, HemangiSaikia
7.	Performance evaluation of tractor mounted disc plough	TageTapang/ M. Ukil Singh	Novjeet Raj Sah, ChukhuTadap, SomipamHaorei
8.	Investigation on thermal conductivity of different locally available materials for construction of mud houses	M. Ukil Singh/ TageTapang	Priyanka Ngangkham, Nongmaithem Umi Devi
9.	Probability analysis of rainfall for crop planning	Vanita Pandey	HibuNopi, Sum Tateh, HangwamaLimboo
10.	Development of Solar Operated Paddy Thresher	Anubhab Pal	Tony Blair S. Marak, H.Lalawmpuia, S. Lungoulien Haokip

#### 4.2.4. Short-term course/seminars/workshops/conferences organized at NERIST:

S.No.	Areas	Title	Coordinator	Duration	Funding Agency/ Sponsors	No. Participants
1.	Ziro, Lower Subensiri district, Arunachal Pradesh	Krishi Machinery Mahotsava	K.N. Dewangan, T. Patel	28 March 2023	ICAR, New Delhi	75

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

S.No.	Name of Faculty member	Name of the Short-term Course/Conference /Workshop	Duration	Place
1.	K.N. Dewangan	56 <sup>th</sup> Annual Convention of the Indian Society of Agricultural Engineers (ISAE)	9–11 November 2022	Tamil Nadu Agricultural University, Coimbatore, Tamil Nadu
2.	K.N. Dewangan	13 <sup>th</sup> Workshop of “All India Coordinated Research Project (AICRP) on Ergonomics and	2–3 February,	Online





		Safety in agriculture (ESA)	2022	
3.	Aditi Bhadra	Attended and presented paper in 39th IAHR World Congress	19–24 June 2022	Granada, Spain
4.	Aditi Bhadra	Attended two weeks ATAL FDP on “Capacity building” sponsored by AICTE	30 January to 10 February 2023	NERIST
5.	Aditi Bhadra	Delivered World Soil Day Lecture as Resource Person under Azadi ka Amrit Mahotsav organized by Department of Environmental Sciences & UGC-Human Resource Development Centre, Doctor Harisingh Gour Vishwavidyalaya, Sagar–470003 (MP), India	5 December 2022	Online
6.	Aditi Bhadra	Attended online lecture on "Research and Development Cell: Fostering the Research Eco-System in HEIs" by UGC	2 Feb 2023	Online
7.	Aditi Bhadra	Attended online lecture on "HEI's Research Office and Technology Transfer Organization (TTO): Synergistic Operations" by UGC as Coordinator, R&D Cell of NERIST	29 March 2023	Online
8.	Arnab Bandyopadhyay	Attended and presented paper in 39th IAHR World Congress	19–24 June 2022	Granada, Spain
9.	Arnab Bandyopadhyay	Attended online workshop on “Implementation of NEP in UG, PG, TDC of Assam University” as External Expert	17 March 2023	Online
10.	Pankaj Kr Pandey	ATAL FDP “Capacity building”	30 January - 10 February 2023	NERIST
11.	T. Patel	13 <sup>th</sup> Workshop of “All India Coordinated Research Project (AICRP) on Ergonomics and Safety in agriculture (ESA)	2–3 February, 2022	Online
12.	T. Patel	one-week training program on High voltage testing of insulation materials	May 9-15, 2022	NERIST
13.	T. Patel	Brainstorming and Orientation workshop	9–10 June 2022	SVNIT, Surat
14.	M. Ukil Singh	Pedagogy to improve the Performance of Weak Students	Five days	Online
15.	M. Ukil Singh	National seminar on Ancient Indian Science, Technology, engineering and Mathematics (STEM)	One day	Online
16.	M. Ukil Singh	IP Awareness/Training program under National Intellectual Property Awareness Mission	One day	Online
17.	M. Ukil Singh	Bio-Entrepreneurship opportunities in Meghalaya. Theme: compliances & Certifications in food & nutrition	One day	online
18.	M. Ukil Singh	Bio-Entrepreneurship opportunities in Meghalaya. Theme: repurposing of	One day	Online



		traditional bioresources – livelihood from bamboo		
19.	M. Ukil Singh	Faculty development program on disaster management	Three days	NERIST
20.	A. K. Choudhary	International conference on Sustainable Approaches in Food Engineering and Technology (SAFETY 2022)	19-20 October 2022	Department of Food Engineering and Technology, Tezpur university
21.	Vanita Pandey	ATAL FDP “Capacity building”	30 January - 10 February 2023	NERIST
22.	Anubhab Pal	Industrial training on machine learning & its applications using python	2 weeks	Online

#### 4.2.6 Achievements/awards/recognition earned by the faculty.

S.No.	Name of Faculty member	Award	Recognition
1.	K.N. Dewangan	Fellow, India Society of Agricultural Engineers (ISAE), New Delhi	
2.	K.N. Dewangan		Associate Editor, Journal of Agricultural Engineering (India), New Delhi
3.	Aditi Bhadra		Appreciation for the service rendered to the Indian Association of Soil and Water Conservationists as Reviewer of Indian Journal of Soil Conservation for the year 2022
4.	Arnab Bandyopadhyay		Recognition for the service rendered to the Royal Meteorological Society, UK as Reviewer of Atmospheric Science Letters, Wiley for the year 2022
5.	A. K. Choudhary	2 <sup>nd</sup> Position in the poster presentation on International Conference on Sustainable Approaches in Food Engineering and Technology (SAFETY 2022) organized by the Department of Food Engineering and Technology, Tezpur university and Department of soil, water and Agricultural Engineering, Sultan Qaboos University at 19 <sup>th</sup> -20 <sup>th</sup> October 2022	

**4.2.7. Projects sanctioned by outside agencies to the faculty of the Department**

S.No.	Name of PI/Co-PI	Title of the project	Funding Agency	Date of Sanction	Total Amount	Fund received during the year under review
1.	K.N. Dewangan (PI) and T. Patel (Co-PI)	All India Coordinated Research Project on Ergonomics and Safety in Agriculture	ICAR	20.04.2020	35,51,000	35,51,000
2.	K.N. Dewangan (Co-PI)	Impact of Climate Change on Water Resources of Arunachal Pradesh	DST	28.12.2020	2,46,51,965	Nil
3.	Aditi Bhadra	Assessment of Variability in Glacier melt and Snowmelt Runoff under Projected Climatic Scenarios for Data Scarce Himalayan River Basins	DST	June 2019	69,40,712	Nil
4.	Arnab Bandyopadhyay	Development of Flood Warning System for Tlwang River, Mizoram, Development of Rating Curve & Preparation of Water Data Yearbook	National Hydrology Project, World Bank via Irrigation and Water Resources Dept., Govt. of Mizoram	April 2022	59,96,524	14,99,131
5.	T. Patel, A. Pal	Development of solar operated paddy thresher for sustainable livelihood of agricultural workers in North Eastern India	NECTAR	18 February 2021	6,38,000	Nil
6.	A. Pal	Development of GPS based steering assist system for agricultural tractor	AICTE	10 March 2021	7,25,000	Nil

#### 4.2.8. Publications:

##### (a) Referred Journal

S.No.	Name of Faculty member	Title of the paper	Name of the Journal	Issue No./DOI	Page No.
1.	P. P. Dabral	SARIMA approach for modelling and forecasting of monthly stream flow of Godavari River in India	Journal of Soil and Water Conservation	21(2)  DOI: 10.5958/2455.2022.00023.6	208-214
2.	K.N. Dewangan	Design and development of a vertical plate precision seed metering device with positive seed knockout mechanism	Agricultural Engineering International: CIGR Journal	25 (1)	27-42
3.	K.N. Dewangan	Gender and anthropometric effects on seat-to-head transmissibility responses to vertical whole-body vibration of humans seated on an elastic seat	Vibration	6	165-194
4.	K.N. Dewangan, T. Patel	Noise exposure and hearing loss among tractor drivers in India	WORK: A Journal of Prevention, Assessment & Rehabilitation	74(1)	167-181
5.	K.N. Dewangan	Endotoxin affecting the human health during agricultural practices: An overview	AppliedChem,	3(1)	11-31
6.	K.N. Dewangan	Seat-to-head transmissibility responses of seated human body coupled with visco-elastic seats	Vibration	5	860-883
7.	Arnab Bandyopadhyay	Spatial pattern-based performance evaluation and uncertainty analysis of a distributed hydrological model	Hydrological Processes	36(5)  10.1002/hyp.14586	e14586
8.	Aditi Bhadra, Arnab Bandyopadhyay	Response assessment of hydrological processes to climate change using ArcSWAT in Mago basin of Eastern Himalaya	Journal of Earth System Science	131  10.1007/s12040-022-02002-z	252
9.	Arnab Bandyopadhyay	Diagnosis of GCM-RCM driven rainfall patterns under changing climate through the robust selection of multi-model	Climatic Change	176  10.1007/s10584-022-03475-z	13

		ensemble and sub-ensembles			
10.	Aditi Bhadra, Arnab Bandyopadhyay	Spatio-temporal variability of glacier surface area, ELA, and AAR in the Mago river basin of Arunachal Pradesh	Journal of Water and Climate Change	14(1) 10.2166/wcc.2023.317	253–271
11.	Pankaj Kr Pandey, Vanita Pandey	Evaluation of cumulative infiltration models under different land uses in a temperate sub-alpine zone of Arunachal Pradesh	International Journal of Lakes and Rivers,	15(1)	91-110.
12.	Pankaj Kr Pandey Vanita Pandey	Quantifying the significance of basin parameters and hydro-climatic factors to water and sediment yields across spatio-temporal scales in mountainous river Basin, Sikkim	Journal of Water and Climate Change	doi: 10.2166/wcc.2022.210 13(8),	3189-3216
13.	T. Patel, Anubhab Pal	Bluetooth Module-Based Wearable Heatstroke Alert System Based on Physiological and Environmental Parameters for Agricultural Workers	Res. Jr. of Agril. Sci.	13(5): 1388–1395	1388-1395
14.	T. Patel	Response Surface Design Optimization for Blade Geometry of Non-Rotary Push-Pull Type Weeder	Res. Jr. of Agril. Sci.	13(4): 1079–1086	179-1086
15.	T. Patel, Anubhab Pal,	Engineering interventions and their effects on oyster mushroom cultivation- A systematic review	Indian Journal of Hill Farming	Volume 35	53-67
16.	A. K. Choudhary	Feed forward neural network and its reverse mapping aspects for the simulation of ginger drying kinetics	Agricultural Engineering International: CIGR Journal	24(1)	176-186
17.	A. K. Choudhary	Neuro-fuzzy interface and mathematical modeling of rehydration kinetics and dynamic vapor sorption behavior of novel no-cooking rice	Journal of Food Process Engineering	doi: <a href="https://doi.org/10.1111/jfpe.14299">10.1111/jfpe.14299</a>	e14299

**(b) Conference papers:**

S.No.	Name of Faculty member	Title of the paper	Name of the Conference	Year	Pages
1.	K.N. Dewangan	Ergonomic evaluation of pineapple leaves pruning	56 <sup>th</sup> Annual Convention of the Indian Society of Agricultural Engineers	2022	177–178
2.	K.N. Dewangan	Occupational Health and Safety Hazards among the Workers of intensive livestock farms	56 <sup>th</sup> Annual Convention of the Indian Society of Agricultural Engineers	2022	176
3.	K.N. Dewangan	Evaluation of respirable dust exposure to the workers in rice mills of Assam	56 <sup>th</sup> Annual Convention of the Indian Society of Agricultural Engineers	2022	137
4.	Aditi Bhadra, Arnab Bandyopadhyay	The effects of climate change on seasonal snowpack of Dibang river basin of Arunachal Pradesh, India	39th IAHR World Congress, 19–24 June 2022, Granada, Spain DOI: 10.3850/IAHR-39WC2521716X20229	2022	240–249
5.	Arnab Bandyopadhyay, Aditi Bhadra	Comparison of different remote sensing methods for delineating glacier surfaces in Mago river basin of Arunachal Pradesh	39th IAHR World Congress, 19–24 June 2022, Granada, Spain DOI: 10.3850/IAHR-39WC2521716X202211	2022	250–259
6.	Arnab Bandyopadhyay, Aditi Bhadra	Temporal Variation in Snow Depth using Different Snow Depth Models in an Eastern Himalayan River Basin	International Conference on Climate and Weather-related Extremes (ICCWE 2022), 19–20 September 2022, IIT Roorkee	2022	42
7.	Arnab Bandyopadhyay, Aditi Bhadra	Evaluation of Otsu's Thresholding Technique for Flood Inundation Mapping using Sentinel-1 data	International Conference on Climate and Weather-related Extremes (ICCWE 2022), 19–20 September 2022, IIT Roorkee	2022	71
8.	Arnab Bandyopadhyay, Aditi Bhadra	Assessment of Hydropower Potential using Spatial Technology and SWAT Modelling in the Mago River Basin, Arunachal Pradesh, India	International Conference on Climate and Weather-related Extremes (ICCWE 2022), 19–20 September 2022, IIT Roorkee	2022	77
9.	Arnab Bandyopadhyay, Aditi Bhadra	Development of Rating Curve using Genetic Algorithm for Tlawng Watershed,	International Conference on Sustainable Technologies for River Erosion Alleviation and Management (STREAM-2022),	2022	41

		Mizoram	14–16 December 2022, Guwahati		
10.	Arnab Bandyopadhyay, Aditi Bhadra	Comparative Analysis of Soil Erosion from Mago river basin of Arunachal Pradesh using ArcSWAT and GeoWEPP	International Conference on Sustainable Technologies for River Erosion Alleviation and Management (STREAM-2022), 14–16 December 2022, Guwahati	2022	53
11.	Pankaj K. Pandey, Vanita Pandey	Spring Water Management to Ensure Long Term Sustainability in North-Eastern Regions of India	In IOP Conference Series: Earth and Environmental Science	2022, October	Vol. 1084, No. 1, p. 012062
12.	Pankaj K. Pandey, Vanita Pandey	Delineation of spring potential zone and recharge area using Field based and geospatial approach: A case study of Papum Pare District (Arunachal Pradesh)	National Symposium Cum workshop on Spring Shed Management	18-19 Nov 2022	

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

S.No.	Name of Faculty member	Title	Publisher	Year of publication	Pages
1.	Arnab Bandyopadhyay	Chapter: Diagnosing the Combined Impact of Climate and Land Use Land Cover Changes on the Streamflow in a Mountainous Watershed In Book: Sustainability of Water Resources	Springer  DOI: 10.1007/978-3-031-13467-8_22	2022	343–357

**4.2.9. Interaction of faculty/Department with outside agencies:**

S.No.	Name of Faculty member	Details of Interaction
1.	P.P. Dabral	Member of PRT team of Accreditation of ICAR of Junagadh Agricultural University and its Constituents Colleges (17-4-2022 to 25-4-2022)
2.	K.N. Dewangan	Subject Expert in a Selection Committee for the post of Assistant Professor in Agricultural Engineering for Assam University, Silchar on 27August 2022
3.	K.N. Dewangan	Subject Expert in a Selection Committee for the post of Professor in Agricultural Engineering for Nagaland University, Lumami on 27March 2022
4.	K.N. Dewangan	Scrutiny of applications for the post of Assistant Professor, Associate Professor and Professor in the Department of Agriculture, Rajiv Gandhi University, Doimukh
5.	K.N. Dewangan	Training Programme on Application of Ergonomics in Farm Mechanization as a resource person at Assam Agricultural University,



		Jorhat from 3–12January 2023
6.	K.N. Dewangan	Training programme on Ergonomics and Safety in Agricultural Operations to Enhance Farmer’s Productivity and Well-Being as a resource person at ICAR-Indian Agricultural Research Institute, New Delhi from 16–18 November 2022
7.	K.N. Dewangan	Training programme on Ergonomical Design Guidelines for Agricultural Tools and Equipment, Training programme as a resource person at ICAR–Central Institute of Agricultural Engineering, Bhopal from 19–23September 2022
8.	S.K. Shrivastava	Member, College Extension Advisory Committee (CEAC) of College of Agricultural Engineering and Post Harvest Technology (CAEPHT), Ranipool, Sikkim
9.	S.K. Shrivastava	Member, Board of Studies (BoS), College of Agricultural Engineering and Post Harvest Technology (CAEPHT), Ranipool, Sikkim
10.	S.K. Shrivastava	External expert for the CAS interview of Central Agricultural University, Manipur, held in the month of March 22 <sup>nd</sup> , 2023
11.	Arnab Bandyopadhyay	External Expert, Committee for finding out the possibility and feasibility of implementation of the NEP 2020 as an extension of functionalities of the existing Online Result Processing System and Online Admission Management System of Assam University, Silchar

**4.2.10. Achievements of students: One student has qualified for GATE 2023**

S.No.	Name
1.	Dibya Ranjan Nayak

## **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, Degree, and Post Graduate levels catering to the needs of the North Eastern Region in particular and the nation in general. The Department has capability of imparting quality education to the students through well-qualified faculty and staff.

Presently, the Department has 13 well-qualified faculty members with specialization in different areas of Civil Engineering.

There is one technical officer, three senior instructors, one senior technician, one technician, and five laboratory attendants. The staff members are well trained and one senior instructor has a Ph. D. degree. The laboratories of the Department are well equipped to meet the requirements of undergraduate as well as postgraduate courses. The Department has the competency of carrying out challenging consultancy works and sponsored research projects. The Department organizes workshops, short-term training programmes and conferences to disseminate the knowledge to the teaching community, government officials particularly of Arunachal Pradesh, NGOs as well as village level communities of the state.

At present there are 85 students in Base Module and 249 in Degree Module with total 334 students registered in UG programmes. There are 25 students in M Tech in ESE, and 25 students in M Tech in GTE. Total 23 Full time and 9 Part time Research Scholars are registered for Ph. D. programme.

### **4.3.2 Academic activities**

The Department of Civil Engineering offers Certificate, Diploma and Degree programmes since inception of the institute. After obtaining the Deemed-to-be-University status, two M. Tech programmes, one in Environmental Science and Engineering (ESE) and the other in Geo-Technical Engineering (GTE), are also offered by the Department. Ph. D. programmes are available in the major and emerging areas of civil engineering.

Some of the courses offered by the Department are: 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 are offered to the Diploma, and Degree students and dissertations are offered to Post Graduate final year students keeping in view the academic advances, requirements of the industry as well as the local needs.

The total number of publications by the faculty in the year under review is 19 with 13 in Refereed Journals and 6 in National and International Conferences.



### 4.3.3 (a) Laboratories and Laboratory Development

The Department has the following laboratories:

1. Computer Lab
2. Drawing and Drafting Section
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.

Two Laboratories, (i) Computer Lab and (ii) Drawing and Drafting Section have been renovated and modified with all modern facilities.

### 4.3.4 Projects completed by the UG/PG/Ph.D. Students (Please specify the title of the project and name of the guide.)

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

Sl. No.	Name of the Student	Roll no.	Supervisor	Title of Btech Project
1	Dhiraj Kumar	D/19/CE/206	Prof. R K Prasad	Study of Flood Flow Behaviour of River Dikrong in Arunachal Pradesh, India USING HEC - RAS 6.1
2	RuvetoKhusoh	D/19/CE/203		
3	Yumlam Ado	D/19/CE/216		
4	Lozang Lepcha	D/19/CE/205		
5	Richa Sarma	D/19/CE/213	Prof. S Baishya	Load settlement characteristics of shallow foundation on non-linear soil subjected to eccentric loads
6	Boby Boruah	D/18/CE/010		
7	Lysandra I Thangkhiew	D/18/CE/16		
8	Dipankar Mudai	D/18/CE/103	Prof. S Mishra	Assessment of reinforcement requirement for model building in different earthquake zones
9	Satyam Kumar	D/18/CE/022		
10	Prabhat Kumar Prasad	D/18/CE/024		
11	Gaurav Kumar Singh	D/18/CE/017		
12	Angela K. Dengtluangpuui	D/18/CE/101	Shri S K Sahu	Analysis and design of pressurized long cylindrical pressure vessels
13	Takhe Yoda	D/18/CE/110		
14	HibuKatu	D/18/CE/007		
15	Gyati Kuru	D/19/CE/209		
16	TadarJoram	D/18/CE/026	Prof. Ajay Bharti	Application of ArcGIS in Environmental Engineering A case study on the water
17	Binju Mara	D/18/CE/008		
18	Sanja Jamatia	D/18/CE/021		
19	Nisha Maibam	D/18/CE/013		



20	Dtshering Lepcha	D/18/CE/003		distribution system of NERIST campus using ArcGIS Software
21	Adil Rashid	D/19/CE/210	Dr. Dipika Devi	Finite element analysis of soil bearing capacity using PLAXIS 2D
22	RobarthHina	D/19/CE/215		
23	NillyLikha Paul	D/19/CE/214		
24	Nitin Murtem	D/19/CE/201		
25	HageTalum	D/18/CE/006	Dr. MudoPuming	A study on the performance of orange peel and neem leaf powder as an alternative natural coagulant in the treatment of dairy waste water.
26	Hage Allan	D/18/CE/027		
27	Bharat Londa	D/18/CE/015		
28	T. Herojit Singh	D/18/CE/012		
29	KargeHakom	D/18/CE/009	Smt. Y B Devi	Waste water treatment using oxalis as natural coagulant
30	ThotresinghShaiza	D/18/CE/023		
31	T. Dayananda	D/18/CE/001		
32	Naveen Kumar	D/18/CE/101		
33	Nimesh Anand	D/18/CE/020	Dr. D Pal	Road accident analysis a case study of Alappuzha district, Kerala
34	BetheldaSyiemlieh	D/18/CE/028		
35	Kevilonu Richa	D/18/CE/018		
36	Muskaan Khanikar	D/17/CE/022		
37	SankhyaPrajnan Roy	D/19/CE/204	Dr. A Kalita	Detailed analysis and design of a three storeyed residential r.c.c. building.
38	Subham Debnath	D/19/CE/207		
39	Priya Reang	D/18/CE/004		
40	Debarga Das	D/19/CE/29		
41	Dilip Kumar	D/19/CE/202	Shri N G Sorum	Modelling of Road Traffic accident in Shillong City
42	RupnaraYeasminKhann	D/19/CE/212		
43	DebanroiMynsong	D/19/CE/208		
44	DidungTadi	D/17/CE/021		
45	N. Samson Singh	D/18/CE/104	Dr. Y Tamut	Landslide hazard zonation mapping of east siang district, Arunachal Pradesh, India using Remote sensing and GIS.
46	Krishna Chandra Das	D/18/CE/108		
47	ArmistaDebarma	D/18/CE/005		
48	RocksonKhagembam	D/18/CE/011		
49	TomarGara	D/17/CE/018	Shri K J Singh	Mapping land use land cover of Barapani Itanagar basin using remotely sensed image
50	KH Monthang	D/17/CE/211		
51	Sidharth Rai	D/18/CE/019		

**(b) M. Tech ESE Projects Completed**

Sl. No	Name of Student	Roll No.	Title of the Dissertation	Name of the Supervisor
1.	KanguYomcha	MT/20/ESE/003	Vermicomposting And Its Prospects	Mrs. Y. Bidyalaxmi Devi
2.	LogyoTagu	MT/20/ESE/005	Treatment of Waste Water using natural coagulants (Oxalis)	Mrs. Y. Bidyalaxmi Devi
3.	John Yigam	MT/20/ESE/009	A Study on Solid Waste Management in the Itanagar Capital Region	Mrs. Y. Bidyalaxmi Devi
4.	Suman Sarkar	MT/20/ESE/012	Isolation and Characterization of Antibiotic Resistant Bacteria from Solid Waste Dumping Sites of Arunachal Pradesh	Dr. Ajay Bharti & Dr. Pradeep Kumar

5.	NyatoLendo	MT/19/ESE/021	Manufacturing of Construction Block Using Waste Plastic, Sand And waste Silica Metal Powder	Dr. S. Mishra
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**(c) M. Tech GTE Projects Completed**

Sl. No	Name of Student	Roll No.	Title of the Dissertation	Name of the Supervisor
1.	OmemParon	MT/20/GTE/002	Stabilisation of Clayey soil using banana fibre with lime	Dr. A. Kalita
2.	ManashPrati m Baruah	MT/20/GTE/004	Experimental Study on the Strength behavior of lime blended soil – fly ash – coir fiber mix.	Dr. A. Kalita
3.	Longjam Ricci Rani Chanu	MT/20/GTE/006	Effect of lateral load of a pile on an unstable slope profile.	Dr. A. Kalita
4.	BamangTania ng	MT/20/GTE/001	Finite element analysis of vertical load carrying capacity of piles using abaqus	Dr. D. Devi
5.	Tenzing Pema Thungon	MT/20/GTE/07	FEA of geosynthetic reinforced earthen embankments on soft soil using PLAXIS 2D	Dr. D. Devi
6.	SubuKobing	MT/20/GTE/011	Study on behaviour of silty-clay soil stabilised with rice husk ash	Dr. D. Devi
7.	B. Bandana Sharma	MT/20/GTE/003	Analysis of the bearing capacity of a strip footing on a slope top	Dr. D. Devi
8.	TabaNyokum	MT/20/GTE/005	Soil stabilisation and erosion control by miscanthus sinensis	Dr. Y. Tamut
9.	Tasso Tarun	MT/20/GTE/013	Study of strength properties of pavement subgrade by using building waste materials	Dr. Y. Tamut

**4.3.5. Short term courses/seminars/workshops/conferences organized in the Department**

1.	One month Summer Internship Training w.e.f. 16/08/2022 to 10/09/2022.has conducted for the students of Jorhat Engineering College, Jorhat
2.	Organised a Two weeks workshop on AutoCAD and ArchiCAD in collaboration with NIELIT Itanagar from 25.03.2023 to 23.04.2023 (Every Saturday and Sunday) for students of NERIST.

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

1.	Dr. Dipika Devi has attended a Faculty Development Program on “Disaster Management”, Organized by National Institute of Disaster Management, Ministry of Home Affairs, Govt. of India in collaboration with North Eastern Regional Institute of Science and Technology, from 22 <sup>nd</sup> February to 24 <sup>th</sup> February, 2023
2.	Dr. Dipika Devi has attended a Two-Week AICTE sponsored Training and Learning (ATAL) Academy Faculty Development Programme (FDP) on Capacity Building, Organized by Department of Mechanical Engineering, NERIST, from 30 <sup>th</sup> January to 10 <sup>th</sup> February, 2023.
3.	Dr. Dipika Devi attended AICTE Sponsored One Week Offline Short-Term Training Programme (STTP) on "Digital Tools for Writing, Authoring, Reviewing Research Articles and Managing Classes for Effective Teaching", Organized by Department of Electronics & Communication Engineering, NERIST, from 16 <sup>th</sup> January to 21 <sup>st</sup> January 2023.
4.	Dr. Dipika Devi attended Online FDP on “Application of Artificial Intelligence and Machine Learning in Civil Engineering”, Organized by Department of Civil Engineering, R. V. R & J. C. college of Engineering, Chowdavaram, Guntur, Andhra Pradesh, in association with Indian Geotechnical Society, Guntur Chapter, from 27-10-2022 to 25-11-2022 (Every Thursday and Friday).
5.	Dr. Ajanta Kalita has completed Two Weeks Faculty Development Programme through ICT Mode on Evaluating Students' Performance & Designing Question Papers organised by National Institute of Technical Teacher’s Training and research (NITTTR) Kolkata from 19th September to 30th September, 2022
6.	Dr. Ajanta Kalita has completed One Week Faculty Development Programme through Contact Mode on <b>NBA accreditation and SAR Preparation</b> organised by National Institute of Technical Teacher’s Training and research (NITTTR) Kolkata from 10th October to 14th October, 2022
7.	Dr. YamemTamut has participated in One week Faculty Development Program on “Computer Diligence in Civil Engineering & Applications for Sustainable Development” organized by Department of Civil Engineering at Jaypee University of Information Technology from 11th – 15th July, 2022 in online mode.
8.	Dr. YamemTamut has participated in five days Faculty Development Programme on “Geo-Environmental and Geo-Transportation Engg.,” jointly organized by IGS Raipur chapter, National Institute of Technology Raipur and Shri Shankaracharya Institute of Professional Management and Technology (SSIPMT) Raipur, from 27th June to 1st July 2022.
9.	Dr. YamemTamut has completed One Week Short Term Training Programme through ICT Mode on People Management & Leadership organised by NITTTR Kolkata from 1st August to 5th August, 2022 successfully.
10.	Dr. YamemTamut has completed Two Weeks Faculty Development Programme through ICT Mode on Evaluating Students' Performance & Designing Question Papers organised by NITTTR Kolkata from 19th September to 30th September, 2022 successfully.
11.	Dr. YamemTamut has participated 5 days FDP on “Application of Artificial Intelligence & Machine Learning in Civil Engineering “organized by the Department of Civil Engineering Vishnu Institute of Technology during 24th November to 29th November, 2022.
12.	Dr. YamemTamut has successfully completed online FDP on “Application of Artificial Intelligence & Machine Learning in Civil Engineering “ organized by the Department of Civil Engineering, R.V.R & J.C College of Engineering, Chowdavaram Guntur A. P. in association with Indian Geotechnical Society Guntur Chapter from 27.10.2022 to 25.11.2022 (Every Thursday and Friday)

13.	Dr. Yamem Tamut has participated in Two-week ATAL sponsored FDP on “ Artificial Intelligence. Machine Learning and Internet of Things towards Engineering Application “ at NERIST, organized by the department of Electronics and Communications from 20th February to 3rd March 2023.
14.	K. James Singh attended AICTE sponsored FDP on “online UHV Refresher 1” from 7th February, 2022 to 11 <sup>th</sup> February, 2022.
15.	K. James Singh attended AICTE sponsored FDP on “APPLICATION OF SART MATERIALS AND AI IN WATER AND WASTEWATER TREATMENTS” organized by National Institute of Technology (NIT) Manipur from 17 <sup>th</sup> January, 2022 to 21 <sup>st</sup> February, 2022.

### 4.3.7. Publications

#### (a) Referred Journals:

1.	S.K. Tamang, Mukesh Kumar, <b>Dipika Devi</b> , et al., “Modeling and optimization of material removal rate and surface roughness for Al6010 HMMCs on WEDM using Response Surface Methodology”, Journal of Ceramic Processing Research (JCPR), Vol. 23(3), P: 373-382, ISSN: 2672-152X (SCI Journal)
2.	<b>Tamut, Y.</b> , and Nyokum. T. (2022). " Effect of Michanthus Sinensis of Soil Strength Parameter and Flood Erosion Control in 2." Proceedings of <i>37th Indian Engineering Congress 2022</i> , IEC/2022/053/CV20.
3.	Kharkongor. B and <b>Tamut, Y.</b> (2022) “Stabilisation of Soil using Plastic Waste as a Reinforcing material, as well as the Comparative Study of Egg Shells and Chir Pine Needle leaves as a Binder: A Review” in Proceedings of <i>37th Indian Engineering Congress 2022</i> , IEC/2022/053/CV20.
4.	Barman, L., Prasad, R. K. and Sivakumar, B. (2023). Streamflow Simulation using Soil and Water Assessment Tool (SWAT): Application to Periyar River Basin in India, <i>ISH Journal of Hydraulic Engineering</i> (Taylor and Francis) (Available Online). <a href="https://doi.org/10.1080/09715010.2023.2181673">https://doi.org/10.1080/09715010.2023.2181673</a>
5.	Goswami, G., Prasad, R. K. and D. Kumar (2022), Simplified Approach for a Hydrodynamic Flood Modelling using HEC-RAS 6.1: A Case Study of River Dikrong in Arunachal Pradesh, India, <i>Modeling Earth Systems and Environment</i> . <a href="https://doi.org/10.1007/s40808-022-01507-2">https://doi.org/10.1007/s40808-022-01507-2</a>
6.	Prasad, R. K. and Parmar, D. L. (2022), "Discussion of Framework for Modeling Lead in Premise Plumbing Systems Using EPANET " by J. B Burkhardt, H. Woo, J. Mason, F. Shang, S. Triantafyllidou, M. R. Schock, D. Lytle and R. Murray", <i>Journal of Water Resources Planning and Management, American Society of Civil Engineers (ASCE)</i> , <a href="https://doi.org/10.1061/(ASCE)WR.1943-5452.0001519">https://doi.org/10.1061/(ASCE)WR.1943-5452.0001519</a> .
7.	Prasad, R. K. and Parmar, D. L. (2022), Discussion of Chromium Transport Modeling in Tannery Effluent from a Surface Water Body to Groundwater Regime: Case Study in Kodaganar Basin by J. Colins Johnny; M. C. Sashikkumar; J. Rajesh Banu; and Gopalakrishnan Kumar", <i>Journal of Hazardous, Toxic, and Radioactive Waste Management, American Society of Civil Engineers (ASCE)</i> , 26(1): 07021001. ( <a href="https://ascelibrary.org/doi/10.1061/%28ASCE%29HZ.2153-5515.0000664">https://ascelibrary.org/doi/10.1061/%28ASCE%29HZ.2153-5515.0000664</a> )
8.	<b>Puming M</b> , Ipi B "Windrow composting of vegetable waste using naturally available activated material" <i>IJRSE Vol.1</i> , July 2022, ISSN (Online): 2582-7898, SJIF: 5.494.
9.	<b>Puming M</b> , Hibu Onya "A study on the use of Marble dust Powder to improve the property of cement concrete" <i>IJRAR Vol.9</i> , July 2022, P-ISSN (Online): 2349-5138.
10.	<b>Puming M</b> , Geli Basar "Management of leaf litter by aerobic composting" <i>IJRAR Vol.9</i> , July 2022, P-ISSN (Online): 2349-5138.
11.	<b>Puming M</b> , Mumsu L "A study on the SWM of Karsingsa Solid Waste dumping Site of

	Arunachal Pradesh" IJPRSE Vol.1, July 2022, ISSN (Online): 2582-7898, SJIF: 5.494.
12.	Nalo, T., Paliya, S., Mandpe, A., Rich, N., <b>Bharti, A.</b> , Kumar, S. (2022), "Co-digestion of municipal solid waste with lignocellulosic waste in mesophilic Environment", Chemosphere (Elsevier),ISSN: 0045-6535,IF: 7.086
13.	Mahato, D. K., Pandhi, S., Kamle, M., Gupta, A., Sharma, B., Panda, B. K., Srivastava, S., Kumar, M., Selvakumar, R., Pandey, A. K., Suthar, P., Arora, S., Kumar, A., Gamlath, S., <b>Bharti, A.</b> , Kumar, P. (2022), "Trichothecenes in food and feed: Occurrence, impact on human health and their detection and management strategies", Toxicon (Elsevier), Volume 208, 2022, pp. 62-77.

**(b) Conference Papers:**

1.	<b>Dipika Devi</b> and A. K. Singh, "An Object-oriented finite element framework for modified cam clay model", <i>Materials Today: Proceedings</i> , 62(4), 2022, P: 2211-2216, <a href="https://doi.org/10.1016/j.matpr.2022.03.372">https://doi.org/10.1016/j.matpr.2022.03.372</a>
2.	S.K. Tamang, <b>Dipika Devi</b> , M. Seenivasan, N. Gopalsamy, "Optimization of surface roughness using Taguchi technique for aluminium metal matrix composite", <i>Materials Today: Proceedings</i> , Vol. 62(4) 2022, P:2029-2033, <a href="https://doi.org/10.1016/j.matpr.2022.02.400">https://doi.org/10.1016/j.matpr.2022.02.400</a>
3.	Nyokum. Tand <b>Tamut, Y.</b> presented a paper entitled Effect of MichanthusSinusis of Soil Strength Parameter and Flood Erosion Control in 37 <sup>th</sup> Engineering Congress 2022 at Chennai during December 16-18,2022.
4.	Kharkongor. B and <b>Tamut, Y.</b> presented a paper entitled "Stabilisation of Soil using Plastic Waste as a Reinforcing material, as well as the Comparative Study of Egg Shells and Chir Pine Needle leaves as a Binder: A Review" in 37th Engineering Congress 2022 at Chennai during December 16-18,2022.
5.	Piyali Das, <b>YamemTamut</b> and Juhi. presented a paper on "Different degradation modes of field deployed Photovoltaic modules: A literature review" at 8th International Conference on Computers, Management & Mathematical Sciences (ICCM2022) from 28 <sup>th</sup> July -30 <sup>th</sup> July, 2022.
6.	Goswami, G., Kiron, B., Prasad, R. K., and Basack, S (2022). Assessment of environmental flow on Wainganga River of Gondia District, Maharashtra, India: A case study, 9th International Groundwater Conference (IGWC-2022), IIT Roorkee, India. November 02-04, 2022



**4.3.8. Interaction of faculty/Department with outside agencies / institute (Give details regarding membership of outside committee, executive committees of professional bodies etc.)**

1.	Prof. S. Mishra is the Chairman, NESIDS
2.	Prof. Ajay Bharti is the Nodal Officer of STA (state Technical Agency) of PHE & WS Department, Government of Arunachal Pradesh

**4.3.9. Consultancy Projects undertaken**

(a) The details of the consultancy services tendered by the Department are as follows:

S. No	Agencies	Title of consultancy project	Amount (Rs)
1.	The DIG Engineer North East Frontier HQ/ITB Police	CC Cubes testing	Rs. 5900/-
2.	A.E.PWD. NHLN Sub division IV	CC Cubes testing	Rs. 11,800/-
3.	The DIG Engineer North East Frontier	CC Cubes testing	Rs. 5,900/-
4.	The Project Manager Bharat Constructions (India)private limited	CC Cubes testing	Rs. 5,900/-
5.	M/s Sree Rama Enterprises(Bihar)	Mix Design M.35,45,50	Rs. 2,23,020/-
6.	AMLCP Itanagar	CC Cube testing	Rs. 23,600/-
7.	The DIG Engineer North East Frontier H/Q ITB Police	CC Cube testing	Rs. 11,800/-
8.	The Deputy Inspector General(Engineer)NEF HQ.ITB Police	CC Cube testing	Rs. 11,800/-
9.	M/s ATW(India) Pvt.ltd Assam	Concrete Mix Design	Rs. 1,48,680/-
10.	E.E YINKIONG Division PWD, Arunachal pradesh	Concrete Mix Design	Rs. 63,000/-
11.	DERAJ DUTTA GRADUATE Engineer PWD ZIRO, AP	CC Cube testing	Rs. 11,800/-
12.	The DIG Engineer NEF HQ.ITB Police ,Itanagar	CC Cube testing	Rs. 11,800/-
13.	M/s TADAR TARU PROJECT Incharge M/s KENGE Construction company. Ap.	CC Cube testing	Rs. 5,900/-
14.	The Dy Commandar (Engg) NEF.HQ. ITB Police, Govt .of India	CC Cube testing	Rs. 12,744/-
15.	Er. HinaAjan Nabam Project Officer, APEDA, Doimukh, Arunachal Pradesh	Testing of Water Sample for the construction work	Rs. 30,975/-
16.	Executive Engineer, Naharlagun Division, PWD, Arunachal Pradesh	Geotechnical Investigation And Safe Bearing Capacity Analysis at School Building At Govt. Girls Residential School Campus, Nirjuli	Rs. 82,777/-
<b>Total</b>			<b>5,84,619/-</b>



(b) Detailed Project Reports (DPRs) Under NESIDS (Govt. of Arunachal Pradesh) Vetted by the department are as:

Sl No.	Name of the Projects
1	C/o Integrated Smart Drinking Water Supply to Basar township and its peripheral settlements (1.60 MLD) with tourism components. Government of Arunachal Pradesh Public Works Department under NESIDS.
2.	C/o Construction of Multi Sports Facility Outdoor Stadium at Namsai. Government of Arunachal Pradesh Public Works Department under NESIDS.
3.	C/o Augmentation of Water supply at Tezu Township (Ph-II) in Lohit District. Government of Arunachal Pradesh Public Works Department under NESIDS.
4.	C/o Augmentation of Water supply system at Namsai Township (7.9 MLD). Government of Arunachal Pradesh Public Works Department under NESIDS.
5.	C/o Augmentation of Water supply at Daporijo Township (5.9 MLD). Government of Arunachal Pradesh Public Works Department under NESIDS.
6.	C/o Augmentation of Water supply to Bomdila Township. Government of Arunachal Pradesh Public Works Department under NESIDS.

#### 4.3.10. Achievement of students

(a) Name of the student who have gone for Industrial Training in June 2022

Sl. No	Name	Roll No.	Name of Training Centre
1	DatamlinKma	D/20/CE/001	MeECL Shillong, Meghalaya
2	Kenneth Koso	D/20/CE/002	NEEPCO, Pare, AP
3	Toba Riba	D/20/CE/003	NEEPCO, Pare, Arunachal Pradesh
4	Sai Rago	D/20/CE/004	NEEPCO,PARE,AR.P
5	Ankit Kumar Yadav	D/20/CE/005	PWD Varanasi, UP
6	Harshit	D/20/CE/006	NIT MEGHALAYA
7	Asmit Kumar	D/20/CE/007	IIT GUWAHATI
8	Priyanshu Kumar	D/20/CE/008	IIT MADRAS, CHENNAI PIN-600036
9	Pem Yangchin	D/20/CE/009	IIT GUWAHATI
10	Karka Karlo	D/20/CE/010	NEEPCO, Pare, Arunachal Pradesh
11	Gaurav Changmai	D/20/CE/011	IIT GUWAHATI
12	Sanjeet Singh Sougajam	D/20/CE/012	IIT GUWAHATI
13	Thokchom Bindiya Devi	D/20/CE/013	Water Resources Department, Manipur
14	Naorem Roshni Chanu	D/20/CE/014	IIT GUWAHATI
15	James Mung Songput	D/20/CE/015	NEEPCO, PARE, AP
16	Vishwanath Koijam	D/20/CE/016	Water Resources Department, Manipur
17	ShaniahskhemSuting	D/20/CE/017	MeECL Shillong, Meghalaya
18	Lawanshwa Sun	D/20/CE/018	MeECL Shillong, Meghalaya
19	Wanname Ryan Diengdoh	D/20/CE/019	MeECL Shillong, Meghalaya
20	Mewowchanki Lyngdoh	D/20/CE/020	MeECL Shillong Meghalaya
21	Lalrohluifanai	D/20/CE/022	Kopili Hydro Power Station NEEPCO Ltd., Umrangso, Assam
22	Zodinsanga	D/20/CE/023	ACE Deisgn+Build Construction & Consultancy Services , Aizawl , Mizoram
23	KevichulieSopfunuo	D/20/CE/024	NEEPCO, PARE, AP
24	Ke vileto Albert Koso	D/20/CE/025	IIT GUWAHATI
25	LibanTsopee	D/20/CE/026	IIT GUWAHATI



26	Hitlo	D/20/CE/027	MeECLShillong,Meghalaya
27	SmilyJamatia	D/20/CE/028	IIT MADRAS, CHENNAI PIN-600036
28	SahebaDebbarma	D/20/CE/029	NEEPCO, PARE, AP
29	GeterBasar	D/20/CE/030	IIT GUWAHATI
30	Likha Taha	D/20/CE/031	NEEPCO, PARE, AP
31	Abhisikta Biswas	D/20/CE/032	P.W.D(R&B),Agartala,Tripura(west)
32	YapuMurtem	D/20/CE/033	IIT GUWAHATI
33	TyayaMurtem	D/20/CE/034	NEEPCO,PARE,AP
34	GyatiNako	D/20/CE/035	IIT GUWAHATI
35	KebiMurtem	D/20/CE/036	IIT GUWAHATI
36	IpiGamlin	D/20/CE/037	IIT GUWAHATI
37	MarbomNguki	D/20/CE/038	NEEPCO Pare, AP
38	Mudang Pullo	D/20/CE/039	NEEPCO Pare, AP
39	Moji Riba	D/20/CE/101	IIT GUWAHATI
40	Deji Mara	D/20/CE/102	IIT GUWAHATI
41	SamelyMulieh	D/20/CE/103	MeECL Shillong, MEGHALAYA
42	Jagdish Chetia	D/20/CE/104	IIT MADRAS, CHENNAI PIN-600036
43	Kimngaiheng Haokip	D/20/CE/105	IIT GUWAHATI
44	SatemkabaLmsong	D/20/CE/106	IITGUWAHATI
45	Drishmita Borah	D/20/CE/108	IIT GUWAHATI
46	Sagar Das	D/20/CE/109	IIT GUWAHATI
47	Pc Lalremchhungi	D/20/CE/110	Northeast Consultancy Services ( NECS) Mizoram
48	MarmiaKadimean R Marak	D/20/CE/111	NEEPCO Pare, AP
49	Jetlee	D/20/CE/113	water resources department
50	Jetiya Thong	D/20/CE/114	NEEPCO Pare, AP
51	Lalnunsiami	D/20/CE/115	Northeast Consultancy Services ( NECS) Mizoram
52	Prakash Kumar Singh	D/20/CE/116	PWD Varanasi, UP
53	Manish Kumar	D/20/CE/117	PWD Varanasi, UP
54	Tapi Tony	D/21/CE/201	NEEPCO, PARE, AP
55	NaoremKumarjit Singh	D/21/CE/202	Water Resources Department Manipur
56	Jyoti Prakash	D/21/CE/203	PWD Varanasi, UP
57	Preet Saha	D/21/CE/204	Banaras PWD
58	Amlan Jyoti Mahanta	D/21/CE/206	PWD Varanasi, UP
59	HelitoWotsa	D/21/CE/207	NEEPCO,PARE,AP
60	Giovanni Donnavan War	D/21/CE/209	MeEcl Shillong, Meghalaya
61	LobsangTsomu	D/21/CE/211	NEEPCO,PARE,AP
62	Aditya Kumar	D/21/CE/212	PWD Varanasi, UP
63	SuhluveSwuro	D/21/CE/213	NPWD Kohima, Nagaland



**(b) Placement during April 01, 2022 - March 31, 2023**

Sl. No	Name of the Student	Roll. No	Organization	Post Held
1	Richa Sarma	D/19/CE/213	PHED, Morigaon Division, Govt of Assam	JE
2	Dilip Kumar Prasad	D/19/CE/202	PHED, Lakhimpur Division, Govt of Assam	JE

**(c) Admission to Higher Education during April 01, 2022 - March 31, 2023**

S. No.	Name of the Student	Roll No	Institute Joined	Programme
1.	Rupnara Yeasmin Khan	D/19/CE/212	NERIST	M. Tech (ESE)
2.	Sanja Jamatia	D/18/CE/021	IIT Gandhinagar	M. Tech (GTE)
3.	Boby Boruah	D/18/CE/010	NERIST	M. Tech (ESE),
4.	ArmistaDebbarma	D/18/CE/005	NIT Agartala	Masters on Seismic Science and Engineering

**(d) Students Qualified GATE – 2023**

S. No.	Name	Roll No.	GATE Score	Marks	Category
1.	JepanTaji	D/19/CE/027	456	35.48	ST
2.	Tailyang Tubing	D/19/CE/007	431	33.41	ST
3.	Nyaydish Gadi	D/19/CE/110	414	32.02	ST
4.	ChongpiLupheng	D/19/CE/016	382	29.29	ST
5.	RishaDebbarma	D/19/CE/023	368	27.31	ST
6.	Phonglanthung Patton	D/19/CE/018	288	21.39	ST
7.	Lebel Shon Jana	D/20/CE/209	275	20.33	ST
8.	Hage Polo	D/19/CE/029	255	18.64	ST
9.	BomteGapak	D/19/CE/30	304	22.70	ST
10	LambokshaphrangThabah	D/19/CE/13	263	19.33	ST



**(e) GATE Qualified Students admitted to M. Tech. (ESE) & (GTE) in 2022-23**

Sl. No.	Name	Roll No.
1	JUMNYA KOYU	MT/22/ESE/001
2	KAVERI TAJO	MT/22/ESE/003
3	AJAY BINI	MT/22/ESE/004
4	AMILI LINGGI	MT/22/ESE/006
5	NGURANG PANIA	MT/22/ESE/007
6	TUKI MUANG	MT/22/ESE/008
7	PADAM DADA	MT/22/ESE/010
8	WANGPHO DADA	MT/22/ESE/013
9	TARO SUNIYA	MT/22/ESE/014

Sl. No.	Name	Roll No.
1	NABAM TADAR	MT/22/GTE/001
2	KUNCHOK TASHI	MT/22/GTE/005
3	TSERING PETON	MT/22/GTE/008
4	TADGI PERME	MT/22/GTE/012
5	AJUK GIDA	MT/22/GTE/013

## **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 offers diploma and degree/B.Tech. in computer science and engineering using a modular pattern.

M.Tech in Computer Science and Engineering started in 2006-07.

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 i.e. Advanced Computing Lab, System Lab, Programming Lab, PC Lab, Microprocessor Lab, Hardware Lab and Networking Lab with state-of-the-art machines.

The Department has 1GBPS internet connectivity through NKN.

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

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

#### **Programming 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, C++, Visual C++, etc in this lab. Basic Computer training for the students of all the Departments of NERIST is also given here. It is well equipped with i3 PCs, Laserjet printer, Deskjet printers, Line Printers, etc.

### **PC Lab**

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

### **Advanced Computing Lab**

This lab is well equipped with 42 numbers of state of the art Intel i5 iMAC desktops and servers and basically for working in UNIX/LINUX and Windows environment as well. Practical classes for Diploma and Degree and PG students are held here. Hands on exposure to various programming Software such as C, C++, and RDBMS software like Oracle 9i and SQL Server, Visual Studio.NET, MATLAB2016a, NETSIM 9 are available in this lab. Several Servers are connected to high end Intel i5 iMAC Desktops. The lab also has Laserjet printers, Line matrix printer, Scanner etc. All the machines are on the institute LAN and thus have Internet access. The students are encouraged to do network related projects in this lab.

### **System Lab**

System laboratory is equipped with two HCL Infinity Global Line Servers running on Red Hat Linux 4.0 Enterprise Edition, a SUN ULTRA SPARC 10S SERVER, several HP Thin clients and Mac minis. This lab also has high end Intel i7 PCs. Practical classes for M.Tech and Degree students are held here.

### **Microprocessor & Digital Lab**

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

### **Hardware Lab**

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

### **Network Lab**

This lab is equipped with PCs and LAN T (LAN Trainer kits) consisting LANT – NIU, LAN-T PS and LANT Software. It also has ISECURIT - a Network and Data Security Training System and QUALNET 5.0 . M.Tech and B.Tech lab assignments on Computer Communication and Networking are carried out in this lab. It is augmented with a wireless network testbed of 5 USRPs and related accessories.

## Seminar Hall

Faculty members and the students of the Department use the seminar hall for exchange of ideas and information through presentations and discussions. The Diploma, Degree and MTech Final year project seminars are conducted here. Other presentations such as PhD progressive seminars are also conducted here. This facility is freely made available to faculty, students and research assistants and staff in the Department would he or she like to give a seminar presentation on a topic of his/her choice. This hall is well equipped with a smart classroom.

## Departmental Library

The Department has a Departmental library that caters to the needs of students, faculty and staff of the Department. Presently, the library has some core Computer Science books, magazines, Manuals of different hardware, software etc., announcement of new release, Training reports, Degree Project Reports, Diploma Project Reports etc.

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

#### M.TECH

Sr. No.	Roll Number	Name of the Student	Project Guide	Project Title
1	MT/20/CSE/001	Pramod Kumar	Mr. Yogendra Mohan	Wireless Sensors Network: Node Localization Scheme
2	MT/20/CSE/002	GaitriKangujam	Dr. MonjulSaikia	Wireless Sensor Networks
3	MT/20/CSE/003	Nongmaithem Kane	Dr. MoirangthemMarjit Singh	Outlier Detection Using Machine Learning
4	MT/20/CSE/004	Ankit Ashish	Mr. Pradeep Kamboj	College Enquiry Chatbot
5	MT/20/CSE/005	Lisu Chongtham	Mr. Pradeep Kamboj	Classification of News Articles Using Deep Learning Model
6	MT/20/CSE/006	Srijana Thapa	Dr. NingrinlaMarchang	Federated Machine Learning for Crowd-sensed Data
7	MT/20/CSE/007	BorishphiaLaikhuram	Dr. Amar Taggu	Malicious Domain Classification Using Machine Learning
8	MT/20/CSE/008	GamaniNguri	Dr. Ajit Kr. Singh Yadav	Improved Porter Stemming Algorithm in Text Mining
9	MT/20/CSE/009	AyamHeniber Meitei	Dr. Ajit Kr. Singh Yadav	Development Of Energy Efficient Routing Protocol for Lifespan Optimization
10	MT/20/CSE/011	Soraisham Elizabeth Devi	Mr. Aswini Kumar Patra	Alzheimer's Disease Subtyping with Region of Interest and machine learning
11	MT/20/CSE/012	IginiaBansiewdorMarbaniang	Dr. Amar Taggu	Cognitive Radio Network Security
12	MT/20/IT/001	Martina Bora	Mr. Kapanglego	Text-to-Speech Synthesis System for Assamese language





13	MT/20/IT/002	Tekcham Davidson Singh	Dr. Satya Jyoti Borah	Routing in Opportunistic Network
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**B.TECH**

Sl no	Name of the Students	Roll No.	Guide	Topic/Title
1	MritunjaySaha	D/18/CS/002	Dr. N. Marchang	Delay-Tolerant Online Examination System
	SainphyrnaiMarbaniang	D/18/CS/110		
2	Timothy Ramdinthara	D/18/CS/111	Dr. S. J. Borah	Timetable Generator System Using Genetic Algorithm
	Seyiesilie Chadi	D/18/CS/122		
3	Priyanshi Borah	D/18/CS/104	Mr. KapangLegoh	Machine Learning/Speech processing
	Nani Tunia	D/18/CS/119		
4	Mayank Kr.Mishra	D/17/CS/110	Mr. Pradeep Kamboj	Audio Feature Extraction using Transfer Learning
	HibuTalyang	D/17/CS/113		
	Sandeepan Adhikari	D/17/CS/003		
5	Abhirup Das	D/18/CS/107	Dr.MoirangthemMarjit Singh	Image classification using machine learning
	Abhinandan Mallick	D/18/CS/101		
6	Nikita Singh	D/19/CS/201	Mr. A. K. Patra	Early Detection and Classification of Alzheimer's Disease using Machine Learning
	MD Amzad Ali	D/18/CS/102		
7	DhrubarkSarmah	D/18/CS/106	Dr. MonjulSaikia	Face Recognition Based Smart Door System
	Saurabh Jyoti Deuri	D/18/CS/103		
8	Rahul Prasad Sah	D/18/CS/121	Dr. Amar Taggu	Classification of User Activities Using Machine Learning on Network Traffic
	ChangnyeiPhom	D/18/CS/113		
9	Kipa Nitin	D/19/CS/208	Dr. Amar Taggu	Anomaly Detection in Computer Networks
	Lusang P Issac	D/19/CS/204		
10.	Binthia Ahmed	D/18/CS/003	Mr. Pradeep Kamboj	Fake News Detection using Machine Learning
	MercyfulSnaitang	D/19/CS/202		
11	RuisoMalue	D/18/CS/108	Dr.A.K.S. Yadav	Sentiment Analysis Based on Natural Language Processing
	RinchuiChiphang	D/18/CS/109		
12	Reymond Jones Kharshandi	D/17/CS/107	Dr.A.K.S. Yadav	Node Localization in Wireless Sensor Network
	Sunil Aglasow	D/19/CS/207		
13.	Chumki Sarkar	D/19/CS/205	Mr. Yogendra Mohan	NERIST Student and Transportation Entry System
	Arati Kumari Ojha	D/19/CS/203		
14	Amit Kumar	D/18/CS/001	Mr. Yogendra Mohan	E-learning Management System
	Sourav Kumar	D/18/CS/105		

#### 4.4.5 SHORT TERM COURSES/ SEMINARS/WORKSHOPS CONFERENCES ATTENDED/ORGANISED BY THE FACULTY :

**Dr Moirangthem Marjit Singh**, Associate Professor Department of Computer Science & Engineering NERIST hadorganised one International Webinar titled “**Computing Trends in AI**” on 23 May 2022. The eminent speakers were **Prof.(Dr.) Pao-Ann-Hsiung**, Department of Computer Science & Information Engineering cum Director, Research Center on AI and Sustainable Development, National Chung Cheng University, Taiwan and **Dr. Yoichi Yamazaki**, Associate Professor, Department of Home Electronics, Faculty of Creative Engineering, Kanagawa Institute of Technology, Japan

##### **Dr. S. J. Borah**

“Innovation and Start-up in Higher Education Institution”, NITTR Kolkata, 13-17 February 2023, Kolkata.

##### **Dr.MoirangthemMarjit Singh**

6th International Conference on Information Technology(InCIT-2022) during 10-11 November 2022 at Faculty of Engineering and Technology, Panyapiwat Institute of Management(PIM), Thailand.

##### **Dr. Amar Taggu**

37<sup>th</sup> International Technical Conference on Circuits, Systems, Computers and Communications (ITC-CSCC 2022), July 5- 8, 2022, Phuket, Thailand.

##### **Mr. Pradeep Kamboj :**

"Faculty Development Program on Disaster Management" from 22 Feb 2023 to 24 Feb 2023 organized by National Institute of Disaster Management, Ministry of Home Affairs, Govt. of India in collaboration with North Eastern Regional Institute of Science and Technology Arunachal Pradesh.

One-week Online Short Term Course on "DEMYSTIFYING INTELLECTUAL PROPERTY FOR RESEARCH INTEGRITY AND ECONOMIC DEVELOPMENT" organized by the Department of Computer Science & Engineering, Delhi Technological University, Delhi held from March 13 to 17, 2023.

Two-week Faculty Development Programme on “*Artificial Intelligence, Machine Learning, and Internet of Things towards Engineering Applications*” from 20 -25 February (Online Mode, 7 -9 PM) and 27 February to 3 March 2023 (Offline Mode, 10 AM-5.30 PM) under the AICTE Training and Learning (ATAL) scheme.

6th International Conference on Information Technology(InCIT-2022) during 10-11 November 2022 at Faculty of Engineering and Technology, Panyapiwat Institute of Management(PIM), Thailand.

##### **Mr. Yogendra Mohan**

Internet of Things (IoT) 19<sup>th</sup> Dec 2022 to 3<sup>rd</sup> Jan 2023 ATAL FDP JNU New Delhi.

Digital Tools for Writing, Authoring, Reviewing Research Articles and Managing Classes for Effective Teaching” 16<sup>th</sup> Jan 2023 to 21<sup>st</sup> Jan 2023 AICTE FDP, NERIST, Nirjuli

Capacity Building 30<sup>th</sup> Jan 2023 to 10<sup>th</sup> Feb 2023 ATAL FDP, NERIST, Nirjuli

#### 4.4.6. NEW DEGREES/PROFESSIONAL MEMBERSHIPS OBTAINED BY THE FACULTY:

##### Dr. Ajit Kumar Singh Yadav

**Ph.D. - Topic:**“Text Mining Approach for Fraud Detection in Financial Statements Based on Optimized Deep Learning” , **University:** Rajiv Gandhi University, Rono Hills Doimukh (Itanagar), Arunachal Pradesh, India., **Year:**29<sup>th</sup> June 2022

#### 4.4.7 . PUBLICATIONS : -

##### A. Referred Journal

##### Dr. Ningrinla Marchang

Marchang N., Meitei. M. G. and Thakur T. "Task Reduction using Regression-based MissingData Imputation in Sparse Mobile Crowdsensing", vol. 78, 15995–16028 (2022) Journal of Supercomputing (Springer). <https://doi.org/10.1007/s11227-022-04518-z>

##### Dr Moirangthem Marjit Singh

Sarkar,N.K, Singh, MM. and Nandi,U.(2022): Recent researches on image classification using deep learning approach, International Journal of Computing and Digital Systems, University of Bahrain, pp 1357-1374,ISSN: 2210-142X, DOI: <https://dx.doi.org/10.12785/ijcds/1201109>.

Sarkar, A., Sharma, H.S. & Singh, M.M.(2022): A supervised machine learning-based solution for efficient network intrusion detection using ensemble learning based on hyperparameter optimization. International Journal of Information Technology, Springer (2022). <https://doi.org/10.1007/s41870-022-01115-4>

##### Dr. Ajit Kumar Singh Yadav

Singh Yadav AK, Sora M. “Unsupervised learning for financial statement fraud detection using manta ray foraging based convolutional neural network”. Concurrency ComputatPractExper2022;34(27):e7340. doi: 10.1002/cpe.7340.

##### B. Conference papers:

##### Dr. S. J. Borah

Satya Jyoti Borah, Davidson, Jagdeep Singh “EBC : Encounter Buffer and Contact duration based Routing Protocols in Opportunistic Network”. Wideson 2022 International Conference.

##### Dr Moirangthem Marjit Singh:

Singh,M.M. and Kane, N.(2022): Outlier detection using ensemble learning, 6th International Conference on Information Technology(InCIT-2022), 10-11 November 2022, Faculty of Engineering and Technology, Panyapiwat Institute of Management(PIM),Thailand.

Sharma, H.S, Singh, M.M., Sarkar, A. (2023): Detection of Mirai and GAF-GYT Attack in Wireless Sensor Network.International Conference on Intelligent Cyber Physical Systems and Internet of Things, 11-12 August 2022, Coimbatore INDIA. [https://doi.org/10.1007/978-3-031-18497-0\\_44](https://doi.org/10.1007/978-3-031-18497-0_44)

**Dr. Amar Taggu**

Amar Taggu and N. Marchang, "A Density-based Clustering Approach to detect Colluding SSDF Attackers in Cognitive Radio Networks", 37th International Technical Conference on Circuits/Systems, Computers and Communications (ITC-CSCC), 2022, DOI: 10.1109/ITC-CSCC55581.2022.9895018.

**Dr. Ajit Kumar Singh Yadav**

" Development of Energy Efficient Routing Protocol for Lifespan Optimization in Wireless Sensor Networks (EERP) " in 8<sup>th</sup> International Conference on Computers, Management & Mathematical Sciences during 29-30 July-2022, NERIST, Nirjuli, India.

**Mr. Pradeep Kamboj**

Kamboj, Pradeep, and Lisu Chongtham. "Classification of News Articles using Gradient Boosting based Deep Learning Model." *2022 6th International Conference on Information Technology (InCIT)*. IEEE, 2022.

**4.4. 8. INTERACTION OF FACULTY WITH OUTSIDE AGENCIES:**

**Dr. Moirangthem Marjit Singh**, Associate Professor, Department of Computer Science & Engineering NERIST delivered a technical talk titled "*Cyber Security Issues and Challenges*" during "*Cyber Jagrookta Diwas 2022*" held on 2<sup>nd</sup> November 2022 over video conferencing for all offices and key officials of NEEPCO Limited organised by North Eastern Electric Corporation Limited (NEEPCO), HQ Shillong, Meghalaya.

One Month **Academic Internship** on "Human Finger Detection and Counting using Convolutional Neural Network" was successfully completed by Mrinal Kanti Roy, Himangsu Kalita, Shiva Sharma, Dipankar Baruah and Ashish Jaiswal, Final Year B.Tech. students of Department of Computer Science and Engineering, **Jorhat Engineering College, Assam** during 16<sup>th</sup> August to 15<sup>th</sup> September 2022 under the **supervision of Dr. Moirangthem Marjit Singh**, Associate Professor Department of Computer Science & Engineering NERIST.

**4.4.9. CONSULTANCY PROJECTS UNDERTAKEN:****Dr. Moirangthem Marjit Singh**

A consultative/collaborative project work titled "*Utilization of Technology for Improving the Supervision of Criminal Case Investigation*" in collaboration with SP East Kameng district Seppa is being undertaken. Project Investigators are Mr Rahul Gupta, IPS, SP Seppa, Dr Moirangthem Marjit Singh, Associate Professor NERIST and Dr A.K.S. Yadav, Assistant Prof. NERIST.

**4.4.10. ACHIEVEMENTS OF STUDENTS:****Placements**

Name	Company	Mode of placement
Ms. Ruchi Kumari Prasad	Sopra Steris	Campus Interview
Mr. Bishal Doley	Sopra Steris	Campus Interview
Mr. Abhijit Sharma	Sopra Steris	Campus Interview
Ms. Abygail Nora Lyngdoh	Vedanta	Campus Interview
Ms. Hrishika Ghosh	Vedanta	Campus Interview
Ms. Mairakshi Dey	Vedanta	Campus Interview
Ms. Tanaz Ahmed	Vedanta	Campus Interview

**4.4.11. ANY OTHER RELEVANT INFORMATION:**



**Mr. Vinod Kumar**, Laboratory Assistant, Programming Lab was awarded Ph. D. degree

**Topic:** Reliability Modeling and Analysis of Communication Systems for Voice over Internet

**Protocol.** **University:** North Eastern Regional Institute of Science and Technology, Itanagar, India

**Department:** Department of Electrical Engineering **Year:** December 2022

#### 4.4.12. ACHIEVEMENTS OF STUDENTS:

##### A. Placements

SL.No.	Name	Roll No	Company	Mode of placement
1	HibuTalyang	D/17/CS/113	Capegemini	On Campus
2	Amit Kumar	D/18/CS/001	Capgemini	On Campus
3	MritunjaySaha	D/18/CS/002	Infosys, Ziroh Labs	Off campus, On campus
4	Binthia Ahmed	D/18/CS/003	Incture Technologies, Abzooba, BNP Paribas	On Campus On Campus On Campus
5	Abhinandan Mallick	D/18/CS/101	Capgemini	On campus
6	Md Amjad Ali	D/18/CS/102	Infosys	Off campus
7	Sourav Kumar	D/18/CS/105	CSG	On Campus
8	DhrubarkSarmah	D/18/CS/106	Abzooba	On campus
9	RinchuiChiphang	D/18/CS/109	Capgemini	Off Campus
10	SainphyrnaiMarbaniang	D/18/CS/110	Capgemini	On-campus
11	Nikita Singh	D/19/CS/201	Pentagon space	On Campus
12	MercyfulSnaitang	D/19/CS/202	Optimally	Off campus

**B. Mr. Kipa Nitin (Roll No. D/19/CS/208) has qualified GATE 2022**

## 4.5 DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

### 4.5.1 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 Electronics and Communication Engineering with two specialization communication and 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 manpower in the technology development and support to the country. The department of Electronics and Communication Engineering also runs PhD (part time and full time) in the fields of Optical Fiber Communication, DSP & Embedded systems, Microelectronics, Instrumentation, VLSI, Computer Networking, Information Security, Wireless Communication, Microwave Engineering and VLSI. There are 11 regular faculty members, out of them 6 are with doctorate degree and remaining 5 are pursuing their PhD degree. Among these faculty members two are working in the capacity of Professors, 4 are Associate Professors and 5 are working as Assistant professor.

### 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 research publication in international and national conferences. All the research scholars are motivated to publish their research work in esteemed journals worldwide. A departmental society named as NERIST Electronics Society (NES) is a pioneer body for professional activities of students. 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 research laboratory with funds from MHRD under Visvesvaraya Ph.D. Scheme. The Department is also further developing the existing VLSI and Computer Networking laboratories. The Department has taken up steps to develop PG labs for M.Tech courses for which Silvaco, Xilinx ISE series along with VHDL based kits, TI6713 series DSP kits, etc. have been procured along with ORCAD and Microwind Design Software and cadence

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

#### PhD awarded: 08

Sl. No.	Name	Roll No./Regd. No.	Title	Name of Supervisor
1.	Sandeep Kumar Singh	Ph.D/PT/18/EC/07 Regn. No: 518/011	"Investigations of Geometrical and Substrate Materials and its Effects on CPW-fed Patch Antennas,"	Dr. T. Sharan
2.	Afruza Begum	Ph.D/PR/16/EC/01 Reg. No 51556	Routing and Scheduling Techniques for Multi-Hop Wireless Networks	Prof. Md. Anwar Hussain
3.	Amlan Deep Borah	Ph.D/PT/15/EC/04 Reg. No 51546	Reduction of Feedback Overhead by sending Quantized CSI Feedback and Effective Precoding Vector Design	Dr. Joyatri Bora
4.	Nelson Singh	PhD/FT/17/EC/03	Modeling and Simulation of Field	Dr. Pranab

		Regd. No 517/011	Effect Transistor Based Biosensors	Kishore Dutta
5.	Laishram Mona Devi	PhD/ FT/18/EC/01 Regn. No 518/002	Performance Analysis of Wireless Communications Systems over FTR and ARS Fading Channels	Dr. A.Dinamani Singh
6.	Smriti Baruah	PhD/ FT/18/EC/02 Regn. No 518/004	Design and Performance Analysis of Nanostructured Photodetector for High Optical Responsivity and Detectivity	Dr. Joyatri Bora and Santanu Maity
7.	Wahengbam Kanon Kumar	PhD/FT/17/EC/04 Regn. No: 517/009	A Study on Computer Vision for Machine Perception	Dr. A.Dinamani Singh and Dr. Nongmeikapam Kishorjit Singh
8	Poonam Yadav	PhD/PT/18/EC/01, Regn. No. 518/001	Performance Analysis of Communication System over Composite Fading Channels	Prof. Rajesh Kumar

**Post Graduate (M.Tech) Projects: List of M.Tech,2022 students who has submitted Dissertations**

Sl.No.	Name	Roll No.	Title	Name of Supervisor
1.	Pankaj Kumar Bora	MT/20/ECE/001	Performance Analysis of a Low Power Self Cascode Composite Load OTA Circuit with enhanced gain and phase margin Using CMOS Technology	Dr. Tripurari Sharan
2.	S TSIIVEIKHO SHAPOU	MT/20/ECE/009	Recycling Folded Cascode OTA in 0.18 $\mu\text{m}$ CMOS Technology Process with Focus on DC Gain Enhancement	Mr. A.K. Gautam
5.	Khusbu Kumari	MT/20/ECE/008	Reconfigurable Dual-band Microstrip Patch Antenna Using L and U Slot	Mr. Moirangthem Edison Singh
6.	KHERENGBAR DEBBARMA	MT/20/ECE/005	Design and Performance- Analysis of MEMS Biosensors	Dr. Rajesh Kumar
7.	Nada Assey	MT/20/ECE/003	Study of AlGaIn/GaN HEMT	Dr. Ashok Kumar Ray

**Under Graduate (B.Tech) Projects: List of B.Tech, 2022 students who has submitted their Reports**

SL No.	Project Group	Roll No.	Title	Project Guide
1.	SHALU KUMARI	D/18/EC/107	Health Monitoring System	AKR
	NISHA D. SANGMA	D/18/EC/008		
	SONI KESEN	D/18/EC/018		
2.	RACHIT KUMAR	D/18/EC/101	Study and Analysis of Electronic component Detection using CNN	PKD
	SHAMI ALAM IFTIKAR	D/19/EC/212		
	SUBU TARUNG	D/18/EC/104		
	DAIPAYAN SENGUPTA	D/17/EC/005		
3.	PARAMARTHA KUMAR MOHAJON	D/18/EC/108	Speech Command Recognition using Deep	AH
	MD.MASUM AHMED LASKAR	D/19/EC/210		





	NAOREM RINITA	D/18/EC/005	Learning	
	C. LALNUNKIMA	D/19/EC/202		
4.	BISHAL BARMAN	D/19/EC/209	Sign to Speech Conversion.	AJR
	CONQUEST RYMBAI	D/18/EC/017		
	ABHIJIT BARMAN	D/18/EC/022		
	SATYAM RAJ	D/17/EC/009		
5.	ANIRBAN DEY	D/18/EC/105	Analysis and Determination of Soil Parameters using Arduino	AKG
	BORISH OINAM	D/18/EC/012		
	SEIBORMI MANAR	D/19/EC/203		
	KEVIN G. MAWKHIEW	D/18/EC/010		
6.	CHONGTHAM R. SINGH	D/18/EC/011	A Study on Detection of Crops Diseases using Deep Learning.	MMS
	P. BLESSON JOSEPH	D/19/EC/201		
	DEBASMITA NATH	D/18/EC/016		
	MISANCHI M SANGMA	D/18/EC/009		
7.	DEBOJYOTI DAS	D/18/EC/019	Stepped Impedance Band pass filter for 5G band	MES
	SANJEEV JAMATIA	D/18/EC/023		
	SIEMLENMANG KHONGSAI	D/18/EC/006		
	RASHI DEBBARMA	D/19/EC/206		
8.	GANESH THAKUR	D/18/EC/020	Autonomous braking in wheelchair using piezoelectric sensor	JB
	CHANDRA CHAKRABORTY	D/19/EC/211		
	PRERNA RANA MANGER	D/19/EC/207		
	FIROJ MANI DEBBARMA	D/18/EC/021		
9.	RAKTIM RAIBARUAH	D/19/EC/213	Microcontroller based temperature meter	TS
	AYUSH JAISWAL	D/18/EC/106		
	JOY DEBBARMA	D/18/EC/013		
	DONALD RAI	D/19/EC/208		

#### 4.5.5 Courses/Seminars/Workshops/Conferences Organized at the ECE Department

Sl.No	Courses/Seminars/Workshops/Conferences Areas & Title	coordinator	Duration	Fundigagencis	NumberofParticipants
1.	2 <sup>nd</sup> International Conference on Computational Intelligence & IoT (ICCIoT)2022.	Organizing/General Chair Prof.RajeshKumar Dr.AshokKr.Ray Dr.P.K.Datta Dr. TSharan	February 24-25, 2023.	Department of Electronics and Communication Engineering, NERIST in association with IAASSE, USA.	50
2	Awareness program on IPR	Prof. Rajesh Kumar	20 <sup>th</sup> January 2023	MSME	100
3	One Week Offline STTP on "Digital Tools for Writing, Authoring, Reviewing Research Articles and Managing Classes for Effective Teaching" held from 16th to 21st January 2023 organized by the Department of Electronics	Coordinator Dr. Madhusudhan Mishra Chairman Organizing Committee Dr. T. Sharan (HoD), and Supported by all the ECE faculty members	16th to 21st January 2023	NERIST	61



	& Communication Engineering, NERIST.				
4	Two-week AICTE Training and Learning (ATAL) sponsored Faculty Development Programme on “Artificial Intelligence, Machine Learning, and Internet of Things towards Engineering Applications”.	Coordinator Dr. Madhusudhan Mishra Chairman Organizing Committee Dr. T. Sharan (HoD), Supported by all the ECE faculty members	20 -25 February (Online Mode) and 27 February to 3 March 2023 (Offline Mode)	Department of Electronics & Communication Engineering. NERIST.	40
5	3rd International Conference on Computational Intelligence & IoT ICCIoT 2022	Organiser and Organising Chair Dr. P.K. Dutta Conference Chair: Dr. AK Ray and Supported by all the ECE faculty	24th February to 25th February 2023	Jointly organized by North Eastern Regional Institute of Science and Technology (IN), National Institute of Technology Mizoram (IN), and California State University (USA) in association with International Association of Academicians (IAASSE)	
6	8th International Conference on Computers, Management & Mathematical Sciences (ICCM) 2022.	Conference Chair Dr. J. Bora Conference co-chair: Dr. Ashok Ray Publication & Technical Chairs and Session chair: Dr. Madhusudhan Mishra & Dr. T. Sharan and Akho John Richa were member organizing committee, and it was Supported by all the ECE faculty.	During 29-30 July, 2022	Organized by NERIST India in collaboration with the University of Naples Parthenope, Italy and Emlyon Business School, France	40
7.	The Global Hospitality and Tourism Conference on Contemporary Marketing Paradigms organized jointly by the CMS, NERIST, and NEHU Shillong, India during July 27-29, 2022	Organizing member/ session chair: Dr. Madhusudhan Mishra	During 27 <sup>th</sup> July to 29 <sup>th</sup> July 2022	NERIST, NEHU, India	

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

Sl.No	Name of Faculty/ Staff attended	Description of STTP/ Training Programme	Period	Organized by
1.	Dr.RajeshKumar	Participated in two weeks FDP on Entrepreneurship programme	18 <sup>th</sup> to 29 <sup>th</sup> May 2022.	ABES Engineering College, Ghaziabad
2.	Dr.RajeshKumar	Presented a technical papertitled “Signal Decomposition and Reconstruction using linear quantization and wavelet” in National Conference on Harmonic Analysis and Applications(NCHAA-2022).	02 <sup>nd</sup> to 04 <sup>th</sup> December 2022.	IIT (ISM) Dhanbad, Jharkhand
3.	Dr.RajeshKumar	Participated in Two-Week AICTE Training and Learning (ATAL) Academy Faculty Development Program (FDP) on “Capacity Building”	30 <sup>th</sup> January to 10 <sup>th</sup> February 2023.	North Eastern Regional Institute of Science And Technology, Nirjuli, Arunachal Pradesh
4.	Dr. Tripurari Sharan	5 Day's FDP titled, “Analog and Digital IC Design: Semiconductor Industry Approach,” organized in online mode.	One-week held during 26 <sup>th</sup> -30 <sup>th</sup> September 2022	Atria Insitute of Technology Anandnagar, Hebbal, Bengaluru, Karnataka, Department of Electronics and Communication Jointly organized with Entuple Technologies Pvt. Ltd, Bengaluru.
5.	1. Dr. Tripurari Sharan 2. Dr. Madhusudhan Mishra 3. M. Edision Singh	Two-week AICTE Training and Learning (ATAL) sponsored Faculty Development Program titled on “CapacityBuilding (through Art of Living)) under the thrust area "Life Skill Management”	from 30-01-23 to 04-02-23 (Online Mode) and 06-02-23 to 10-02-23 March 2023 (Offline Mode)	Organized by the Department of Electronics & Communication Engineering. NERIST.
6.	Dr. PK Dutta	The face-to-face training programme on "Faculty Development Program on Disaster Management"	from 22 Feb 2023 to 24 Feb 2023	Organized by National Institute of Disaster Management, Ministry of Home Affairs, Govt. of India in collaboration with North Eastern Regional Institute of Science and Technology Arunachal Pradesh
7.	Dr. Madhusudhan Mishra	One-week training program on “High Voltage Testing of Insulating Materials,” 9 -15 May 2022 organized by the Department of Electrical Engineering, NERIST, and sponsored by the DST, Government of India.	9 -15 May 2022	Department of Electrical Engineering, NERIST, and sponsored by the DST, Government of India.

8.	Anil Kumar Gautam	VLSI Design & Nanoelectronics: Emerging Challenges & Opportunities'	Online mode from 01-09-2022 to 08-09-2022	Organized at IITDM Jabalpur
9.	Akho John Richa	Machine Learning and its Applications using Python).	19 <sup>th</sup> to 30 <sup>th</sup> , December, 2022	Organized by Eduxlabs in association with MECHANICA IIT MADRAS
10.	Akho John Richa	6-day AICTE-sponsored Short Term Training Programme (STTP) on "Digital Tools for Writing, Authoring, Reviewing Research Articles, and Managing Classes for Effective Teaching"	(16 <sup>th</sup> to 21 <sup>st</sup> January 2023)	Organized by the Department of Electronics and Communication Engineering, North Eastern Regional Institute of Science and Technology (NERIST), Arunachal Pradesh, India under the AICTE Quality Improvement Schemes (AQIS).
10.	M. Edision Singh	Antenna Design & Simulation Using TaraNG	27 June 2022 to 08 July 2022	NUMERGION TECHNOLOGY (OPC) PRIVATE LIMITED
11	Dr. Ashok Kumar Ray	Workshop on R&D funding opportunities by SERB-DST: Awareness workshop for researchers from North-East institutions held at Radisson Blu, Guwahati	from 14-15 July 2022	Organized by the Institute of Advanced Study in Science and Technology (IASST), Guwahati, and sponsored by Science and Engineering Research Board (SERB), Govt of India.

#### 4.5.7 Publications

##### Journal Publications of Prof. Md. Anwar Hussain

A. D. Borah, Md. A. Hussain, J. Bora, "System performance of a three-cell network with corner users using precoding, interference alignment and quantized limited channel feedback", Radio electronics and communication System. 2022-12-29. (Indexing: SCOPUS).

A. B. Borah, Md. A. Hussain, J. Bora, "Multi-User MIMO precoding using Interference Alignment Technique", International Journal for Modern Trends in Science and Technology, vol.8, no.3, pp.246-253, 2022.

Abhijit Biswas, Md. Anwar Hussain, "Design and Analysis of A New Reduced Switch Scalable MIN Fat Tree Topology", Computación y Sistemas, Vo. 26 No. 2, 2022. (Indexing: SCOPUS).

Md. A. Hussain, L. Gogoi, "Performance analyses of five neural network classifiers on nodule classification in lung CT images using WEKA: a comparative study", Physical and Engineering Sciences in Medicine, vol.45, pp.1193-1204, 2022. (Indexing: SCIE, SCOPUS).

5. J. Bora, and Md. A. Hussain, "An Improved Modelling of User Clustering for Small Cell Deployment in Heterogeneous Cellular Network", Wireless Personal Communication, vol. 126, pp.1553–1575, 2022. (Indexing: SCIE, SCOPUS).

##### Publication of Dr. Rajesh Kumar:

Kurmendra and Rajesh Kumar, “RF micro-electro-mechanical system (MEMS) capacitive switch performance parameters and improvement strategies” in *Microsystem Technologies*, 2022, 28, 1765-1783, <https://doi.org/10.1007/s00542-022-05324-6>, Springer-Verlag GmbH Germany, part of Springer Nature 2022., Indexed by SCIE Extended and Scopus.

Poonam Yadav, Rajesh Kumar, Sandeep Kumar “Throughput Analysis of  $\alpha$ - $\kappa$ - $\mu$  Extreme/Gamma Composite Fading Channel”, Published under licence by IOP Publishing Ltd., *Journal of Physics: Conference Series*, Volume 2236, 2nd International Conference on Computational Intelligence & IoT (ICCIoT) 2021 23/02/2022 - 24/02/2022 Online Citation Rajesh Kumar et al 2022 *J. Phys.: Conf. Ser.* 2236 012009 DOI 10.1088/1742-6596/2236/1/012009, Indexed by SCIE Extended and Scopus

Richa Tiwari, Rajesh Kumar, “A Novel Compression Method for Transmitting Multimedia Data in Wireless Multimedia Sensor Networks.” In: Singh, P.K., Wierchoń, S.T., Tanwar, S., Rodrigues, J.J.P.C., Ganzha, M. (eds) *Proceedings of Third International Conference on Computing, Communications, and Cyber-Security. Lecture Notes in Networks and Systems*, vol 421. Springer, Singapore. [https://doi.org/10.1007/978-981-19-1142-2\\_3](https://doi.org/10.1007/978-981-19-1142-2_3)

Samom Jayananda Singh, Rajesh Kumar and M. M. Dixit, “Printed monopole antenna design with CPW fed for ultra-wideband application”, Published under licence by IOP Publishing Ltd., *Journal of Physics: Conference Series*, Volume 2236, 2nd International Conference on Computational Intelligence & IoT (ICCIoT) 2021 23/02/2022 - 24/02/2022 Online Citation Samom Jayananda Singh et al. 2022 *J. Phys.: Conf. Ser.* 2236 012010 DOI 10.1088/1742-6596/2236/1/0120

### **Publication of Dr. T. Sharan**

#### **Book Chapters:**

Deo, N., Sharan, T. (2022). Ultra-Low Power Fully Differential Double Recycling Current Mirror OTA for Biomedical Applications. In: Dhawan, A., Mishra, R.A., Arya, K.V., Zamarreño, C.R. (eds) *Advances in VLSI, Communication, and Signal Processing. Lecture Notes in Electrical Engineering*, vol 911. Springer, Singapore. [https://doi.org/10.1007/978-981-19-2631-0\\_42](https://doi.org/10.1007/978-981-19-2631-0_42).

#### **Conference Proceedings: In VCAS-2022**

Nikhil Deo, Tripurari Sharan, “Low-voltage Low-power fully differential double recycling OTA With Positive Feedback,” Fifth International Conference on VLSI, Communication and Signal Processing, (VCAS-2022) at ECE Department of MNNIT, Prayag Raj, Allahabad UP, 14-10-22-16-10-22. Journal papers:

Sandeep Kr. Singh, Tripurari Sharan, Arvind Kr. Singh, “Investigating the S-parameter ( $|S_{11}|$ ) of CPW-fed antenna using four different dielectric substrate materials for RF multiband applications,” *AIMS Electronics and Electrical Engineering*, vol. 6 (3), pp. 198-222, July 2022. DOI: [10.3934/electeng.2022013](https://doi.org/10.3934/electeng.2022013).

### **Publication of Dr. M. Mishra**

#### **Book Chapter:**

Nandi, S., Mishra, M. and Majumder, S. (2022). Usage of AI and Wearable IoT Devices for Healthcare Data: A Study. In *Machine Learning Algorithms for Signal and Image Processing* (eds D. Ghai, S.L. Tripathi, S. Saxena, M. Chanda, and M. Alazab). <https://doi.org/10.1002/9781119861850.ch18>. Publisher: John Wiley & Sons, Inc

Sheshadri Shekhar Rauth, Venkatesh Vakamullu, Madhusudhan Mishra, Preetisudha Meher, SPV/Wind Energy-based Hybrid Grid Connected System with Optimum Power Flow Operation. In *Applications of Computational Intelligence in Management & Mathematics*, Springer Proceedings in Mathematics & Statistics 417, [https://doi.org/10.1007/978-3-031-25194-8\\_13](https://doi.org/10.1007/978-3-031-25194-8_13) (accepted in July 2022).

Venkatesh Vakamullu, Aswini Kumar Patra, and Madhusudhan Mishra, Embedded Platform-Based Heart-Lung Sound Separation Using Variational Mode Decomposition. In Applications of Computational Intelligence in Management & Mathematics, Springer Proceedings in Mathematics & Statistics 417, [https://doi.org/10.1007/978-3-031-25194-8\\_13](https://doi.org/10.1007/978-3-031-25194-8_13) (accepted in July 2022)

Chiranjeevulu Divvala, Venkatesh Vakamullu, and Madhusudhan Mishra, MIMO: Modulation Schemes for Visible Light Communication in Indoor Scenarios. In Applications of Computational Intelligence in Management & Mathematics, Springer Proceedings in Mathematics & Statistics 417, [https://doi.org/10.1007/978-3-031-25194-8\\_13](https://doi.org/10.1007/978-3-031-25194-8_13) (accepted in July 2022)

Vijayakumar Kadha, Venkatesh Vakamullu, Santos Kumar Das, Madhusudhan Mishra, and Joyatri Bora, Image Resampling Forensics: A Review on Techniques for Image Authentication. In Applications of Computational Intelligence in Management & Mathematics, Springer Proceedings in Mathematics & Statistics 417, [https://doi.org/10.1007/978-3-031-25194-8\\_13](https://doi.org/10.1007/978-3-031-25194-8_13) (accepted in July 2022)

Akuthota Sankar Rao, Venkatesh Vakamullu, Madhusudhan Mishra, Damodar Suar, The Impact of Perceived Justice and Customer Trust on Customer Loyalty. In Applications of Computational Intelligence in Management & Mathematics, Springer Proceedings in Mathematics & Statistics 417, [https://doi.org/10.1007/978-3-031-25194-8\\_13](https://doi.org/10.1007/978-3-031-25194-8_13) (accepted in July 2022).

### **International Journal**

Swarup Nandi, Shivam Parashar, Madhusudhan Mishra, & Swanirbhar Majumder. (2022). Heart Sound Segregation from Breath Sound Using Hilbert Variational Decomposition. *Journal of Coastal Life Medicine*, 10(3), 310–324.

Govinda Pal, Thaneswer Patel, Huidrom Dayananda Singh, Madhusudhan Mishra, and Anubhab Pal (2022) Bluetooth Module-Based Wearable Heatstroke Alert System Based on Physiological and Environmental Parameters for Agricultural Workers, *Research Journal of Agricultural Sciences* Vol: 13 - Issue: 4; 1388–1395. E- ISSN: 2249-4538. Publisher: Centre for Advanced Research in Agricultural Sciences.

Vakamullu, V., & Mishra, M. (2022). Variational mode decomposition-based automated fetal PCG denoising and extraction. *International Journal of Health Sciences*, 6(S3), 6567–6579. <https://doi.org/10.53730/ijhs.v6nS3.7469>.

Vakamullu, V., & Mishra, M. (2022). Embedded platform-based heart murmur classification using deep learning approach. *International Journal of Health Sciences*, 6(S2), 4584–4594. <https://doi.org/10.53730/ijhs.v6nS2.6082>.

Duggani Keerthana, Vipin Venugopal, Malaya Kumar Nath, Madhusudhan Mishra, Hybrid convolutional neural networks with SVM classifier for classification of skin cancer, *Journal of Biomedical Engineering Advances*, Volume 5, ISSN 2667-0992, Publisher: Elsevier. <https://doi.org/10.1016/j.bea.2022.100069>. (Accepted in December 2022).

### **International Conference**

V. Vakamullu, M. Mishra and A. Mukherjee, "Real-Time Heart Murmur Classification using Attention Based Deep Learning Approach," 2022 IEEE International Instrumentation and Measurement Technology Conference (I2MTC), Ottawa, ON, Canada, 2022, pp. 1-6, doi: 10.1109/I2MTC48687.2022.9806593.

V. Vakamullu, S. Trivedy, M. Mishra and A. Mukherjee, "Convolutional Neural Network Based Heart Sounds Recognition on Edge Computing Platform," 2022 IEEE International Instrumentation and Measurement Technology Conference (I2MTC), Ottawa, ON, Canada, 2022, pp. 1-6, doi: 10.1109/I2MTC48687.2022.9806693.



## **Publication of Dr. P.K.Dutta**

### **Journal Publication**

Mriganka Gogoi, Pranab Kishore Dutta, “Design of a Four Stages VCO Using a Novel Delay Circuit for Operation in Distributed Band Frequencies”, *Facta Universitatis, Series: Electronics and Energetics*, Volume 35, Issue 4, Pages 469-482, December 2022, ISSN 2217-5997 <https://doi.org/10.2298/FUEE2203469G>, (Web of Science Index).

Sapna Rani Ghimiray, Pranab Kishore Dutta, “Low Leakage Low Power Domino Logic Technique for Wide Fan-In Applications, 40-Bit Tag Comparator: Domino based TAG Comparator”, *International Journal of Integrated Engineering*, Volume 14, Issue 4, Pages 248-261, June 2022, ISSN 2229-838X, (Scopus Index).

Khurajam Nelson Singh, Pranab Kishore Dutta, " Analytical Investigation of a Split Double Gate GradedChannel Field Effect Transistor for Biosensing Applications" *Journal of Silicon*, 14, pages11303–11313, April 2022, (Science Citation Index Expanded (SCIE) Impact factor 2.94).

## **Publications of Dr. Joyatri Bora Hazarika**

### **Book Chapter:**

Vijaykumar Kadha, Venkatesh Vakamullu, Santos Kr. Da, M.Mishra, J.Bors, “Image Resampling Forensics: A Review on Techniques for Image Authentication in Applications of Computational Intelligence in Management & Mathematics & Statistics 417.

### **International Journal:**

Bora, J., Hussain, M.A., “An Improved Modelling of User Clustering for Small Cell Deployment in Heterogeneous Cellular Network,” *Wireless Pers Commun* 126, 1553–1575 (2022). <https://doi.org/10.1007/s11277-022-09807-7>

AD Borah, MA Hussain, J Bora, “System performance of three cell network with corner users using precoding, interference alignment and quantized limited channel feedback,” *Radioelectronics and Communications systems*, 2022. <https://doi.org/10.3103/S0735272722070020>

Baruah, S., Borah, J., Bora, J. et al. Optical modelling of a GaAs/GaSb core–shell cone-topped octagonal-faced nanopillar array with periodic trapezoidal textured cut for high photon trapping efficiency. *J Comput Electron* 21, 882–894 (2022). <https://doi.org/10.1007/s10825-022-01898-6>.

Tanga, C., Bora, J., Hussain, M.A., Lego, K. (2023). Study of Sum-Rate Performance of Cooperative Cognitive Radio Networks Using MIMO. In: Mishra, B., Tiwari, M. (eds) *VLSI, Microwave and Wireless Technologies. Lecture Notes in Electrical Engineering*, vol 877. Springer, Singapore. [https://doi.org/10.1007/978-981-19-0312-0\\_75](https://doi.org/10.1007/978-981-19-0312-0_75)

J.Borah, T.A.Seikh, J.Bora, “ Dynamic Cell Sleeping Mechanism: An energy-efficient Approach for Mobile 5G HetCN,” *Int. J. of Communication*, 2022. <https://doi.org/10.1002/dac.5422>.

## **Publication of Dr. Ashok Kumar Ray**

### **International Journals:**



Sushanta Bordoloi, Ashok Ray and Gaurav Trivedi, “Access Region Stack Engineering for Mitigation of Degradation in AlGa<sub>N</sub>/Ga<sub>N</sub> HEMTs with Field Plate,” IEEE Transactions on Device and Materials Reliability, vol. 22, no. 1, 2022

Ashok Ray, Pranjal Barman and Sushanta Bordoloi, “On the Mitigation of Current Collapse phenomenon in Gate-Shaped AlGa<sub>N</sub>/Ga<sub>N</sub> HEMTs,” presented in 3<sup>rd</sup> International Conference for Computational Intelligence and IoT held in the Department of ECE, NERIST in collaboration with NIT Mizoram held from 24-25 Feb 2023.

#### Publication by Mr. R. K Magang:

##### Referred Journal:

Rusni Kima Mangang and J. Harshan, “Do Not Forget the Past: A Buffer-Aided Framework for Relay Based Key Generation,” in [IEEE/KICS Journal of Communications and Networks](#), Vol. 21, No. 01, pp. 1-16, Feb. 2022.

#### Publication by Mr. M. Edison Singh:

##### Journal Paper Published

N. Loyalakpa Meitei, R.K. Mehta, M. Edison Singh “Lux Adjuster Controller for Solitary Ocular Comfort” Journal of Electrical System, Vol.19 March 2023.

##### Conference Paper Presented

M Edison Singh, Pranab Kishore Dutta “Higher Order Mode suppression in Substrate Integrated Waveguide Bandpass filter for satellite broadcasting system” the 3rd International Conference on Computational Intelligence & IoT (ICCIoT) 2022.

#### 4.5.8. New Degree/Professional membership obtained by the faculty:

Dr. Ashok Kumar Ray took new membership of the professional bodies: (i) IEEE Electron Devices Society Membership and (ii) IEEE Power Electronics Society Membership.

IEEE Annual Membership: Dr. Rajesh Kumar, Dr. Tripurari Sharan, Dr. Madhusudhan Mishra, Dr. P.K. Dutta, Dr. J. Bora, and Mr. M. Edison Singh continued their membership during Jan 22 to Dec. 2023.

IET membership: Dr. Tripurari Sharan continued his IET membership during April 2022 to March 2023

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

##### Invited Talks/ Presentations

**Dr. Rajesh Kumar** delivered an expert Lecture on “Recent trends in Communication, Mobility and Networks” in 2<sup>nd</sup> International Seminar on Future Generation on Computing and Communication (FGCC) – 2022 on Future recent trends on Communication, Mobility and building of computer-based internet Networks and the expansion of technologies held on 24<sup>th</sup> and 25<sup>th</sup> September 2022 Conducted by Faculty of Information Technology, Gopal Narayan Singh University Sasaram, Bihar, India.

**Dr. T. Sharan** Delivered special invited talk on the topic "Low Voltage and Low Power Analog IC Design Trends for low Frequency Applications" during the 5-Days Faculty Development Program entitled “Analog and Digital IC Design: Semiconductor Industry Approach” Jointly Organized by the Department of Electronics & Communication Engineering, Atria Institute of Technology, Bangalore and Entuple Technologies Pvt. Ltd, held during 26<sup>th</sup>-30<sup>th</sup> September 2022.

**Dr. M. Mishra:**

Expert talk on *Being a teacher* in the program entitled AICTE-ISTE Sponsored Induction/Refresher “PROGRAMS ON PEDAGOGY INNOVATIVE METHODS OF TEACHING AND LEARNING” on 09<sup>th</sup> February 2022 organized by the Bharat Institute of Engineering and Technology, Hyderabad.

Invited talk on “*Importance of Women Education and Empowerment*” at a two-day national online seminar on Gender Equality, Women Empowerment and Sustainable Development jointly organized by Ek Bharat Shrestha Bharat club of NIT Calicut and NIT Hamirpur during 8-9 March 2022 under the Ek Bharat Shrestha Bharat Programme of the ministry of education, Government of India.

Invited talk on “*Key Insight into Signal Processing and Machine Learning Techniques*” for the online Faculty Development Programme organized by the Department of Electronics & Communication Engineering, KGiSL Institute of Technology, Coimbatore, India.

Invited talk on “*Signal Processing and Machine Learning Techniques for Biomedical Signals*” for the online Faculty Development Programme organized by the Department of Electronics & Communication Engineering, KGiSL Institute of Technology, Coimbatore, India during 21-25 February 2022.

Demonstrated “Hands-on Signal Processing and Machine Learning Techniques for Biomedical Signals” for the online Faculty Development Programme organized by the Department of Electronics & Communication Engineering, KGiSL Institute of Technology, Coimbatore, India during 21-25 February 2022.

A talk on “Electricity Hazards and its Safety Measures” at an awareness programme on Electricity Distribution and Safety Measures organized by the Unnat Bharat Abhiyan, NERIST in the adopted village, Tigdo, Arunachal Pradesh, India on 6<sup>th</sup> June 2022.

Served as a resource person for the field visit and delivered a talk on Electricity Distribution Systems at a one-week training program on “High Voltage Testing of Insulating Materials” 9 -15 May 2022 organized by the Department of Electrical Engineering, NERIST, and sponsored by the DST, Government of India.

Dr. M. Mishra, Received a grant of Rs.3,00000/- from All India Council for Technical Education (AICTE) to organize a one-week STTP on “Digital Tools for Writing, Authoring, Reviewing Research Articles and Managing Classes for Effective Teaching” on 2022-03-28. (Ref. No. 34- 70 / 6 / FDC / STTP- N E R/Policy- 1 / 2021-22).

Coordinator application with Application Number 1649371927 has been accepted on 26 July 2022 to organize a two-week FDP on AI, ML, and IoT for various engineering applications at NERIST with a grant of Rs.3,00000/- from AICTE Training and Learning (ATAL) Academy

**Review Work of Thesis, Journals and Confrence proceedings:**

Prof. Rajesh Kumar served as an Evaluator of Ph.D. Thesis of Central / State University.

Dr. Rajesh Kumar reviewed research papers of IET International Journal and several Conference articles.

Dr. T. Sharan reviewed Several Manuscripts of (i) 36-research papers of IEEEAccess Journal (SCI) this year, (ii) two Manuscripts of AEU Journal (SCI), (iii) several Manuscripts of AICSP Journal (SCI), (iv) two manuscripts of Integration the VLSI Journal (SCI), (v) two manuscripts of IEEE Trans. On Circuit and system-II Journal (SCI), (vi) two manuscripts of Electrical Journal (Scopus Indexed Journal), (vii) two Manuscripts of ASEJ Journal, two Manuscripts of IJHSES Journal, (viii) two Manuscripts of Circuit Theory and Applications Journal (Wiley online Library), (ix) two-manuscripts of Electrica Journal (x) two papers of ETRI Journal and (xi) two-paper of Electrica Journal- Scholar One Manuscript.

Dr. Madhusudhan Mishra reviewed papers of (i) IEEE Transactions on Instrumentation and Measurements, (ii) Journal of the Institution of Engineers (India): Series B, and (iii) Journal of Smart Health, Elsevier.

**4.5.10. Projects Sanctioned by outside agencies to the faculty of the department**

Name of PI and Co-investigator	Title of the Project	Funding agency	Date of Sanction	Total amount	Year
Dr. Rajesh Kumar	“A Prototype of Auto-navigating E-Cart using Multispectral Imaging”	Ministry of Electronics and Information Technology (MeitY), New Delhi	26/10/2018	40.00 Lakh	Extended up to Oct 2022
PI: Dr. O. P. Tripathi, Department of Forestry, NERIST Dr. Madhusudhan Mishra (Co-PI) Co-PI: Dr. A. Pal, Department of Forestry NERIST	“Characterizing Patterns and Processes of Alpine Ecosystem in Indian Himalaya with Special Emphasis to Arunachal Pradesh”	Space Applications Centre, Indian Space Research Organization (SAC-ISRO), Ahmedabad, India.	2019-2023	21.24 Lakhs	3 Years

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

Dr. Tripurari Sharan worked as a member in IEEE Sub-section Guwahati Assam formed at IIT Guwahati for the year Jan-Dec. 2022 and is continuing.

Dr. Madhusudhan Mishra worked as a member in IEEE Sub-section Guwahati Assam formed at IIT Guwahati for the year Jan-Dec. 2022 and is continuing.

Dr. P.K. Dutta Nominated as an external member for Board of Studies (Postgraduate/ Undergraduate) Electronics and Communication Engineering Department, Tezpur University for three years.

Dr. Madhusudhan Mishra has collaborative academic work with faculty members of IIT Kharagpur, NIT Puducherry, and Tripura University.

Mr. Akho John Richa co-chaired sessions on “power and energy management part II” and “image processing part I” at the 3<sup>rd</sup> International Conference on Computational Intelligence & IoT, (24<sup>th</sup> to 25<sup>th</sup> February 2023)

**4.5.12. Achievements of Students:** 08 students awarded Ph.D

#### 4.5.13. Any other information

Department of Electronics and Communication Engineering Got NBA Accredited for B. Tech Programme for Three Years from July 2021 to June 2024.

Dr. Tripurari Sharan has taken over the charge of head of the Department w.e.f 5<sup>th</sup> July 2022.

Dr. P K Dutta has taken the charge of Chairman Telephones w.e.f August 2022. He is also the member of DPGC and BPGS.

Prof. (Dr.) Rajesh Kumar has appointed as the chairman, NEE Cell w.e.f Feb 2023.

Dr. Ashok Kumar Ray is a member of NEE committee-2023.

Dr. J. Bora has been appointed as a chairperson of KG School, NERIST w.e.f March 2023.



Department of ECE, NERIST has signed a **MoU with DivyaSampark I-HUB IIT Roorkee** on 20<sup>th</sup> Dec 2021. The MoU was signed by Prof. C.L. Sharma (DeanAdmin) and Mr. Manish Anand, CEO, i-HUB Divya Sampark, IIT Roorkee. The Unit in NERIST will serve for innovation and product development which would be a necessity for the region. Divyasampark I-Hub Roorkee for Devices Materials and Technology Foundation, intended to serve as a cyber-physical systems (CPS) technology hub and promote technology innovation and entrepreneurship in the CPS domain, is fully functional at the Indian Institute of Technology (IIT)Roorkee. The Technology Innovation Hub (TIH) is founded under the National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS) and seeks to act as a unified solution for nearly 356 central technologies. Financially supported by the Department of Science and Technology, Government of India (GoI), the cost of the project is estimated to be approximately INR 135crores for the next five years, INR27.25crores of which have been released. Divyasampark iHUB, a section 8 company, is a joint initiative of IIT Roorkee and the Department of Science and Technology (DST), GoI. TIH would function as the foundation for next-generation digital technologies by promoting translation research in CPS, developing prototypes/products of national importance, and developing core competencies and capacities. Divyasampark iHUB is expected to meet and resolve critical challenges in inter-ministerial projects (including Industry 4.0; Health Care 4.0 and Smart Cities) warranting CPS based solutions. TIH focus and thrust areas would include atomic energy, defense research and development, electronics and information technology, health research, housing and urban affairs, new and renewable energy, telecommunications and space.

## 4.6. DEPARTMENT OF ELECTRICAL ENGINEERING

### 4.6.1 A Brief Profile of the Department

The Department of Electrical Engineering has been playing a pivotal role in producing scientists and technologists of highest calibre ever since the institute was established. The first batch of students graduated in 1992. The students are admitted through its NERIST Entrance Examination namely, NEE-I, NEE-II and NEE-III respectively and through JEE mains conducted by JoSAA. The Department is also offering Postgraduate (M. Tech) programmes with specialization in Power System Engineering and Ph. D programmes to cater to the ever-challenging needs of technical excellence in all areas of Electrical Engineering. The Department has distinguished faculty members having Ph. D/M. Tech degrees from renowned institutes in India. The infrastructure and laboratory facilities are upgraded from time to time and provide adequate opportunities for students and researches to learn and innovate. The Department also undertakes many research projects sponsored by government as well as industry.

### 4.6.2 Academic Activities

The Department of Electrical Engineering works under three main research groups namely, (i) Electrical Power and Energy Systems, (ii) Control and Instrumentation, and (iii) Electrical Machine Drives and Power Electronics. Apart from imparting engineering education at undergraduate and postgraduate levels, the Department undertake consultancy and other forms of collaborative work with various organizations. A number of sponsored research projects have been accomplished and as many are going on as part of the Department's continued effort towards institute-industry interaction. The Department organizes conferences, workshops, seminars and symposia on a regular basis in various specialized areas of Electrical Engineering with participation of faculty members and professional engineers from all over the country. The faculty members and students have published large number of research papers in national/international journals and conferences.

### 4.6.3 Laboratories and Major Equipment

The Department has 13 well equipped laboratories and a library to facilitate students and faculty members to access books and journals/periodicals which are indispensable for Electrical Engineering professionals. Keeping pace with ever growing technological advancement, the Department has number of PC servers and workstations hosting several software packages and linked through a local area network (LAN). Uninterrupted internet connectivity is available for the students and faculty members. A Smart Class room is developed in the Department. The Labs are equipped with COMSOL Multiphysics, PSSE, PSCAD, MATLAB and Digilent software.

The theoretical knowledge imparted to the students is further supplemented by the practical classes. Some of the equipment and software available in the various laboratories are detailed as under:

#### *Power System Laboratory*

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

#### *High Voltage Laboratory*

This lab houses the latest 100 kV AC/145 kV DC Dielectric Test Set & 300 kV, 7.5 kJ, 1.2/50 microsecond Impulse Test Set, Measuring Sphere Gap MF-100, Electronic Sphere EZK, 2-Channel, 200MHz Digital

Storage Oscilloscope with software for direct transfer of data from Oscilloscope to PC, AC Breakdown Voltage Test Set, Oil Tan delta, DGA apparatus, Viscometer, Hot air oven and Vacuum Oven.

### ***Electrical Machine Laboratory***

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

### ***Power Electronics Laboratory***

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

### ***Digital Electronics and Microprocessor Laboratory***

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

### ***Electrical Maintenance Laboratory***

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

### ***Electrical Workshop***

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

### ***Circuits and Measurement Laboratory***

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

### ***Control and Instrumentation Laboratory***

This lab has DC Position Servo Trainer Unit, AC Servo Motor Speed/Torque Control Unit, DC Motor Speed Control Unit, Magnetic Amplifier, Synchro Transmitter and Receiver, Experimental PID Controller Unit, Digital ON-OFF Temperature Controller Unit, Analog and Digital Storage Oscilloscope (4-channel), Training and Development System for 8086, Data Acquisition of Control system, Direct Digital Control



Training System, IBM Computer (Pentium-III), CA-06 Digital Motor, PC based Analog and Digital Motor Control, Distributed Control system DCS-5000, PC 45/ML programmable control teaching set, Digital Transducer and Instrumentation Trainer, Direct Digital Control System (CA-04), Rotary Servo 9 Plant(Servo 2).

### PC Laboratory

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

### Energy Laboratory

In this lab energy related experiments are performed both by undergraduate and postgraduate students. The lab is equipped with advanced experimental setups such as Photo Voltaic Test Rig, Photo Voltaic Electric Generator, anemometers, solarimeter, etc. Experiments are carried out to plot I-V characteristics of PV modules, determine efficiency of PV driven water pumping system, etc.

### Research and Project Laboratory

This lab is dedicated to mainly postgraduate students and research scholars for modelling and simulation works along with hardware implementation. Twenty PCs with 4 GB RAM has been provided in the lab. Uninterrupted internet connectivity is made available. Students can browse and download journal/conference papers from institutionally subscribed site such as IEEE explore, Science Direct, Elsevier, etc. The lab houses software like COMSOL, MATLAB, PSCAD, PSSE, etc.

### VLSI Laboratory

VLSI lab is equipped with Cadence PG Bundle and Mentor Graphics HDL Simulator.

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

	Sl. No.	Title of the Project	Name of the Guide
UG Projects	1.	Study On Dry Transformer	Prof. A. K. Singh
	2.	IoT Based Smart Energy Meter Monitoring With Theft Detection	Mrs.S.Hashunao
	3.	Over/Under Voltage Protecting Mechanism Using Arduino	Mr.N.L.Meitei
	4.	IoT Based Smartphone Monitoring For Energy Meter	Mr.N.L.Meitei
	5.	LED Based Lux Adjuster	Mr.N.L.Meitei
	6.	Solar Based Inverter	Dr.A.Sharma
	7.	Hybrid Electrical Energy Based Sailing Boat	Dr.A.Sharma
	8.	Solar PV Based Smart Inverter	Dr. P. D. Singh
	9.	Performance Analysis Of An Efficient Hybrid Micro-grid System	Dr. P. D. Singh
	10.	Design and Analysis of DC Microgrid System	Dr. P. D. Singh
	11.	Wireless Electric Vehicle Charging System Using Solar Power	Dr.M. D.Singh
	12.	Thyristor Based Dual Converter Using Microcontroller	Dr.M. D.Singh
	13.	Embedded Design for Power Monitoring and Optimisation	Dr.M. D.Singh
	14.	Feasibility Checking of Reliable Power Generation Using Renewable Energy Sources in the Remote Areas of Tripura	Dr.Piyali Das
	15.	Renewable Energy Based Hybrid Design for The Remote area of Arunachal Pradesh	Dr. Piyali Das
	16.	Experimental Investigation On Some Common Vegetable Oils For Electrical Insulation Purpose	Dr.A.K.Das
	17.	PSO Based Design Of PID Controller for Dc Motor Speed Control	Mr. T.V.P. Singh
	18.	Particle Swarm Optimization Algorithm Based PI Controller Inverter for a Grid Connected PV System	Mr. T.V.P. Singh
PG Proj	1.	Operation on closed loop 31'1 level inverter with dynamic load.	Mr.N.L.Meitei
	2.	Analysisofthevoltagecontrolof largescaleSolarPVpowerplant.	Dr.Piyali Das



	3.	Microprocessor Based close-loop speed control of BLDC motor.	Prof. O. P. Roy	
	4.	Signal and image compression using quantum discrete cosine transform.	Mr.T.V.P.Singh	
	5.	A single stage bridgeless Cuk-based PFC converter for electric vehicle battery charging.	Dr.M. D.Singh	
	6.	Integration of RE/DG into the electric power grid.	Mrs.S.Hashunao	
	7.	Solar Piezo hybrid power charging system.	Dr.A.K.Das	
	8.	Renewable PV to Grid connection (Virtual Synchronous Generator)	Mr. RadakBlange	
	9.	Efficiency Comparative Analysis of Solar PV and Solar Thermal System Engaged for Electrical Power Generation Purposes.	Prof. S. K. Bhagat Dr.A.Parida	
	10.	Close-loop speed control of 3-phase induction motor drive.	Prof.A.K. Singh.	
	11.	Speed control of separately excited DC motors using DC-DC converter.	Dr.A.Sharma	
	12.	Modelling and analysis of closed-loop speed control for BLDC in electric vehicle applications.	Dr. P.D. Singh	
	13.	Study of MHP Generation System for RE	Prof. S. Gao	
	Ph.D. Projects	1.	Investigation of Geometrical & Substrate Material and it effects on CPW-FED Patch Antenna.	Prof. A. K. Singh
		2.	Study and Analysis of Transformer using Finite Element Method	Prof. R. K. Mehta
3.		Performance Analysis of Hybrid Microgrid	Prof. O. P. Roy	
4.		Reliability Modelling and Analysis of Communication Systems for Voice and Internet Protocol	Prof. O. P. Roy	
5.		Control of Inverter Fed Induction Motor Drive	Prof. S. Gao	

#### 4.6.5 Courses/Seminars/Workshops/Conferences Organized at the ECE Department

Sl. No.	Type of Event	Title	Coordinator	Duration	Funding Agency	Total participants
1	Workshop	DST-STUTI Training Program on High Voltage Testing of Insulating materials	Prof. A. K. Singh	9 <sup>th</sup> – 15 <sup>th</sup> May 2022	DST	50

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

Sl. No.	Type of Event	Title	Attended by	Duration
1.	MOOCs	Online methods of MOOCs	Dr. A. Sharma	1 <sup>st</sup> to 31 <sup>st</sup> May, 2022
2.	Conference	8 <sup>th</sup> International conference on measurement and sensors	Dr. A. Sharma	29 <sup>th</sup> to 30 <sup>th</sup> July, 2022
3.	Conference	2 <sup>nd</sup> IEEE Asian Conference	Dr. A. Sharma	25 <sup>th</sup> to 29 <sup>th</sup> August, 2022
4.	FDP	DST-STUTI	Prof. A. K. Singh	9 <sup>th</sup> to 15 <sup>th</sup> May 2022
5.	FDP	Hybrid Electric Vehicle	Mrs.S.Hashunao	21 <sup>st</sup> to 25 <sup>th</sup> Nov. 2022
6.	FDP	HV Testing of Insulating Materials	Dr. M.D Singh	9 <sup>th</sup> to 15 <sup>th</sup> May 2022
7.	FDP	HV Testing of Insulating Materials	Dr. A. K. Parida	9 <sup>th</sup> to 15 <sup>th</sup> May 2022
8.	FDP	HV Testing of Insulating Materials	Dr. A. K. Das	9 <sup>th</sup> to 15 <sup>th</sup> May 2022
9.	FDP	AI &ML for pattern & voice recognition	Mr.N.L.Meitei	One Week
10.	FDP	HV Testing of Insulating Materials	Dr. P. D. Singh	9 <sup>th</sup> to 15 <sup>th</sup> May 2022
11.	IT	Machine learning and its application using Python	Dr. P. D. Singh	19 <sup>th</sup> to 30 <sup>th</sup> Dec 2022
12.	FDP	Disaster Management	Dr. P. D. Singh	22 <sup>nd</sup> to 24 <sup>th</sup> Feb 2023
13.	FDP	Disaster Management	Prof. A. K. Singh	22 <sup>nd</sup> to 24 <sup>th</sup> Feb 2023
14.	STP	Innovation and start-up in educational	Prof. R. K.	13th to 17th Feb.

		institutions	Mehta	2023
15.	FDP	Disaster Management	Dr. P. Das	22 <sup>nd</sup> to 24 <sup>th</sup> Feb 2023
16.	FDP	Disaster Management	Prof. S. K. Bhagat	22 <sup>nd</sup> to 24 <sup>th</sup> Feb 2023
17.	STC	Emerging Trends in Power and Energy Systems	Prof. S. K. Bhagat	26 <sup>th</sup> to 31 <sup>st</sup> July 2022
18.	STP	People management and leadership	Dr. P. Das	1 <sup>st</sup> to 5 <sup>th</sup> Sep. 2022

#### 4.6.7 New Degrees and Professional Memberships obtained by the faculty.

Sl. No.	Name of Degree/ Membership	Date	Name of Faculty	Membership No.
1.	PhD degree	10/11/2022	Dr. Akhilesh Sharma	NA
2.	IEEE Member	Jan-Dec, 2022	Dr. Akhilesh Sharma	9351541
3.	IE(I)-Fellowship Member	23/03/2023	Prof. A. K. Singh	F-1296376
4.	IAENG Membership		Dr. P. D. Singh	170360
5.	IEEE Industrial Applications Society		Dr. P. D. Singh	93314064
6.	Institute of Engineers		Dr. P. D. Singh	M-1737155
7.	IEEE Senior Member	Nov, 2020	Dr. A. K. Das	1. 92219927
8.	IEEE &IE (I) Member	2022-2023	Dr. Piyali Das	2. -
9.	IEEE Computer Society-Lifetime Member		Dr. A. K. Parida	3. -
10.	IEEE Senior Fellow	2022	Prof. S. Gao	4. -
11.	IE(I)-Fellowship Member	22/03/2023	Mr. R. Blange	5. -

#### 4.6.8 Projects sanctioned by the outside agencies to the faculty of the Department

Sl. No.	Name of PI/ Co-PI	Project Title	Funding Agency	Date of Sanction	Total Amount	Fund Received During the Year Under Review
1.	Prof. S. Gao/Mr. T. V. P. Singh	AICTE Funded Solar Power Project	AICTE		Rs. 20 Lakh	Rs. 16 Lakh
2.	Dr. A. K. Parida	Sustainable bio-tourism in Ziro of Arunachal Pradesh: promoting micro hydel-solar PV hybrid generation operated cottage industry for biodegradable disposable serving dish utilizing locally available non-poisonous leaves	DST	2020	Rs. 40.2 Lakhs	-
4.	Dr. A. K. Das	Evaluation of Coconut Oil for Application in High Voltage Transformer	CDB, Kochi	2019	Rs. 27.98 Lakhs	-
5.	Dr. A. K. Das	Performance Analysis of distribution transformer filled with coconut oil	AICTE	2019	Rs. 22.00 Lakhs	-
6.	Dr. A. K. Das	Investigation on Aging Stability of Jatropha Curcas based Insulating Oil Subjected to Thermo-Electric Stress	DST SERB	2019	Rs. 41.30 Lakhs	

## Publications

### a) Referred journal

Sl. No.	Authors	Title of the Paper	Name of Journal	Vol.	Year	Month	Page No.
1.	A. K. Singh	A systematic load frequency regulation in two area renewable micro-grid cluster utilizing Bald- Eagle Search Algorithm	Journal of Electrical Systems	19-1	2023	-	82-97
2.	Mrs.S.Hashu nao	Optimization technique in small scale hydro power for remote area application	IJCRT	10	2022	DEC	-
3.	Singh, P.D., Gao, S.	Clean and sustainable micro hydro power generation using variable asynchronous generator controlled by AC–DC–AC converter and fuzzy PSO-PI D-STATCOM for standalone and grid.	Energy Systems		2022	July	

### b) Conference papers

Sl. No.	Authors	Title of the Paper	Name of Conference	Vol.	Year	Month	Page No.
1	Akhilesh Sharma	Fuzzy logic and PI based closed loop speed control of DC SE motor	2 <sup>nd</sup> ASIANCON		2022	August	1-6
2	Akhilesh Sharma	Grasshopper Optimisation technique for PV array reconfiguration to achieve higher GMPP under PSCS	Recent Advances in Sustainable Environment		2022		321-333
3	A. Parida	A Novel Modelling of DFIG Appropriate for Wind-Energy Generation Systems Analysis	IEEE PIICON2022		2022	Nov.	
4	S. K. Bhagat	Application of Lyapunov's Method for Multi-Machine Power System Stability Analysis	IEEE ICAECT-2022		2022	April	
5	Piyali Das	Performance Analysis of Dual Axis Solar Tracker	COMPE2022		2022	Feb.	273-276

### 4.6.9 Interaction of faculty/Department with outside agencies:

Sl. No.	Name of Faculty	Outside Agencies	Membership of Outside Committees	Executive Committees of Professional Bodies	Year Of Publication
1	Prof. S. Gao	NIT Arunachal	Member of selection committee for faculty recruitment		
2	Prof. S. Gao	Engineering Services of UPSC	Member of selection committee		
3	Dr. Piyali Das	AAPEDA	Faculty mentor		
4	Dr. Piyali Das	NIT Silchar	Technical Reviewer, COMSO 2021		
5	Dr. P. D. Singh	Ministry of Education	Evaluation committee member of Toycathon		



		Innovation Cell			
6	Dr. A. K. Das	IEEE Kolkata Chapter	-	Executive Committee Member, SLATE 2021, IEEE Kolkata Section	
7	Dr. A. K. Das	NMEICT IITB	Remote Center Co-ordinator		

**4.6.10 Achievements of Students:**

Sl. No.	Name of Student	Nature of Achievement
1.	Miss Juhi	Research Fellow
2.	Mr. Rohit Deb	Research Fellow
3.	Mr. Tana Sera	Research Fellow

## 4.7 DEPARTMENT OF MECHANICAL ENGINEERING

### 4.7.1 A Brief Profile of the Department

Department of Mechanical Engineering came into existence as one of the core branches of engineering and started since the inception of the institute in 1986. The Department offers Base, Diploma, Degree in Mechanical engineering. M.Tech. programme and Ph.D. programmes were started from 2006 onwards. The Department is run by a mix of experienced as well as young motivated well-qualified faculty members (16) and supporting staff (22) to generate human resources to cater the fast-growing industrial and academic need of the country. There are about 246 students including 14 research scholars, 22 M.Tech. students currently pursuing their studies at various levels. At present the department offers about 125 courses and nearly 30 student's project every year, all the modules combined. The Departmental vision and mission is as follows:

#### Vision

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

#### Mission

- To create an environment for providing balanced education in Mechanical Engineering through teaching, learning and practice rendering equal weightage in all.
- To create a Centre of excellence in research that will provide the students necessary impetus for future development and life-long learning.
- To create technical manpower in different levels for the North Eastern States in particular and for the country in general.

### 4.7.2 Academic activities.

Apart from B. Tech. programme, the Department runs two PG programmes (i) M.Tech in Computer Integrated Manufacturing (CIM) and (ii) M. Tech. in Thermal and Fluid Engineering, as well as Ph.D programme. 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. Vocational Training is included as a part of the curriculum for certificate and degree modules.

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, SHRISTI etc. Students are also encouraged to participate in technical events organized by various other Institutions of India.

### 4.7.3 Laboratories and Lab development.

The Department has initiated for establishment of new laboratory i.e., Advanced Manufacturing lab. In addition, some of the labs were inducted with new equipment as well as the maintenance activities of different laboratories were carried out in order to upkeep lab and workshop equipment. The details of new equipment/software procured are shown in the Table below. The construction of Central workshop under ME Department is in almost final stage.

**Laboratory Development:**

Sl. No.	Name of the Lab	New Equipment/Software procured
1	Robotics and Control Lab	LabView cRIO DAQ system is added
2		Old Equipment are rectified.

**4.7.4 Project completed by UG/PG/PhD Students.**

(a) Ph.D. awarded / theses submitted

SN	Name of the Scholar	Supervisor (s)	Status	Title
1	Mr. Awinash Kumar (PhD/FT/17/ME/03)	Prof. P. Lingfa	Awarded (22.08.22)	Thermo Catalytic Production, Physiochemical Properties, Performance and Emission exploration of Plastic oil extracted from Waste Plastic Materials
2	Mr. Maibam R. Singh (PhD/FT/15/ME/03)	Prof. P. Lingfa, Prof. A. Giri	Awarded (12.01.23)	Electronic Cooling with Phase Change Material Using Dual Height Fins
3	Mr Pranjali Borah (PhD/FT/16/ME/02)	Dr. S. Singh, Prof. S. Samanta	Awarded (26.08.23)	An Advanced Model for Identification of a Shallow Crack Propagating to Deep Crack in Spinning Rotors
4	Mr. Diju Kr. Baro (PhD/FT/16/ME/09)	Prof. S. Mahto	Awarded (17.03.23)	Dynamics of Flexible Manipulator
5	Mr. Dhurubajit Sarma PhD/PT/17/ME/ 07	Prof. M. Chandrasekaran, Prof. A.K. Sahoo	Submitted	Machinability Investigation of Ti-6Al-4V Alloy In MQL and Nanofluid Machining Environment
6	Mrs. Rupshree Ozah (PhD/FT/17/ME/05)	Prof. M. Muralidhar	Submitted	Industry 4.0 and Intelligent Systems for an Automotive Piston Casting
7	Mr. Banarsi Pandey (PhD/FT/16/ME/08)	Prof. S. Mahto	Submitted	On-line Condition Monitoring of Tool Wear and Machining Process for Titanium-Alloys
8	Gollo Rinu (PhD/FT/17/ME/01)	Dr. N. Yadaiah, Dr. S. Singh	Submitted	Experimental Investigation and Numerical Modeling of Similar and Dissimilar Friction Stir Welding Process

(b) M. Tech.

SN	Name of Student	Supervisor(s)	Thesis Title
<b>M. Tech (CIM)</b>			
1	KHUISING SAREO (MT/20/CIM/002)	MM	Studies on Status of Electric Vehicles in India and Design and Simulation of a Hybrid Electric Vehicle using MATLAB
2	TOBOM LEGO (MT/20/CIM/003)	MM	Study of Intelligent CNC Manufacturing System and calculation of MIQ
3	TALLEN RIBA ( MT/20/CIM/004)	MC	Design of Cellular Manufacturing: A case study



4	WANGSUM KAMHOA ( MT/20/CIM/005)	KKM	Experimental Investigation and optimization of laser cutting parameters on light metal alloy under laser micromachining operation
5	GOURAB GHOSH ( MT/20/CIM/006)	SSa	Fabrication and Characterization of Banana fibre epoxy composite
6	DEBOJIT BANERJEE ( MT/20/CIM/007 )	SKT	Experimental Investigation and optimization of Machining Parameters of WEDM
7	PADI TAKHA ( MT/20/CIM/008)	NY	Development of Thermal Model for Simulation Friction Stir Welding Process using Finite Element Method
<b>M. Tech (TFE)</b>			
1	DANI PUNU ( MT/20/TFE/001)	MD	Assessment of Adopting Solar Energy as an Alternative Energy Source in the Hija Village
2	PRIYANSHU P. BORA ( MT/20/TFE/002)	PL & MD	Optimization of Biogas using Cow dung
3	TILLING OPO ( MT/20/TFE/004)	PL	Effects of Bio-diesel Blends on Engine Performance and Emission
4	NUYI TASING ( MT/20/TFE/003)	MD	Characterization of the Palm Oil Available in Arunachal Pradesh
5	DIPANKAR SAIKIA ( MT/20/TFE/005)	PL & MD	Production of plastic oil from waste plastic by using bentonite as a catalyst.
6	SWAGAT SHARMA ( MT/20/TFE/006)	PL	Production and characterization of alkyl esters using Mesua Ferrea and waste cooking oil and its application on automative engines.

## (c) B. Tech.

Gr. No.	Roll No	Guide's Name	Title of the Project
BTP 1	D/18/ME/023	Dr. K. K. Mandal	Fabrication of Pico-Hydro Power Generation System
	D/18/ME/103		
	D/18/ME/106		
BTP 2	D/17/ME/021	Prof. M. Chandrasekharan	Cell Formation in Cellular Manufacturing System with Different Algorithms
	D/18/ME/009		
	D/19/ME/205		
	D/19/ME/207		
BTP 3	D/17/ME/103	Dr. M Dabi	Design of Screw Briquette Machine
	D/18/ME/020		
	D/18/ME/021		
BTP 4	D/17/ME/003	Prof. M. Muralidhar	Studies on Productivity and its Improvement Techniques for Namrup Thermal Power Station, Assam
	D/18/ME/110		
	D/19/ME/206		
	D/19/ME/209		
BTP 5	D/18/ME/024	Prof. P. Lingfa	Production of Advanced Biofuel from Rice Straw through Thermochemical
	D/19/ME/211		



	D/19/ME/213		Conversion
BTP 6	D/18/ME/003	Mr. N. Teyi	Experimental Design of Compliant Mechanism Electrical Toggle Switch
	D/18/ME/008		
	D/18/ME/010		
	D/18/ME/018		
BTP 7	D/18/ME/004	Dr. N. K. Rana	Composite Material using Coconut Husk
	D/18/ME/013		
	D/18/ME/017		
	D/19/ME/202		
BTP 8	D/18/ME/014	Dr. N. Yadaiya	Temperature Distribution during Plasma Arc Welding Using Finite Element Method
	D/19/ME/203		
	D/19/ME/204		
BTP 9	D/18/ME/002	Prof. P. Lingfa	Production and Optimization of Biodiesel produced from Animal's fat (pig lard) using Homogeneous Catalyst
	D/19/ME/201		
	D/19/ME/210		
BTP 10	D/17/ME/022	Dr. S. K. Tamang	Deep Ideational Neural Activity Recognition: a Non-invasive BCI Pathway for Translating Thoughts to Texts
	D/18/ME/006		
	D/18/ME/015		
BTP 11	D/18/ME/007	Prof. S. Mahto	Experimental Investigation of Circular Holed Beam
	D/18/ME/016		
	D/19/ME/208		
BTP 12	D/17/ME/105	Prof. S. Samanta	Mechanical Characterization of Potassium Permanganate Treated Sisal Fiber and Sugarcane Bagasse Based Hybrid Composite
	D/18/ME/012		
	D/18/ME/019		
	D/18/ME/022		
BTP 13	D/18/ME/005	Prof. S. S. Gautam	Use of CO <sub>2</sub> from Vehicle Emission
	D/18/ME/011		
	D/18/ME/102		
BTP 14	D/17/ME/018	Dr. S. Singh	Scheme for in situ Balancing of Washing Machine Spinner Drum
	D/18/ME/107		
	D/19/ME/212		
	D/19/ME/214		

#### 4.7.5 Short term courses/ seminars/ workshops/ conferences organized at NERIST.

Name of courses/ seminars/ workshops/ conferences	Sponsored By	Date	Coordinator
FDP on "Capacity Building"	ATAL (AICTE)	30.01.23 to 04.02.23 (online) 06-10.02.23 (offline)	Prof. S. Mahto, Dr. Rajesh Kumar (AOL)

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

Name of Faculty	Program Name	From	To	Venue	Organized by
Prof. M. Chandrasekaran	FDP on "Capacity Building"	30.01.23	10.02.23	NERIST	ME Dept., NERIST
	FDP on "Disaster Management"	22.02.23	24.02.23	NERIST	CE Dept., NERIST
Prof. S. Samanta	FDP on "Capacity Building"	30.01.23	10.02.23	NERIST	ME Dept., NERIST

	Building”				
Dr. S. Singh	5th Indian Conference on Applied Mechanics (INCAM) 2022	11.11.22	13.11.22	NIT Jamshedpur	ME Deptt,
Dr. K.K. Mandal	FDP on “Capacity Building”	30.01.23	10.02.23	NERIST	ME Dept., NERIST
Dr. M. Dabi	Industrial Training Program on “Machine Learning and its Applications Using Python”	19.12.22	30.12.22	IIT Madras	Edux Labs and Mechanica
	FDP on “Capacity Building”	30.01.23	10.02.23	NERIST	ME Dept., NERIST
	FDP on “Disaster Management”	22.02.23	24.02.23	NERIST	CE Dept., NERIST
Mr. N. Teyi	Three Day Intl. Workshop on Document Preparation using LaTeX”	07.07.22	10.07.22	A2Z Edu Learning Hub LLP	Dept. of Research & Publications,
Dr. S.K. Tamang	Machine Learning & its application using Python	19.12.22	30.12.22	Industrial Training	Edux Labs India in association with MECHANICA IIT Madras

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

Prof. M. Chandrasekaran	Fellow member of The Institution of Engineers (India): F-1296007
Prof. S.S. Gautam	Fellow member of The Institution of Engineers (India): F 1295515)

#### 4.7.8. Achievements/ awards/ recognition earned by the faculty.

Name of Faculty	Achievements/awards/ recognition
Prof. Pradip Lingfa	<ul style="list-style-type: none"> <li>❖ Selected for ‘MEMBER’ Arunachal Pradesh Public Service Commission (APPSC), Gov. of AP.</li> <li>❖ President Nominee ‘Member’ of Board of Management (BOM), Tezpur University - A Central University Assam, Tezpur from 10th March 2022 till date.</li> <li>❖ <b>Editor</b> JOURNAL OF BIORESOURCES (A UGC CARE Approved Quality Peer-reviewed Journal, ISSN: 2394-4315(Print); ISSN: 2582-2276 (Online)</li> </ul>
Prof. M. Chandrasekaran	<ul style="list-style-type: none"> <li>❖ <b>Acted as an Examiner for PhD viva</b> of KIIT University Odissa , Chennai for thesis titled “ MACHINABILITY INVESTIGATION IN HARD TURNING OF AISI 4340 STEEL UNDER DRY, MQL AND NANOFLUID ASSISTED MQL ENVIRONMENTS (Viva date: 09.09.2022)</li> <li>❖ <b>Acted as an Examiner for PhD viva</b> of Veer Surendra Sai University of Technology Burla for thesis titled “Mobile Robot Path Optimization Using Hybrid Metaheuristics Algorithm (Viva date: 27.12.2022)</li> </ul>

#### 4.7.9 Projects sanctioned by outside agencies to the faculty of the department

AICTE sanctioned a MoDRoB project titled “**Development of modern facilities using cryogenic and minimum quantity lubrication (MQL) machining of hard materials**”, Sanction order F.No.9-31/RIFD/MODROB/Policy-1/2017-18 dated 26.3.2019 (Total Cost: Rs.17, 63, 000) (P.I.: **Prof. M. Chandrasekaran**).

#### 4.7.10 Publications.

##### (a) Journal papers

Kumar, S.S. and **Muralidhar, M.**, *Design and Manufacture Engine Piston Casting for Indian LMV by 3-D Printing process: A Study*, Intl. Journal Livarski Vestinik, Slovenia, 69/2022, No 3, Foundry Conference, Portoroz, Slovenia, July-Sept., 2022, pp 153-169.

Ozah, S and **Muralidhar, M.**, *Intelligent Three Dimensional Printing Methods for Manufacturing of Automotive Piston Casting and Estimation of MIQ: A Study*, International J. of Advances in Mechanics, 10, Nov. 2022, pp1423-1443.

Mukherjee, S., Nath, R.K., Chandra, P.C., Samanta, S. and **Muralidhar, M.** (2022), *Fabrication of Aloe Vera nanopowder using High Energy Ball Mill*, Material Today: Proceedings (Elsevier).

Mazumder, N.M. and **Lingfa, P.** (2023), *Evaporation characteristics of ethanol droplet in different gases under force convection condition*, Engineering Research Express 5(1), DOI:10.1088/2631-8695/acb1f2.

Mazumder, N.S. and **Lingfa, P.** (2023), *Two-phase modeling of evaporation characteristics of ethanol droplet under force-convection environment*, Heat Transfer, DOI:10.1002/htj.22815.

Dash, S.K., **Lingfa, P.**, Das, P.K. and A. Saravanan, A. (2022), *Effect of injection pressure adjustment towards performance, emission and combustion analysis of optimal nahar methyl ester diesel blend powered agricultural diesel engine*, Energy 263(3):125831, DOI: 10.1016/j.energy.2022.125831.

Kumar, A. and **Lingfa, P.** (2022), *Base-Activated Sodium Bentonite Clay: Mutated Characteristics and Industrial Slant*, ECS Transactions, 107(1), pp.2303-2314, DOI:10.1149/10701.2303ecst.

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Choudhury, B. and **Chandrasekaran, M.** (2022), *Electron Beam Welding Investigation of Inconel 825 and Optimize Energy Consumption Using Integrated Fuzzy Logic-Particle Swarm Optimization Approach*, Intl. J. of Fuzzy Systems, <https://doi.org/10.1007/s40815-022-01431-8>.

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Choudhury, B., Singh, V., Singh, A.P., **Chandrasekaran, M.**, Patel, Y. and Singh, S.K. (2023), *Simultaneous optimization of weld bead geometry and weld strength during gas tungsten arc*

welding of Inconel 825 strips using desirability function coupled with grey relational analysis (DF-GRA), *Engineering Research Express*, 5(1), pp..

Pandey, B., **Mahto, S.**, and Jha, B.K. (2022), *Analysis and optimization in hard turning of titanium grade-I using grey relational analysis*, *Intl. J. on Interactive Design and Manufacturing*, Online 23 June, 2022. <https://doi.org/10.1007/s12008-022-00924-y>

Baro, D.K., and **Mahto, S.** (2022), *Dynamics of viscoelastic material sandwich beam*, *Advances in Materials and Processing Technologies*, 8, pp. 2350-2366. <https://doi.org/10.1080/2374068X.2022.2038842>

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Rathore, R., Bhattacharjee, S., Bora, P., Rao, G.S., **Samanta, S.** and Debnath, K. (2022), *Effect of injection parameters on tensile and flexural properties of green Composites*, *Composite Theory and Practice*, 2022(4), pp. 196-204.

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**Dabi, M., Sahoo, B.B, and Saha, U.K.** (2022), *An exploratory experimental study of a single-cylinder diesel engine run on diesel–Mesua ferrea Linn oil–diethyl ether ternary blends*, Indian Chemical Engineer, 64. (Taylor & Francis).<https://doi.org/10.1080/00194506.2022.2120420>

**Rana, N.K., Teyi, N. and Borah, P.** (2022), *Stress analysis of laminated graphite fiber reinforced polymer Panel Stiffened joint with 450 fiber orientation using ANSYS*, Materials Today: Proceedings, ISSN 2214-7853<https://doi.org/10.1016/j.matpr.2022.10.196>

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**Sarkar, D, Chetry, D.R, Kumar, R., Borah, P., Samanta, S. and Teyi, N.** (2022), *Study of Dry Sliding Wear Behaviour of Silicon Carbide Filled Glass-Jute Hybrid Epoxy Composite Using RSM and Taguchi Techniques*, Materials Science Forum (Scopus), 1060, pp. 37-42.<https://doi.org/10.4028/p-a12iqf>

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**Chowdhury, S. Yadaiah, N., Prakash, C., Ramakrishna, S., Dixit, S., Gulta, L.R., Buddhi, D.** (2022), *Laser Powder Bed Fusion: A State-of-the-Art Review of the Technology, Materials, Properties and amp; Defects, and Numerical Modelling*, J. of Materials Research and Technology (ISSN: 2238-7854), 20, pp. 2109-2172.



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Rinu, G., **Singh, S., Yadaiah, N.**, Prakash, C. and Buddhi, D. (2022), *Influence of Welding Speed and Material Location on Microstructure and Mechanical Properties of Friction Stir Welding Joints of AA6061-AA7050*, Materials Today Communications (ISSN: 2352-4928), Vol. 33, 104419. DOI: <https://doi.org/10.1016/j.mtcomm.2022.104419>

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Singh, S.N., Deoghare, A.B. and **Nirsanametla, Y.** (2023), *Study of thermal behavior during the directed energy deposition (DED) of Ti6Al4V alloy using finite element modeling (FEM)*, Materials Today: Proceedings (ISSN: 2214-7853), 76 (4). pp. 617-623. DOI: <https://doi.org/10.1016/j.matpr.2022.10.238>

## (b) Conferences

Kumar, S.S. and **M. Muralidhar**, *Materials for LMV Piston for Three Dimensional Printing by AHP*, 8<sup>th</sup> International Blacksea Coastline Countries Research Conference, 29-30<sup>th</sup> August, 2022, Sofia, **Bulgaria**.

Kumar, K.K. and **Muralidhar, M.**, *Status of Hybrid Electric LMVs Sub-systems for Automobile Industry*, 62<sup>nd</sup> International Foundry Conference, 14-16<sup>th</sup> Sept, 2022, Portoroz, **Slovenia**.

**Muralidhar, M.**, *Recasting the Casting Operations vis a vis Casting Input-Output Supply Chain Management*, 62<sup>nd</sup> International Foundry Conference, 14-16<sup>th</sup> Sept, 2022, Portoroz, **Slovenia**.

Mukherjee, S. Nath, R.K., Chandra, P.C., **Samanta, S.**, and **Muralidhar, M.**, *Fabrication of Aloe Vera nanopowder using High Energy Ball Mill*, Global Conference on Recent Advancements in Sustainable Materials (GC-RASM 2022, 28-29<sup>th</sup> July 2022, AJ Institute of Engineering and Technology, Mangalore, India.

Ozah, R. and **Muralidhar, M.**, *Selection of 3-D Printing Methods for Piston Casting using AHP*, Intl. Conf. on FAMMT 2022, Jan 2022, IITRAM, Ahmedabad, **India**.

**Muralidhar, M.**, *Technology Needs for Global Village in 21<sup>st</sup> Century: A Study*, Ahi Evaran International Conference on Scientific and Research, 21-23<sup>rd</sup> October 2022 online), Kirshehir, **Turkey**.

Mishra, H. and **Muralidhar, M.**, *Technological Innovations in Product Development in 21<sup>st</sup> Century: A Study*, Sivas International Conference on Science and Innovation Research, 13-15<sup>th</sup> October 2022 (online), Kirshehir, **Turkey**.

**Muralidhar, M.**, *Studies on Energy Needs of Global Village*, Sivas International Conference on Science and Innovation Research, 13-15<sup>th</sup> October 2022 (online), Kirshehir, **Turkey**.

Priyadarshi, S., Paul, M., Lalawmpuia and **Muralidhar, M.**, *Studies on Engineering Application Domains of Industry 5.0*, International Anatolian Congress on Multidisciplinary Scientific Research, 27-29<sup>th</sup> December 2022, Kayseri, **Turkey**.

Mazumder, N.S. and **Lingfa, P.**, *Effect of Initial Temperature and Diameter of Ethanol Droplet on Evaporation Dynamics in Convective Air Medium*, February 2023, International Conference on Recent Advances in Materials, Manufacturing and Thermal Engineering (RAMMTE-2022) at Delhi Technological University, **Delhi**.

Borah, J. and **Chandrasekaran, M.**, *Experimental investigation on surface quality of 3d print peek components and Taguchi optimization*, Proceedings of IISTEM International Conference, 02nd December, 2022, Tirunelveli, **India**,

Gogoi, A., Napa, T., Rahman, W., **Chandrasekaran, M.** and **Mandal, K.K.**, *Application of Artificial Intelligence and Machine Learning in Waste Management System*, Intl. Conference on Advancement in Manufacturing Engineering, 12-13 November 2022, National Institute of Technology, **Delhi**.

Borah, J. and **Chandrasekaran, M.**, *Experimental Investigation on Surface Quality of 3D Print Peek Components and Taguchi Optimization*, International Conference on Mechanical, Industrial and Production Engineering (ICMIPE), 02 December, 2022, Tirunelveli, Tamil Nadu, **India**.

**Singh, S.**, *Sommerfeld Number Based Analysis of Variation in Life of Power Plant Bearings*, 5<sup>th</sup> Indian Conf. on Applied Mechanics (INCAM) 2022, 11– 13 November 2022, NIT Jamshedpur, **India**.

**Rana, N.K.**, **Teyi, N.** and Borah, P., *Stress analysis of laminated graphite fiber reinforced polymer Panel Stiffened joint with 45<sup>o</sup> fiber orientation using ANSYS*, Materials Today: Proceedings. Nov., 2022 (online). <https://doi.org/10.1016/j.matpr.2022.10.196>

Sarkar, D., Borah, P., **Samanta, S.** and **Teyi, N.**, *Tribo-performance of saw dust filled natural fiber – Glass fiber reinforced epoxy composites: Modelling and optimization*, Materials Today: Proceedings, Dec., 2022 (online). DOI: [10.1016/j.matpr.2022.11.326](https://doi.org/10.1016/j.matpr.2022.11.326)

**Teyi, N.** and **Singh, S.**, *Study of active magnetic bearings (AMB) on non– synchronous rotors*, IOP Conf. Series: Materials Science and Engineering, Dec., 2022 (online). DOI: [10.1088/1757-899X/1272/1/012021](https://doi.org/10.1088/1757-899X/1272/1/012021)

### (c) Book/ Book Chapters

Ozah, R. and **Muralidhar, M.**, Selection of 3-D Printing Methods for Piston Casting using AHP, published as Book Chapter in *Futuristic Manufacturing : Perpetual Advancement and Research Challenges*, Routledge and CRC press, October 2022, ISBN 9781032217796.

Mazumder, N.S. and **Lingfa, P.**, Numerical Study on Momentum and Heat Transfer Phenomenon from a Sphere Under Force Convection Environment, March'2023, DOI: [10.1007/978-981-19-8517-1\\_27](https://doi.org/10.1007/978-981-19-8517-1_27), In book: *Lecture Notes in Mechanical Engineering* (pp.1-17), Publisher: Springer, Singapore.

Sarma, D., **Chandrasekaran, M.**, Sahoo, A.K., *Application of Jaya Algorithm for Minimizing Surface Finish in MQL-Based Green Machining of Titanium Alloy*, *Advances in Manufacturing Engineering* Aug 2022, pp 3–15.

Devarasiddappa, D., **Chandrasekaran, M.** and **Mandal, K.K.**, *AHP-GRA integrated methodology for decision making in WEDM of Ti-6Al-4V alloy*”, *Modeling, Simulation and Optimization*, Springer Nature, Singapore Pte. Ltd., June 29, 2022, pp. 599 – 612, [http://doi.org/10.1007/978-981-19-0836-1\\_46](http://doi.org/10.1007/978-981-19-0836-1_46)

Ahned, GMS, Perumall, MG, Ramalu, J, and **Yadaih, N.**, Web buckling investigation of direct metal laser sintering based connecting rod with hexagonal perforations, *Advanced Manufacturing Processes*(Book Chapter: CRC Taylor & Francis, Scopus) 2022, 51 – 78.





Leramo, A, Sinha, D.K., and **Gautam, S.S.**, Modelling and optimization of process parameters with single point incremental forming of AA6061 using response surface method, *Advanced Manufacturing Processes*(Book Chapter: CRC Taylor & Francis, Scopus) 2022, 129 – 146.

Solomon, Y., Sinha, D.K., Ramalu, P.J. and **Gautam, S.S.**, Numerical investigation of product capability and enhancement through multi-hole extrusion process,” *Technology Innovation in Mechanical Engineering*(Book Chapter: Springer Nature, Scopus), 2022, 791 – 802.

## 4.8. DEPARTMENT OF CHEMISTRY

### 4.8.1 A Brief Profile of the Department

The Department offers courses for Under-Graduate levels (Base/ Degree module) of Engineering & Technology streams. The Department also offers courses for Degree module of Forestry stream. The Department has started M Sc programme since the academic session, 2009-10. Initially the Department was offering only Organic Chemistry specialization in M Sc. We started offering Inorganic Chemistry specialization also since the academic session, 2015-16. Consequently, the 2015-16 Batch of M Sc students were able to take Inorganic Chemistry specialization also from Jul-Dec, 2016 semester. Admission process for 14<sup>th</sup> batch in M. Sc (Chemistry) was completed in July, 2022 through the Written Test conducted by NEPGET. Admission Test for Ph D programme was also conducted in July, 2022. 12 M Sc and 01 Ph D students were admitted in 2022.

Contributions of the faculty members in **the Institute administration** are given below:

1. Prof. H. S. Yadav joined as the Director, NERIST, Nirjuli, Arunachal Pradesh w.e.f. 06 March, 2018. He has completed his tenure of 05 years of the Director, NERIST on 05 March, 2023 and resumed his duty as Professor, Chemistry on 06 March, 2023. He is a member of AC of the Institute and BoS of Chemistry Department.
2. Prof. P. K. Tripathy has taken the charge of Head, Department of Chemistry, from 23.08.2022 from Prof. A. K. Gupta. He is a member of AC of the Institute. He is a member of BoS and Chairman, DPGC of Chemistry Department.
3. Prof M F Hussain is the member of BoS of Chemistry Department. He is a member of AC of the Institute.
4. Prof N Deb is a member of DPGC of Chemistry Department. He is a member of AC of the Institute. He is convenor of BoS of Chemistry Department.
5. Dr. J. Bhuyan is looking after the Central Research Facility (CRF) as Coordinator in this period and still continuing. He is the convenor, DPGC of Chemistry Department. He is the Departmental Coordinator, automation.
6. Prof A K Gupta has given the charge of Head, Department of Chemistry, on 23.08.2022 after completing his tenure (03 Years) of Head, Department of Chemistry. He is also member of BoS of Chemistry Department. He is the member, DPGC of Chemistry Department. He is a member of AC of the Institute.
7. Dr M Yadav is the Departmental representative, Member, Committee for Internal Complaint Committee under Sexual Harrassment of Women at Workplace Act 2013 and Member of Parent Teacher Association of KV, NERIST.
8. Dr A Murugan is a member of BoS of Chemistry Department. He is also the warden of Hostel block- C, NERIST.
9. Dr N N Yadav is a member of NEE Committee and BoS of Chemistry Department.
10. Dr. Sashi Lata Bharati is the Departmental representative member of the Central Library Committee.

**Participation of the Faculty members in the Departmental administration wereas follows:**

1. Dr. Meera Yadav is the Laboratory in-charge of Chemistry Lab-II
2. Dr. J. Bhuyan is the Laboratory in-charge of PG Lab-IV, V & Instrumentation Lab.
3. Dr. N. N. Yadav is the Laboratory in-charge of PG Lab-I and II
4. Dr A. Murugan is the Laboratory in-charge of PG Lab-III
5. Mr N G Singh is the Laboratory in-charge of Chem Lab-I.
6. Dr. Sashi Lata Bharati is the In-charge of Departmental Library.

### 4.8.2. Academic activities:

The revised courses of UG, PG and Ph D courses (approved by the fourth Board of Studies held on 23.03.2017) have been implemented from academic session, 2017-18. The DPGC of the department looks



after various activities of the students of M Sc and Ph D Courses. The various DC committees of the research scholars have been constituted to look after the progress of the work of the Ph D students. Systematic approach has been made to engage theory and practice classes regularly. All the courses were fully covered in time. Tests and practical examinations were conducted successfully. Results of Semester examinations, supplementary examinations, make up tests and quizzes of all the courses were conducted as per schedule and the results submitted to the Controller of examination.

#### 4.8.3. Laboratories and Laboratory Development:

In the Laboratories, Instrumentation facilities that are in working conditions are given below:

- i) Digital Conductivity meters
- ii) Polarimeters
- iii) Digital pH meters
- iv) Differential Scanning Calorimeter (DSC)
- v) Rotary evaporator
- vi) Melting Point apparatus
- vii) Digital Magnetic Stirrer with hot plate
- viii) Quartz Bi-Distillation
- ix) Variable volume micropipette
- x) Analytical balance
- xi) FT IR instrument
- xii) UV-VIS instrument (02 Numbers)
- xiii) Horizontal Laminar Flow
- xiv) BOD Incubator
- xv) Auto-clave sterilization machine
- xvi) Vertical Gel Electrophoresis
- xvii) Centrifuge machine

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

The following 18 M. Sc. students have successfully completed project work:

Sl. No.	Name of the student	Roll No.	Topic of project work	Name of Supervisor
1	SASANKA BHUYAN	MS/20/CH/001	ZINC PYRIDYL PORPHYRIN: SYNTHESIS, CHARACTERIZATION AND CATALYTIC ACTIVITY IN DYE DEGRADATION	Dr. Jagannath Bhuyan
2	JAHNABI DAS	MS/20/CH/002	A STUDY ON SYNTHESIS AND SOLVOLYSIS OF 4-( $\pi$ -EXCESSIVE HETEROCYCLIC)METHYLENE-2-PHENYL-2-OXAZOLIN-5-ONES	Prof. P.K Tripathy
3	ANTARIKHA DUTTA	MS/20/CH/003	INHIBITION STUDY OF HEAVY METAL IONS ON CARBONIC ANHYDRASE ACTIVITY FROM <i>A. INDICA</i>	Dr. Meera Yadav
4	PALLABI BORAH	MS/20/CH/004	CHARACTERIZATION OF MANGANESE PEROXDASE FROM INDIGENOUS FUNGAL STRAIN	Dr. Meera Yadav
5	REKHAJYOTI PHUKAN	MS/20/CH/006	THREE-COMPONENT COUPLING REACTIONS OF ISOQUINOLINE/QUINOLINE, DIMETHYL ACETYLENEDICARBOXYLATE (DMAD) AND REACTIVE METHYLENE COMPOUND: A FACILE SYNTHESIS OF DIHYDROISOQUINOLINE/QUINOLINE DERIVATIVE	Dr. Nagendra Nath Yadav



6	TOKMEM LIBANG	MS/20/CH/007	COBALT PORPHYRINS: SYNTHESIS, CHARACTERIZATION AND APPLICATIONS	Dr. Jagannath Bhuyan
7	BEDANTA UPADHYAY	MS/20/CH/008	<i>IN-SILICO</i> ANALYSIS OF CARBONIC ANHYDRASES FROM DIFFERENT PLANT SOURCES AND 3D STRUCTURE DETERMINATION USING AMINO ACID SEQUENCES,	Dr. Meera Yadav
8	NEKI BORANG	MS/20/CH/010	CHARACTERIZATION OF PEROXIDASE FROM BOTTLE GUARD	Dr. Meera Yadav
9	RAHUL DEEP GOGOI	MS/20/CH/011	BIOTRANSFORMATION OF PHENOLIC COMPOUNDS BY PEROXIDASE FROM <i>A.RUSTICANA</i>	Dr. Meera Yadav
10	NABIN SHARMA	MS/20/CH/012	SYNTHESIS OF CHIRAL AZIRIDINE AND ITS RING OPENING REACTION WITH IMIDAZOLE AND ANISOLE	Dr. Nagendra Nath Yadav
11	PAPORI KONWAR	MS/20/CH/013	IRON PORPHYRINS AND IRON ISOPORPHYRINS: SYNTHESIS, CHARACTERIZATION AND REACTIVITY	Dr. Jagannath Bhuyan
12	PANKHI BORPHUKAN	MS/20/CH/014	A FACILE SYNTHESIS OF 4-ANILINOMETHYLENE-2-PHENYL-2-OXAZOLIN-5-ONE AND ITS SOLVOLYSIS PRODUCTS	Prof. P.K Tripathy
13	SUDARSHANA GOGOI	MS/20/CH/015	SYNTHESIS, CHARACTERIZATION AND ANTIOXIDANT STUDIES OF MAGNESIUM PORPHYRINS	Dr. Jagannath Bhuyan
14	MRINMOY GOGOI	MS/20/CH/016	NICKEL AND MANGANESE PORPHYRIN: SYNTHESIS, ELECTROCHEMICAL STUDY AND FREE-RADICAL SCAVENGING STUDY	Dr. Jagannath Bhuyan
15	HIRAK JYOTI BHUYAN	MS/20/CH/017	SYNTHESIS OF CHIRAL AZIRIDINE AND ITS RING OPENING REACTION WITH INDOLE	Dr. Nagendra Nath Yadav
16	FARHIN AKHTAR	MS/20/CH/018	A RAPID SYNTHESIS OF 2-PHENYL-4-((THIOPHEN-2-YL)METHYLENE)-2-OXAZOLIN-5-ONE AND ITS SOLVOLYSIS AND AMINOLYSIS PRODUCTS	Prof. P.K Tripathy
17	PANKAJ JYOTI BORUAH	MS/20CH/019	SYNTHESIS OF NOVEL SUBSTITUTED 2-AMINO PYRIMIDINES BY DIRECT CYCLOCONDENSATION BETWEEN GUANIDINE AND ACYCLIC/CYCLIC $\alpha$ -OXOKETENEDITHIOACETALS	Prof. Akhilesh Kumar Gupta
18	SHEKHAR BORAH	MS/20/CH/020	SYNTHESIS OF NOVEL SUBSTITUTED 2-MERCAPTO PYRIMIDINES BY DIRECT CYCLOCONDENSATION BETWEEN THIOUREA AND ACYCLIC $\alpha$ -OXOKETENEDITHIOACETALS	Prof. Akhilesh Kumar Gupta

#### 4.8.5. Short-term courses/seminars/workshops/conferences organized at NERIST

Organized online seminar on “National Intellectual Property Awareness Program” on Nov 05, 2022. Sponsored by AICTE, MoE, NIPAM, MoE’s INNOVATION CELL, IP INDIA, MINISTRY OF COMMERCE and INDUSTRY

#### 4.8.6. Short-term courses/seminars/workshops/conferences attended by the Faculty:

##### **Dr J Bhuyan attended the following Programmes:**

Delivered an invited lecture in the symposium “Chemical Education in Self Reliance: A Global Perspective” in collaboration with the Royal Society of Chemistry (RSC) held on 23<sup>rd</sup> June, 2022 at Rajiv Gandhi University, Rono-Hills, Arunachal Pradesh

Delivered an invited lecture in National conference on Advances in Sustainable Chemistry and Material Science (ASCMS) at Department of Chemistry, Bodoland University, Assam on 30<sup>th</sup> April, 2022 on the topic “Porphyrin-isoporphyrin tautomerism: Quest for new photosensitizers for photodynamic therapy (PDT) and biomimetic catalysts”

Completed two weeks industrial training on machine learning and its application from 19<sup>th</sup> December to 30<sup>th</sup> December, 2022 organized by Eduxlabs in association with Mechanica IIT Madras

Participated in the "Faculty Development Program on Disaster Management” held from 22 Feb 2023 to 24 Feb 2023 organized by National Institute of Disaster Management, Ministry of Home Affairs, Govt. of India in collaboration with North Eastern Regional Institute of Science and Technology, Arunachal Pradesh.

##### **Dr Meera Yadav attended the following Orientation Programm:**

NPTEL- Twelve week online certification course on “Biological Inorganic Chemistry” July-Oct, 2022

12 week FDP on “Biological Inorganic Chemistry” July-Oct, 2022.

NPTEL- Four week online certification course on “Bioelectrochemistry” Feb-March, 2022

4 week FDP on “Bioelectrochemistry” Feb-March, 2022

International Conference entitled “10th Edition of Global Conference on Catalysis, Chemical Engineering and Technology” ”Oral Presentation on the topic “**Oxidoreductase-Metalloenzymes: Catalysis in Green Chemistry Domain** ” March 28-30, 2022

International Conference entitled “12th Edition of Global Conference on Catalysis, Chemical Engineering and Technology” ”Oral Presentation on the topic “**Key Role of Catalase Enzyme in Catalysis** ” Sept 05-07, 2022

International Conference entitled “13th Edition of Global Conference on Catalysis, Chemical Engineering and Technology” ”Oral Presentation on the topic “**Catalytic biotransformations by Peroxidases**” Oct 21-22, 2022

##### **Dr N N Yadav attended the following Programmes:**

Delivered Invited Lecture in M. P. P. G College, Jungle Dhushan (Affiliated to DDU Gorakhpur University, Gorakhpur on topic “**Retrosynthetic Analysis and Its Applications**” on 3<sup>rd</sup> November 2022.



Completed NPTEL 12 week online certification course (NPTEL-AICTE Faculty Development Programme) titled “A Study Guide in Organic Retrosynthesis: Problem Solving Approach” with a consolidated score of 96% (*Class topper*) during Jan-Apr 2022 (Course Instructor: Prof. Samin Nanda, IIT Kharagpur).

Participated in three days Faculty Development Programme on topic “Faculty Development Program on Disaster Management” organized by National Institute of Disaster Management (NIDM) from 22 - 24 February, 2023.

Participated in one week National e-Workshop on Innovation & Intellectual Property Rights organized by Innovative Technology Enabling Centre (InTEC), CSIR-IMMT, Bhubaneswar from 13-18 June, 2022.

#### **Dr A Murugan attended the following Courses:**

##### **Short Team Course**

Participated and successfully completed face to face training Programme on “Faculty Development Program on Disaster Management” from 22 Feb 2023 to 24 Feb 2023 organized by the National Institute of Disaster Management, Ministry of Home Affairs, Govt. of India in collaboration with North Eastern Regional Institute of Science and Technology, Arunachal Pradesh.

##### **Webinar**

Participated in the webinar on "ECO-MUSEUMS AND THE CHANGING TRENDS" on 17 Mar 2023 organized by National Institute of Disaster Management, Ministry of Home Affairs, Govt. of India in collaboration with ASIATIC SOCIETY FOR SOCIAL SCIENCE RESEARCH (ASSSR)

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

**JNB:**Life member, Chemical Research Society of India, Life membership number- 2939 dated 1/10/2021

**MY:** Society for Chemical Industry(SCI),e-membership no. 233512

**NGS:** Awarded **Ph.D. Degree** to **N. Ghanashyam Singh**, Roll No.- PhD/PT/15/CH/01

Title of the project: **MAGNESIUM AND ZINC PORPHYRIN COMPLEXES: SYNTHESIS, CHARACTERIZATION AND PROMISING APPLICATIONS** Name of the guide: Dr. Jagannath Bhuyan

Life Member, ISMC, Chemistry Division, BARC, Mumbai. Membership No. LM 625, (w.e.f. 2013)

Life Member, The Association of Chemistry Teachers, Homi Bhabha Centre for Science Education, TIFR, Mumbai Membership No. 1727(w.e.f. 15.09.2015)

#### **4.8.8. Projects sanctioned by outside agencies to the faculty of the Department: ONE**

**JNB:** Received Rs 1,80,000/- (One lakh eighty thousand only) on 11<sup>th</sup> July, 2022 for the ongoing project MTR/2019/000223, sanction date 5<sup>th</sup> July, 2022 from SERB, DST, Govt. of India

#### **4.8.9. Publications:**

##### **(a) In referred journals:**

B. P Borah, S. Majumder, P.P. Nath, A K Choudhury, **J. Bhuyan**, Pyrazine-bridged cobalt porphyrin: Characterization, unique crystal structure and computational studies, *Journal of Molecular Structure*, **2023**, 1275, 134557

S. Majumder, **J. Bhuyan**, A new strategy for the synthesis of *oxo*-rhenium(V) porphyrins: Synthesis, characterization, theoretical calculations and electrochemical aspects, *Inorganica Chimica Acta*, **2023**, 547, 121344

NG Singh, KD Borah, **J Bhuyan**, Unique magnesium porphyrinate structure: Synthesis, characterization, and theoretical study, *Inorganica Chimica Acta*, **2022**, 121145

**J Bhuyan**, B Pakhira, A Begum, S Sarkar, KM Tripathi, Structural control in the nanoassembly of the tungsten and molybdenum dithiolene complex analog  
*React. Chem. Eng.*, **2022**, 2231-2239

Basumatary Dencil, Yadav Hardeo Singh and **Yadav Meera** “Potentail applications of peroxidase from *Luffa acutangula* in biotransformation” *Chemical Papers* (2023). <https://doi.org/10.1007/s11696-023-02696-5>

Basumatary Dencil, Shilpa Sakia, Yadav Hardeo Singh and **Yadav Meera** "In-silico analysis of peroxidase from *Luffa acutangula*" *3-Biotech*, (2023)13(1):25. doi: 10.1007/s13205-022-03432-8.  
Shilpa Saikia, Rahul Deep Gogoi, **Meera Yadav** and Hardeo Singh Yadav “Isolation, purification and characterization of peroxidase from *Raphanus sativus* and its applications in biotransformation of cresols”.  
*Biocatalysis and Agricultural Biotechnology*, (2022) 46:102540.

Shilpa Saikia, **Meera Yadav**, Rohida Amin Hoque, and Hardeo Singh Yadav “Bioremediation mediated by manganese peroxidase – An overview” *Biocatalysis and Biotransformation*, (2022) 1-13.  
<https://doi.org/10.1080/10242422.2022.2113517>

Takio Nene, **Meera Yadav** and Hardeo Singh Yadav “Plant catalase in silico characterization and phylogenetic analysis with structural modeling” *Journal of Genetic Engineering and Biotechnology*, (2022) 20:125. <https://doi.org/10.1186/s43141-022-00404-6>

Anindita Hazarika, **Meera Yadav**, Dinesh Kumar Yadav and Hardeo Singh Yadav, “An overview of the role of nanoparticles in sustainable agriculture” *Biocatalysis and Agricultural Biotechnology*, 43(2022) 102399.

Basumatary Dencil, Yadav Hardeo Singh and **Yadav Meera**, The Role of Peroxidases in the Bioremediation of Organic Pollutants, *The Natural Products Journal* 2022; 12 : e100422203351.  
<https://dx.doi.org/10.2174/2210315512666220410132847>

V. Thandiyyakone, **A. Murugan**, C.R. Ravikumar, T. Rajkumar and H.S. Yadav "Electrochemical Studies on Manganese (III) Complex with meso-5,10,15,20-Tetrakis(o-nitrophenyl) porphyrin Using Cyclic Voltammetry and UV-Visible Spectrophotometer" **Research Journal of Chemistry and Environment**, 26(6) (2022) 8-14, [2.pdf \(worldresearchersassociations.com\)](https://www.worldresearchersassociations.com)

P. S. Seenidurai, P. Thillai Arasu and **A. Murugan**, “ Extraction and Characterization of natural lignocellulosic fiber from *Borassus flabellifer* leaf sheath. *Asian Journal of Chemistry*, 34(7) (2022) 1795-1798. <https://doi.org/10.14233/ajchem.2022.23731>

K. Gurushantha, K. S. Anantharaju, N. Kottam, K. Keshavamurthy, C.R. Ravikumar, B. S. Surendra, **A. Murugan**, H.C. Ananda Murthy, Synthesis of  $ZrO_2: DY^{3+}$  Nanoparticles: Photoluminescent, Photocatalytic and Electrochemical Sensor Studies, *Absorption Science & Technology*, 2022 (2022) 5664344.

Title: “Quest for Quest for Zinc Methoxyisoporphyrin Molecules: Experimental and Theoretical Studies”  
Karishma Devi Borah, Hano Yamang, N. Ghanashyam Singh, and Jagannath Bhuyan, *Chemistry Select*, 2022, Volume 7, Issue 1, doi.org/10.1002/slct.202103777

Pankaj Kumar Chaurasia, Nagraj, Nagendra Sharma, Sunita Kumari, Mithu Yadav, Sunita Singh, Ashutosh Mani, Sudha Yadava, Shashi Lata Bharati, Fungal assisted bio-treatment of environmental pollutants with comprehensive emphasis on noxious heavy metals: Recent updates.





**Biotechnology and Bioengineering**, January 2023 (Online first published on Oct 2022), 120(1), 57-81. <https://doi.org/10.1002/bit.28268>

Pankaj Kumar Chaurasia\*, Nagendra Sharma, Nagraj, Darshan Maganlal Rudakiya, Sunita Singh and **Shashi Lata Bharati\***. Fungal-Assisted Bioremediation of Agricultural Organic Pollutants (Pesticides and Herbicides). **Current Green Chemistry**, Oct 2022, 9(1), 14-25. <http://dx.doi.org/10.2174/2213346109666220927121948>

Pankaj Kumar Chaurasia\*, Shashi Lata Bharati\*, Sunita Singh and Sudha Yadava. An Insight on the Potential of Manganese Porphyrins in Cancer Treatment. Mini-Reviews in Organic Chemistry, August 2022, 20(5), 483-493. <http://dx.doi.org/10.2174/1570193X19666220427111016>

Sunita Singh, Pankaj Kumar Chaurasia, Shashi Lata Bharati. Functional roles of Essential oils as an effective alternative of synthetic food preservatives: A review. Journal of Food Processing and Preservation, August 2022, 46(8), e16804. <https://doi.org/10.1111/jfpp.16804>

Pankaj Kumar Chaurasia\*, Shashi Lata Bharati\*, Sunita Singh and Sudha Yadava. Effective Proficiency of Manganese Porphyrins as Catalysts in Chemical Transformations: A Review. Mini-Reviews in Organic Chemistry, Oct 2022, <http://dx.doi.org/10.2174/1570193X19666220513141040>

### **(b) Chapters in a book:**

Book Title: Emerging Nanomaterials and Nano-based Drug Delivery Approaches to Combat Antimicrobial Resistance, , ISBN: 978-0-323-90792-7)Chapter 14: S. P. Janani, P. T. Arasu, I. U. Muzaddadi, A. Murugan, C. R. Ravikumar, N. N. Yadav, H. S. Yadav (Photodynamic therapy with nanomaterials to combat microbial infections)

S. Pon Janani, P. Thillai Arasu, Ijaz U. Muzaddadi, **Arumugam Murugan**, C. R. Ravikumar, Nagendra N. Yadav & Hardeo S. Yadav, Photodynamic therapy with nanomaterials to combat microbial infections. In: Saravanan M., Barabadi H., Mostafavi E & Webster T. J. (eds), Micro and Nano Technologies: Emerging Nanomaterials and Nano-based drug delivery approaches to combat antimicrobial resistance, Elsevier, Chapter 14, pages 531-575, 2022.

**Arumugam Murugan**, Pon Janani Sugumaran, C. R. Ravikumar, Natarajan Raman, Hardeo Singh Yadav and P. Thillai Arasu, Porphyrins and Porphyrin-Based Nanomaterials for Drug Delivery systems, In: H. Barabadi, E. Mostafavi & M. Saravanan (eds), Pharmaceutical Nanobiotechnology for Targeted Therapy, Nanotechnology in the Life Sciences. Springer, Cham. Chapter 10, pages 281-312, 2022. [https://doi.org/10.1007/978-3-031-12658-1\\_10](https://doi.org/10.1007/978-3-031-12658-1_10)

A. Manohar, **A. Murugan** & M. Priyadharshan, Technology Integration in the Teaching and Learning Process, In: M. Karthick & M. Jayaprakash (eds), A Perspective of Digital Technologies in Higher Education, Krishna Publication House, Bhavnagar, Gujarat, Chapter 01, pages 01-11, 2023. ISBN : 978-93-90627-57-8

Chandana Sarma, **Shashi Lata Bharati\*** and Pankaj Kumar Chaurasia, Current Update on the Role of Manganese (II/III) Schiff Base Complexes in Organic Synthesis and Its Biological Applications. In book: Advances in Chemistry Research. Volume 75, Publisher: **Nova Science Publishers**, Inc., October 2022, pp 10-117.

Pankaj Kumar Chaurasia, **Shashi Lata Bharati\***, Applicability of Plants in Detoxification of Dyes, 2022, In: Bioremediation: Green Approaches for a Clean and Sustainable Environment, May 2022, **CRC Press**, pp. 249-262



Pankaj Kumar Chaurasia, **Shashi Lata Bharati\***, Sunil Kumar, Ashutosh Mani, Clinical Aspects of Ashwagandha, In: The Chemistry inside Spices & Herbs: Research and Development, Volume 2. **Bentham Science Publisher**, April 2022, 193-199. <http://dx.doi.org/10.2174/9781681089492122020010>

Pankaj Kumar Chaurasia, **Shashi Lata Bharati\***, Sunil Kumar, Ashutosh Mani. Turmeric Supplementation and Its Valued Clinical Connections. In: The Chemistry inside Spices & Herbs: Research and Development, Volume 1, **Bentham Science Publisher**, April 2022, 282-288. <http://dx.doi.org/10.2174/9789815039566122010013>

#### 4.8.10. Interaction of faculty / Department with outside agencies:

**J Bhuyan** : Interacted with the students of Kheraj Khat Higher Secondary School, Gosaibari, Lakhimpur, Assam and delivered an individual talk as a part of scientific social responsibilities of the SERB project MTR/2019/223 on 15/10/2022.

#### 4.8.11. Achievements of students:

Hirak Jyoti Bhuyan, M.Sc. 2020 batch student qualified GATE-2023.

Bondona Kalita, M.Sc. 2021 batch student qualified GATE-2023.

Awarded Ph.D. Degree to **N. Ghanashyam Singh**, Roll No.- PhD/PT/15/CH/01 Title of the project: **MAGNESIUM AND ZINC PORPHYRIN COMPLEXES: SYNTHESIS, CHARACTERIZATION AND PROMISING APPLICATION** - Name of the guide: Dr. Jagannath Bhuyan

Awarded Ph.D. Degree to **Miss. Nene Takio**, Roll no. Ph.D. (FT)/17/CH/01 and Registration Number. 517/012 on the topic: **PURIFICATION AND BIOTECHNOLOGICAL APPLICATIONS OF CATALASES FROM PLANT SOURCE** on September, 2022 under the Supervision of **Dr. J. Bhuyan**

#### 4.8.12. Any other relevant information:

One PhD Student (Mr. Pranjit Saikia) qualified CSIR- UGC NET Exam

## 4.9 DEPARTMENT OF PHYSICS

### 4.9.1 Academic Activities

Department of Physics imparts certificate, diploma and degree level physics education to engineering students of the following technical departments:

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

The department also has PG and PhD programs. M. Sc. program has focus on condensed matter physics. However, besides condensed matter physics, research programs have diverse specializations such as plasma physics, spectroscopy, biomedical physics, device physics, chemical physics, particle physics, acoustic phonetics, climate physics, etc.

Due to acute manpower shortage (teaching, non-teaching, technical and administrative staff), the Physics Department faced difficulties in providing quality teach services to students. A Physics Course was transferred to Computer Science and Engineering Department without following codal formalities due to faculty shortage.

### 4.9.2 Laboratories & Laboratory Development

No new labs set up and no equipments added during the last financial year 2022-23. The department experienced acute manpower shortage during the year, which adversely affected the management of the existing labs and their development. In fact, with reduced quality and quantity of manpower, quality comprises in teaching and lab services became inevitable. The shortfall management was done at the expense of the health of the available faculty members.

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

#### I. M.Sc. PROJECTS:

**Project Coordinator: Prof. Tado Karlo**

Sl. No.	Project title	Project Guide
1.	Theoretical study on electrical properties of alkali halide crystal with polar impurity	Dr. Mukesh Upadhyay
2.	Synthesis and characterization of ZnS nanoparticles	
3.	Theoretical study on optical properties of alkali halide crystals with polar impurities	
4.	Ab initio study of structural, electronic and vibrational properties of $Ti_xMg_y$ ( $x+y= 2$ to 4) nanoclusters	Dr. Rajesh Kr. Yadav
5.	Theoretical study of physical properties of $Ga_xSb_y$ ( $x + y = 4$ ) nanoclusters: a first principle study	
6.	Theoretical Study of Structural and Electronic Properties of InSb Nanoclusters.	
7.	A DFT study of pure and transition metal (Cu, Fe, Ni and Co) doped $Ga_{12}N_{12}$ nanocage	

8.	Study of magnetic reconnection in plasma	Dr. Kamal Saharia
9.	A study of ionospheric plasma in radio communication	
10.	Study of plasma sheath evolution, structure and its behavior in electronegative plasma	
11.	A review on reconfigurable patch antennas using PIN diodes as switches	Dr. Kunal Borah
12.	Microstrip patch antennas for 5G cellular network: A review	
13.	Microstrip patch antennas based on different metamaterial substrates: A review	
14.	A review on reconfigurable patch antennas using optical switches	

#### 4.9.4. Publications:

##### (a) Refereed Journals

Jyotshna Saikia, Th. Gomti Devi, T. Karlo, Synthesis, spectroscopic, and molecular interaction study of lead(II) complex of DL-alanine using experimental techniques and quantum chemical calculations, **Journal of Molecular Structure**, 1283 (2023) 135208

Neelam Chetry, T. Karlo, Th. Gomti Devi, Intermolecular interaction study of Ag-amino acid biomolecular complex using vibrational spectroscopic techniques and density functional theory method, **Journal of Molecular Structure**, Vol. 1266 (2022) 133410

Ashok Kumar Thakur, Mukesh Upadhyay and D. N. Pandey, Entropy for  $\langle 100 \rangle + \langle 111 \rangle$  tunnelling model, **Indian Journal of Natural Sciences**, Volume 13, Issue 73 (2022) 46519-46523

Sohini Goswami and R. K. Yadav, A DFT Study of structural, electronic and vibrational properties of small SnGe nanoclusters, **Zeichen Journal**, Vol. 8, Issue 11 (2022) 77-103

Rajkamal Kakoti, K. Saharia, The dust ion acoustic rogue waves in a plasma with Maxwellian negative ions, **AIP Conference Proceedings**, 2357 (1) (2022) 040015

R. Kakoti, K. Saharia, Study of formation of rogue waves in an electronegative plasma with non-extensive electrons, **AIP Conference Proceedings**, 2357 (1) (2022) 040005

S. N. Meitei, K. Borah and S. Chatterjee, Review on monitoring of transformer insulation oil using optical fiber sensors, **Results in Optics**, Vol. 10 (2023) pp. 100361

B. Saikia, K. Borah, Parasitic array based radiation pattern reconfigurable patch antenna for WLAN application, **Advanced Electromagnetics**, 11(4) (2022) 42–50

P. Dutta, K. Borah, Lithium orthosilicate - linear low-density polyethylene nano-composite as substrate for high frequency devices: dielectric characterization, **Indian Journal of Pure & Applied Physics**, Vol. 60 (2022) pp. 876-882

P. Dutta, K. Borah, Dielectric studies of nano-magnesium silicate and linear low-density polyethylene composite as a substrate for high-frequency applications, **J. Electron. Mater.**, 51 (2022) 5368–5375

B. Saikia and K. Borah, A compact frequency reconfigurable patch antenna with asymmetric armed U and reversed L slots for handheld wireless devices, **International Journal of Microwave and Wireless Technologies**, 1-9 (2022)

B. Saikia and K. Borah, “A parasitic array based pattern reconfigurable patch antenna for Wi-Fi 6E application”, **Progress In Electromagnetics Research M**, Vol. 107 (2022) 119–129

### (b) Conference Papers

Jyotshna Saikia, Th. Gomti Devi, T. Karlo, DFT calculations, spectroscopic investigations, and molecular docking study of methylprednisolone with some selective cancer proteins, **XIII National Physics Conference of PANE (2022)** Manipur University

Chiging Sonia, Th. Gomti Devi, T. Karlo, Quantum chemical analysis and spectroscopic characterization of escitalopram, **XIII National Physics Conference of PANE (2022)** Manipur University

M. Upadhyay, Synthesis and characterization of ZnO Nano particles, II National Conference on Computational and Characterization Techniques in Engineering & Sciences, Rajkiya Engineering College, Ambedkar Nagar, February 27-28, 2023.

### (c) Books

Akbari Jahan, Online pedagogy during the pandemic: an overview on its challenges and prospects, in: **Proceedings of the National Conference on Engineering Education**, NITTTR Kolkata (2022) ISBN 978-81-956423-0-4

Jyotshna Saikia, Th. Gomti Devi, T. Karlo, Structural insight, charge transfer mechanism and spectroscopic studies of gulcorticosteriod drug, hydrocortisone, in: **Frontiers in Physical Sciences** (2023) ISBN 97893-93092-29-8

Chigin Sonia, Th. Gomti Devi, T. Karlo, Molecular property analysis and natural orbital bond study of the antidepressant drug vortioxetine by DFT method, in: **Frontiers in Physical Sciences** (2023) ISBN 97893-93092-29-8

Dr. M. Sengupta, Dr. Th. Gomti Devi, Dr. K. Borah, **“Problem Solutions in Physics**(for Class XII +Competitive Examinations: Volume-1”, Levant Books (2022) ISBN: 978-93-91741-16-7.

### Ph.D. Awarded

Sl. No.	Scholar's Name	Title of Thesis	Supervisor(s)
1.	Amarjyoti Das	Theoretical Study of Structural, Electronic and Vibrational Properties of Nanostructures	R. K. Yadav
2.	Ashok Kumar Thakur	Theoretical Study of Optical and Electrical Properties of Alkali Halide Crystals with Impurities	M. Upadhyay
3.	Bhaben Saikia	Design and Analysis of Reconfigurable Microstrip Patch Antennas for C Band Applications	K. Borah
4.	Neelam Chetry	Vibrational Spectroscopic Studies of Bio-Molecules and Their Metal-Complexes	Tado Karlo Th. Gomti Devi

### FDP/STTP Attended by Faculty:

S. No.	FDP/STTP	Attended by
1.	FDP on Disaster Management, NERIST, February 22-24, 2023	M. Upadhyay R. K. Yadav K. Saharia
2.	Two weeks Industrial Training Program on Machine Learning and its Applications using Python, IIT Madras, December 19 - 30, 2022	Akbari Jahan Kunal Borah
3.	NITTT FDP Modules, NITTTR Chennai, April 1 - May 31, 2022	Akbari Jahan



4.	2nd International Conference on Best Innovative Teaching Strategies, BITS Pilani, February 9 - 11, 2023.	
5.	FDP on Soft Skills for Teachers, NITTTR Kolkata, November 21 - 25, 2022	
6.	One week Training Program on High Voltage Testing of Insulating Materials, NERIST, May 9-15, 2022	

### Invited Talks

K. Saharia, Invited talk on the topic “q-Nonextensive particle distribution, Negative ions and Plasma Sheath”, National Conference on Physical Science (NCPS-2022) organized by DHSK College, Dibrugarh, April 29-30, 2022.

K. Borah, Invited talk on the topic “Reconfigurable microstrip patch antennas “, Negative ions and Plasma Sheath”, in National Conference on Physical Science (NCPS-2022), DHSK College, Dibrugarh, April 29-30, 2022.

## 4.10 DEPARTMENT OF MATHEMATICS

### 4.10.1 A Brief Profile of the Department

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

### 4.10.2. Academic Activities:

UG and PG Syllabus revision completed. Ph.D. syllabus has been approved through BPGS.

### 4.10.3. Laboratories and Laboratory Development

Lab work sheet have been designed for PG courses, Computation Laboratory has been established.

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

Project Guide	Project Title	Student
Dr. M. M. Dixit	"Optimal Solution of Transportation Problem by Modi Method".	Tarunjyoti Saikia Roll No.MS/20/MA/016
Dr. M. M. Dixit	"Fourier Series and its Application".	Krishna Changmai Roll No.MS/20/MA/012
Dr. M. Hassan	"Survival of spotted owls".	Mr. Pankaj Kumar Roll No.MS/20/MA/017
Dr. M. Hassan	"Face recognition using PCA".	Mr. Ajeet Thapa Roll No.MS/20/MA/007
Dr. M. Hassan	"Leontief input output model".	Ms. Tamchi Ania Roll No.MS/20/MA/005
Dr. M. Hassan	"Application of perspective projection".	Ms. Renung Tair Roll No.MS/20/MA/008
Dr. M. Hassan	"The hidden subgroup problem".	Mr. Nanag Tapak Roll No.MS/20/MA/011
Dr. M. Hassan	"Study of perfect numbers and perfect group".	Mr. Nilutpal Saikia Roll No.MS/20/MA/010
Dr. M. Hassan	"Study on direct product & direct sum of groups".	Ms. Prarthana Dutta Roll No.MS/20/MA/013
Dr. M. Hassan	"Singular value decomposition and its applications".	Ms. Pallabi Borah Roll No.MS/20/MA/014
Dr. M. Hassan	"application of operational research	Ms. Prithisha Barik



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

##### Dr. M. Hassan

Online Faculty Development Programme on “Introduction to Python Programming and its Applications” organized by E and ICT Academy IIT Guwahati held from 21 - 26 February, 2022.

“Evaluation of Surge Radiation Problem by a Cylindrical Structure in Presence of Bottom Obstacle in a Uniform Water having Finite Channel Width”, National conference of Academy for Progress of Mathematics on Recent Advances in Mathematical Analysis and Applications (NCAPM-RAMAA-2022)" 07th-08th May, 2022, at DST-Centre for Interdisciplinary Mathematical Sciences, Institute of Science, Banaras Hindu University Varanasi-221005, India.

Participated in AICTE-sponsored Short Term Training Programme (STTP) on "Digital Tools for Writing, Authoring, Reviewing Research Articles, and Managing Classes for Effective Teaching" organized by the Department of Electronics and Communication Engineering, North Eastern Regional Institute of Science and Technology (NERIST), Arunachal Pradesh, India, from 16-21 January 2023 under the AICTE Quality Improvement Schemes (AQIS)

“Some results of the exciting forces by a vertical cylindrical structure above a coaxial circular plate in two-layer fluid”, presented in INTERNATIONAL CONFERENCE OF THE MATHEMATICAL SOCIETY-BANARAS HINDU UNIVERSITY ON RECENT TRENDS IN MATHEMATICAL AND COMPUTATIONAL SCIENCES (RTMCS) from 3-5 Feb 2023, organised by Organized by DST-Centre for Interdisciplinary Mathematical Sciences, Institute of Science, Banaras Hindu University, Varanasi, UP.

Two week AICTE ATAL sponsored FDP on Artificial Intelligence, Machine Learning and Internet of things towards Engineering Application at NERIST, from 20 Feb 2023 to 3rd March 2023 in hybrid mode.

##### Dr. C. P. Pandey

Presented a paper on “*Solution of certain type of integral equations by Bessel wavelet*” at National conference on Harmonic Analysis and Applications at Department of Mathematics and Computing, IIT(ISM), Dhanbad, 2-4 December, 2022

##### Dr. M. M. DIXIT

Presented a paper on “*Application of wavelet transforms to solve the integralequations*” in National conference of academy for progress of Mathematics Recent Advances in Mathematical Analysis and Applications at Institute of Science, Banaras Hindu University during 7-8 May, 2022.

Presented a paper on “*Wavelets Associated with Hermite Polynomial*” in National conference on Harmonic Analysis and Applications at Department of Mathematics and Computing, IIT(ISM), Dhanbad during 2-4 December, 2022.

#### 4.10.6. Publications :

##### (a) Referred journal

**B.K. Singh.** “Estimation of Population Mean using Ratio Type of Imputation Techniques with Two Auxiliary Variables in Two-Phase Sampling”, ANVESAK, ISSN: 0378-4568, Vol.52, No (1), 2022

M. M. Dixit, **C. P. Pandey**, Abhishek Kumar Pandey and Pranami Phukan. “Application of Dunkl Wavelets to solve the Integral Equations”, Journal of Physics: Conference Series(SCOPUS) 2236 (2022) pp 1-8, doi:10.1088/1742-6596/2236/1/012001.

**C.P. Pandey** and Jyoti Saikia. “The Continuous Wavelet Transform for a q-Bessel Type Operator”, Int. J. Anal. Appl. (2022), 20:33 <https://doi.org/10.28924/2291-8639-20-2022-33> ISSN: 2291-8639, pp.1-19 Web of Science, Scopus

**C.P. Pandey**, Khetjing Mounkang, Sunil Kumar Singh, M.M. Dixit and Mopi Ado. “Inversion Formula for the Wavelet Transform on Abelian Group”, Int. J. Anal. Appl. (2022), 20:64, <https://doi.org/10.28924/2291-8639-20-2022-64> ISSN: 2291-8639, pp 1-7, Web of Science, Scopus

**C. P. Pandey** and Pranami Phukan. “Calderon’s Reproducing Formula for Bessel Wavelet Transforms”, Boletim da Sociedade Paranaense de Matemática, ISSN-0037-8712, doi:10.5269/bspm.63279 (Web of Science, Scopus), 2023

**M. M. Dixit**, C P Pandey, Abhishek Kumar Pandey and Pranami Phukan. “Application of Dunkl Wavelets to solve the Integral Equations”, Journal of Physics: Conference Series(SCOPUS) 2236 (2022) pp 1-8, doi:10.1088/1742-6596/2236/1/012001.

Samom Jayananda Singh, Rajesh Kumar and **M. M. Dixit**, “Printed monopole antenna design with CPW fed for ultra-wide band application”, Published under licence by IOP Publishing Ltd., Journal of Physics: Conference Series, Volume 2236, 2nd International Conference on Computational Intelligence & IoT (ICCIoT), 2021 23/02/2022 - 24/02/2022 Online Citation Samom Jayananda Singh et al 2022 J. Phys.: Conf. Ser. 2236 012010DOI 10.1088/1742-6596/2236/1/0120

**M. Hassan** and P. Borah “Surge Hydrodynamic Coefficients Due to a Floating Cylindrical Structure in Presence of a Bottom-Mounted Circular Plate in a Channel of Finite Depth”, International Journal of Applied and Computational Mathematics, E-SCI Springer Nature, 8, 193 (2022) Electronics ISSN 2199-5796, print ISSN 2349-5103, <https://doi.org/10.1007/s40819-022-01391-5>.

**M. Hassan and L. Tashi** “Analytical Solution of Diffraction by a Composite Cylinders Above a Spacial Bottom Undulation in Uniform Water Communications in Mathematics and Applications”, Scopus, Vol. 13, No. 2, pp. 717–724, (2022), ISSN 0975-8607 (online), print ISSN 0976-5905, [https://doi: 10.26713/cma.v13i2.1801](https://doi.org/10.26713/cma.v13i2.1801)

#### **4.10.7. Achievements of students**

Twenty-four students have been awarded Ph.D. Degree till date.

## 4.11. DEPARTMENT OF HUMANITIES AND SOCIAL SCIENCES

### 4.11.1 A Brief Profile of the Department

The Department of Humanities and Social Sciences (HSS) currently offers courses in English, Economics, Psychology, Political Science, and Management. to the undergraduate students of engineering and technology. The Department also offers PhDs in Psychology, Economics, and English. Apart from fulfilling the academic requirements, the Department provides consultancy services to various small and medium-scale industries of the Northeastern region. This is coupled with successfully hosting various short-term and need-based training programmes, seminars and special lecture series for executives, teachers, and 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 Education (formerly, the Ministry of Human Resource Development), etc.

### 4.11.2. Laboratories and Laboratory Development

#### Communication Skills Development Laboratory:

The Department of HSS has a Language and Communication Skills Development Laboratory under the MHRD MODROB scheme under the leadership of **Prof. B.D. Nayak (P.I.)** and **Shri Ranendra Prasad, (Co-P.I.)**. This laboratory is equipped with modern and latest equipment and audio system LCD TV, LCD Projector and Computer facility. This laboratory has the capacity of accommodation for 45 students.

The Department of HSS has a Seminar Hall under AICTE MODROB Scheme under the leadership of **Prof. B.D. Nayak (P.I.)** and **Shri Raju Barthakur, (Co-P.I.)**. This laboratory is equipped with modern and latest equipment and audio system LCD TV, LCD Projector and Computer facility. This laboratory has the capacity of accommodation for 56 students.

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

Prof. Raju Barthakur has been appointed as a Member of the Committee for Internationalization of NEP 2020 in Assam by the Government of Assam.

### 4.11.4. Achievements of students

#### Ph.D. Degree Awarded under the Supervision of :

##### Prof. B. D. Nayak

Mr. Manoj Das has been awarded Ph. D. for his thesis titled “ A STUDY ON SOCIO-ECONOMIC PROBLEMS OF URBAN STREET VENDORS IN ASSAM...” in the Month of April, 2023.

##### Prof. S. Sinha

Mr. Mudang Tagiya has been awarded Ph. D. for his thesis titled “ Factors Related to Carrer Success...” in the Month of March, 2023.

### 4.11.5. Additional responsibilities taken up by the Faculty Members of the Department

Prof. P. Parida Ph.D (IIT, Delhi)	➤ Head of the Department.
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Mr. Ranendra Prasad M. Phil, (Univ. of Hyderabad)	<ul style="list-style-type: none"><li>➤ In-charge Computer Lab.</li><li>➤ In charge Communication Skills Lab.</li></ul>
Prof. Raju Barthakur Ph.D (Tezpur University)	<ul style="list-style-type: none"><li>➤ In-charge, Departmental Seminar Hall</li><li>➤ Member, Library Advisory Committee, NERIST</li><li>➤ Adviser, Training and Placement</li><li>➤ Member, NERIST Post Graduate Entrance Examination Committee (NEPGET)</li></ul>

## 4.12 CENTRE FOR MANAGEMENT STUDIES

### 4.12.1 A Brief Profile of the Department

Centre for Management Studies (CMS) intends 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 offers two years residential fulltime MBA program with a strength of 30 seats as approved by AICTE in various specialization areas i.e. Human Resource Management, Marketing Management, System Management and Financial Management. Besides MBA program, other activities of the Centre are as follows:

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

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

### 4.12.2 Academic activities

Name of faculty members	Course code	Course Title	No. of students	No. of weekly hours	
Dr. S Choudhury	MB 6003	Entrepreneurship in Renewable Energy	60	03	
	MB7103	Quantitative Techniques	30	03	
	MB7105	Operations Management	30	03	
	MB 7151	Business Communication & IT Lab	30	02	
	MB 8191	Industrial Training	30	04	
	MB7204	Management Information Systems	30	03	
	MB7205	Financial Markets Institutions & Services	30	03	
	MB8201	International Business	22	03	
		MB8130	Strategic Human Resource Mgt.	14	03
	MB 8299	Dissertations	07	08	
Dr. B Sarmah	MB7101	Principles of Management	30	03	
	MB8120	Sales & Distribution Management	12	03	
	MB8121	Marketing of Services	12	03	
	MB7201	Marketing Management	30	03	
	MB8220	Integrated Marketing Communication	12	03	
	MB8221	Consumer Behavior & Retail Marketing	12	03	
	MB7108	Business Environment	30	03	
	MB7151	Business Communication & IT Lab	30	02	
Dr. M Mall	MB7102	Business Economics	30	03	
	MB7104	Accounting for Managers	30	03	
	MB7106	Business Law	30	03	

	MB8151	Enterprise Resource Planning	22	04
	MB8111	Corporate Taxation	14	03
	MB9001	Research Methodology [Ph.D.]	14	03
	MB8101	Project Management	22	03
	MB8110	Security Analysis & Portfolio Mgt.	14	03
	MB8210	International Financial Mgt.	14	03
	MB8211	Financial Derivatives & Risk Mgt.	14	03

#### 4.12.3 Short-term courses/seminars/workshops/conferences organized by faculty members.

Dr. B. Sarmah has successfully convened a Global Conference on Hospitality and Tourism Conference on Contemporary Marketing Paradigms (GHTC-2022) jointly with NEHU, Shillong on 27, 28 and 29 July, 2022 sponsored by Ministry of Tourism, New Delhi, NABARD, ICSSR-NERC etc.

Dr. B. Sarmah has successfully coordinated People's Education Programme on 9<sup>th</sup> and 10<sup>th</sup> March 2023 that was sponsored by the State office, KVIC, Itanagar, Arunachal Pradesh.

#### 4.12.4 Short-term courses participated by faculty members.

**Sarmah, B.** participated in a Two-weeks Faculty Development Programme on 'ICT Tools for Teaching, Learning Process & Institutes' sponsored by Electronics Academy, IIT Guwahati, Assam and organised by the Centre for Management Studies, NERIST during 15<sup>th</sup> -26<sup>th</sup> March, 2021.

**Sarmah, B.** participated in an AICTE-sponsored Short Term Training Programme (STTP) on "Digital Tools for Writing, Authoring, Reviewing Research Articles and Managing Classes for Effective Teaching" organized by the Department of Electronics and Communication Engineering, North Eastern Regional Institute of Science and Technology (NERIST), Arunachal Pradesh, India from 16<sup>th</sup> to 21<sup>st</sup> January 2023 under the AICTE Quality Improvement Schemes (AQIS).

**Sarmah, B.** participated in a Green Consumerism - A study on assessment of awareness among young consumers in Arunachal Pradesh on International Conference on Multi-Disciplinary Research Perspectives held on 16-17 Feb 2023 by Bhopal School of Social Sciences, Bhopal (India).

#### 4.12.5 Projects sanctioned by outside agencies to the faculty of the department

"Large Cardamom and Other Multilayer Innovative Farming in Mengio Circle of Arunachal and Its Impact on Sustainable Rural Livelihood." PI: Dr. S. Choudhury, Amount: ₹40.7 Lakh, Source: NMHS, Govt. of India.

"Sustainable bio-tourism in Ziro of Arunachal Pradesh: promoting micro hydel-solar PV hybrid generation operated cottage industry for biodegradable disposable serving dish utilizing locally available non-poisonous leaves", PI: Dr. S. Choudhury, Amount: ₹40.7 Lakh, Source: DST, Govt. of India.

"An assessment of health care waste management practices in health care units", Amount: ₹.10L, PIs: B. Sarmah, Source IMPRESS ICSSR, Govt. of India.

#### 4.12.6. Publications

##### Dr. S. Choudhury

Evaluation and selection of large cardamom supply chain using fuzzy logic based decision-making model, Journal of Food Process Engineering, Wiley online library.

Perception Mapping of Internet of Things in Augmenting Agroforestry: A Preliminary Exploration, Information Systems for Intelligent Systems: Proceedings of ISBM 2022, 263-269, Springer Nature Singapore.

Energy and exergy analyses of solar drying of black cardamom (*Amomum subulatum* Roxburgh) using indirect type flat plate collector solar dryer, *Journal of Food Process Engineering*, Willey.

### **Dr. B. Sarmah**

Linking the intrinsic and environmental constraints with PwD tourists' behavioral intentions toward a travel destination: Mediating role of learned helplessness, *Journal of Tourism Futures*, SCOPUS, Emerald Publications.

Customer involvement and servitization in hybrid offerings: Moderating role of digitalization and co-creation, *International Marketing Review*, SSCI 7.304 5-year IF, ABDC-A.

### **Dr. M. Mall**

Exploration of Factors of Information Communication Technology (ICT) in the Socio-Economic Development of Nagaland, India-A Citizen Perspective, *Journal of Positive School Psychology* 6 (3), 3108–3119-3108–3119.

#### **4.12.7. Any other relevant information**

Summer Internship Project (SIP) for 45 days by MBA Students

Students have undergone SIP in various organizations situated in various parts of north eastern region as well as in different cities of India such as: Ayana, AMUL, Axom Urja, Department of Planning-Govt. of Arunachal Pradesh, India Post Payments Bank (IPPB), NEEPCO, APIIP, Arunachal Pradesh, Odisha Coffee Growers Association, Poct Services Private Limited, Pratihtha NGO, UCO Bank.

Doctoral student guidance by the faculty members

Prof. R.M. Pant	:	Mr. Banta Natung, Mr. Licha Tado
Dr. S. Choudhury	:	Ms. Soumya Das, Ms. Jyoti Hatiboruah, Ms. Athira R., Mr. Pill Biman, Mr. David Lalrochunga, Mr. S. K. Ghosh
Dr. B. Sarmah	:	Mr. Julfiqur Rahman, Ms. T. S. Devi, Mr. S. Ghosh, Ms. Kriteem Thapa, and Mr. Harsh Singh
Dr. M. Mall	:	Ms. Laxmi Roy, Mr. K D Vizo, Mr. Tenzing Norbu, Mr. Jyoti Prabhat Duarah.



## SECTION – 5

### CENTRAL FACILITIES, SERVICES AND ACTIVITIES

#### 5.1. CENTRAL LIBRARY

##### 5.1.1. Brief Profile of the Library:

The Central Library which is the heart of the Institute was established in 1983. It provides one of the important academic services to the Institute. It is a well-equipped Library, centrally located with easy access, and does provide the right impetus for the intellectual growth of the students, teachers, research scholars & others around. The library has its own independent building of three floors with a carpet area of 3888 Sq. Meter. The reading room remains open from 8.00 AM to 12.00 PM on all days. The library has a collection of over 65565 text, reference books, 37638 text books in the Book Bank, and 2631 E-books. The library is subscribing to 101 Journals/Magazines and 10 National/Regional dailies to provide a base for enhanced learning. The Central Library with its modern collection of knowledge resources and innovative information services supports a complementary role for students, faculty, and the surrounding community in their intellectual pursuits. The library holds knowledge resources predominantly related to Science and Technology, Humanities and Social Science, Management, and other allied subjects. The library services are fully automated through RFID Circulation & Security System and are covered with high-speed Wi-Fi/Internet facilities for its registered users.

The Institute is also a member of the E-Sodh Sindhu Consortium, MHRD, Govt. Of India which provides access to e-resources (ASME, ASCE, Oxford University Journals, Web of Science. Besides this, it also subscribes to journals and databases of JSTOR e-resources, Department of Biotechnology Sponsored DeLCON, Springer e-journals, Science Direct, and ACM Journals for the user of the Institute. It possesses ISI Codes on CD-ROM and other educational DVDs. It receives literature and information services from the Indian Liquid Crystal Society, Bangalore, and Kaziranga Wild Life Society of Assam, being as an institutional member. The library is a registered member of the National Digital Library, Sponsored by MHRD, New Delhi coordinated by IIT, Kharagpur

##### 5.1.2. Books/Journal & Newspapers

A) Books (Text & Reference)	= 65565
B) Books (Text) in Books Bank	= 37638
C) E-books (Unlimited Access)	= 2631
D) Journals	= 101
E) News Papers	= 10

##### 5.1.3. E-Resources/Journals

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

1. ACM Digital Library- 1139 titles
2. ASCE Journals online -35 titles
3. ASME Journals online -28 titles
4. Institute for Studies in Industrial Development (ISID) Database
5. J-Gate Plus (JCCC)
6. J-STORE (Data Base)
7. Economic & Political weekly

8. Web of Science Lease Access
9. Oxford University Press – 141 Titles

**5.1.4. Indian Standards:** Library possess a set of Indian Standard published by BIS on CD ROM.

**5.1.5. A/V Materials:** 139nos.DVD “Video Training Program” is available for different departments.

**5.1.6. Institutional member:**

1. Indian Liquid crystal society, Bangalore,
2. Kaziranga Wild life society, Assam,
3. Association of Indian University, N. Delhi
4. National Digital Library, Sponsored by MoE, New Delhi.
5. e-Resources: World e-Book Library and South Asia Archive (SAA)

**5.1.7. Departmental Library:**

Departmental library has been set up for all 11 departments. Books have been procured by the library for departments are as:

i) Physics	= 29	ii) Chemistry	= 86	iii) Mathematics	= 740
iv) Humanities	= 252	v) Agri. Eng.	= 275	vi) Civil Eng.	= 111
vii) Electrical Eng.	= 118	viii) Electronics Eng.	= 434	ix) Computer Sc.	= 234
x) Mechanical Eng.	= 190	xi) Forestry	= 71		

**5.1.8. USER SERVICES/ FACILITIES:**

**Circulation Service:** Library provides its core service of circulation from stack. Students and faculties are issued library books as stated below.

a) Faculty member's	15 Books to each member
b) Technical staff	5 Books to each member
c) Officers	3 Books to each member
d) Base module Students	3 Books to each Student
e) Degree Module Students	5 Books to each Student
f) PG Students	6 Books to each Student
g) Ph. D (Full Time) Students	6 Books to each Student

**Reference service/ Reading facility:** Library provides reference service to the users with the sitting capacity of 80 persons with 3780 books of reference. Reading facility is provided separately with a sitting capacity of 160 seats. The reading room remains open from 8.00AM to 12.00 PM on all days (Seven days/week).

**Book Bank:** There is separate Book bank of 37638 vols., provided to UG students as per syllabus. The students get a set of text books for the semester covering all courses of the semester. Number of text books available module- wise, are as stated below.

1. Base Module	: 10522 vols. - 154 titles
2. B.Tech Module	: 24466 vols. – 225 titles
4. Degree Forestry	: 2650 vols. – 103 titles

**5.1.9. Library Automation:**

The library services are fully automated through Advanced RFID Circulation & Security System through LIBSYS Library Management System and are covered with high-speed Wi-Fi/Internet facilities for its users.

**5.1.10. Average circulation Issue/Return**

300 books per day in the beginning of the semester & App. 100 books per day in other days.

## 5.2 TRAINING AND PLACEMENT

### 5.2.1 Profile of the Section:

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

### 5.2.2 Status report regarding activities:

#### a) Training:

The Cell organizes industrial training or field training for a period of 04 weeks for the Agricultural, Civil, Computer Science, Electrical, Electronics & Communication, Mechanical Engineering students, at the end of the pre-final year during summer vacation, which is a compulsory requirement in partial fulfillment of the requirements of B.Tech. curriculum. Some of the organizations where NERIST students undertook their training during 2022 on On-line Mode are:

NERIWALM, Tezpur, IIFPT, Guwahati, OIL, Power Grid Corpn. of India Ltd., NTPC, NHPC, MeECL, IOC, ONGC, NEEPCO, Airport Authority of India Ltd., IITs, NIC, BSNL, MSME, CETPA, LEARN & BUILD, POSOCO, DDK, NITs, Coal India Ltd., DRDO etc.

This Cell arranges On-Campus and Pool Campus drives for the final year B.Sc./ M.Sc. (Forestry), B. Tech./M.Tech. and MBA students. All facilities are provided to officials of companies to conduct campus interview at NERIST. Arrangements are also made for conducting Pool campus interviews at NIT Arunachal/Shillong, Tezpur University, SIT Siliguri, SMIT, Gangtok and AEC Guwahati.

The Companies/PSU which conducted Pool Campus/Campus interviews during the last academic year are as under:

TCS, CAPGEMINI, INFOSYS, COGNIZANT, ITC INFOTECH, PENTAGON SPACE, ABZOOBA, OIL, JSW, HCL, RELIANCE JIOMART, INDRAPRASTHA GAS GRID, PLANET SPARK, INTELLIPAT, COLLABERA, SONATA SOFTWARE, CSGI etc.

The Placement Cell also guides and helps the final year students in securing jobs commensurate with their knowledge and other achievements, by organizing campus interviews and exploring various avenues for their placement.

### 5.2.3 Initiatives of T&P towards improvement of Placement statistics:

Considering the lack of preparedness and proper sensitization of our students for appearing screening tests during campus interviews and in order to facilitate screening and interface with major companies, T&P Cell organized mock online screening tests for the B.Tech. final year students which was conducted by M/s Aon CoCubes, Bangalore. A substantial number of students from different disciplines participated on the different types of 'On-line Tests' conducted by M/s Aon CoCubes. The Tests were conducted on 15<sup>th</sup> to 21<sup>st</sup> February '23 & 1<sup>st</sup> -4<sup>th</sup> March '23 for the B.Tech. final year students passing out in June, 2023.

To streamline the entire placement process, the Training & Placement Cell has entered into an agreement with M/s GREEKTURTLE, Bhopal, and adopted 'TnPSuite' later renamed as 'Superset' a software by the Firm. Now the placement process(s) has been totally automated and overcome operational challenges thereby forming a platform that connects students and recruiters to Placement Cell, which is serving as a Central Placement System, where we connect the students and the companies managing all data, tracking



the work, automating all placement process steps, monitoring offers, analyzing student performance to determine training needs, gaining insights from reports and customizing the system to office specific needs.

#### **5.2.4. MoU with other Institutions:**

NERIST has entered into a tripartite agreement with the Rajiv Gandhi University, Doimukh and National Institute of Technology (NIT), Arunachal Pradesh to study, deliberate and suggest ways and means to improve the institutional ranking prospects and opportunities for the students for job placements within the existing human and financial resources of the Universities/Educational Institutions. Accordingly, the three institutions have decided to conduct joint workshops for students in areas like Communication and Soft skills, etiquette, and other skills as required by the industry and markets. Further, it has been decided to share the database of the students of three institutions with the prospective recruiters and conduct joint recruitment drives as well.

NERIST also has entered into an MoU with M/s Aries Process Consultants, Jorhat, initially for one year to augment its Placement activities for aspiring students passing out in June, 2023. The Consultant Company has assured to conduct at least 10 (ten) Placement Drives per month.

## 5.3 RESEARCH AND DEVELOPMENT CELL (R&D Cell)

### 5.3.1 . A Brief Profile of the Section

The NERIST Board of Management in its 51<sup>st</sup> meeting held on 28.08.2001 had approved the Sponsored Research and Industrial Consultancy (SRIC) Cell in NERIST to look after the smooth running of various sponsored research projects in the Institute. Presently the Cell is headed by a Professor as Coordinator. One 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, Agricultural Engineering, Civil Engineering, Mechanical Engineering, Computer Science Engineering, Electrical Engineering etc. are being dealt by the Finance Section.

As per UGC guideline no. 1-5/2021 (NEP/Desk-Parl.) dated 14<sup>th</sup> March 2022, *nomenclature of Sponsored Research and Industrial Consultancy (SRIC) cell of NERIST has been changed to Research and Development Cell (R&D Cell) on 21<sup>st</sup> June, 2022.* As per UGC guideline, Research advisory Council (RAC) has been constituted as below:

### Research Advisory Council (RAC) of NERIST

Chairman – Director (NERIST)

Members –

1. Coordinator, Research and Development Cell
2. Coordinator, Institute Industry Cell
3. Coordinator, Research Information Management Cell
4. Coordinator, Intellectual Property Right Cell

### 5.3.2. Status Report regarding activities.

Presently about 22 Nos. of projects in various departments of NERIST are going on. Each project is being run by a P.I and other office functionaries as per guidelines of the sponsoring agency.

Sl. No.	Title of the Project	Funding Agency	Project No.	Name of PI
1	Human Engineering and safety in Agriculture	ICAR	128	Dr. K.N. Dewangan
2	Diversity Assessment, Germplasm Conservation and Database Development on Banana Resources of North Eastern India	DBT	257	Dr. Suresh Kumar Singh
3	Consortium for Managing Indian Banana resources	DBT	258	Dr. Suresh Kumar Singh
4	Screening of Banana germplasm for the NE from Fusarium wilt resistance and molecular characterization in contrasting genotypes	DBT	259	Dr. Suresh Kumar Singh
5	Screening of Phytochemical and Bioactive compounds against human pathogenic bacteria from some selected indigenous medicinal plants of Arunachal Pradesh	DBT	275	Dr. Pradeep Kumar
6	PRACRITI	SAC	279	Dr. O.P. Tripathi
7	Network Analytics for user performance management, using machine learning and data analytics	AICTE	282	Dr. Amar Taggu



8	MODROBS	AICTE	283	Dr. M. Chandrasekharan
9	Ergonomic Design and Performance Evaluation of Self Propelled Multipurpose Weeder Suitable to Northeast Hilly Agriculture	AICTE	285	Dr. T. Patel
10	Assessment of Variability in Glasier melt and Snow melt Runoff under Projected Climatic Scenarios for Data Scarce Himalayan River Basins	SPLICE, DST	287	Dr. Aditi Bhadra
11	Performance analysis of distribution transformer filled with coconut oil	AICTE	288	Dr. Anu Kumar Das
12	Unnat Bharat Bhuyan (UBA)	IIT Delhi	289	Dr. P. Lingfa
13	Exploration and conservation of high value wild edible macro-fungi (WEM) from higher altitudes of Arunachal Pradesh and biotechnological evaluation of their nutraceuticals/novel metabolites	DBT	291	Dr. K. Shrivastava
14	Investigation on Aging Stability of Jatropa Curcas based Insulating Oil Subjected to Thermo-Electric Stress	DST	292	Dr. Anu Kumar Das
15	Density functional theory (DFT) investigation of metalloisoporphyrins as near infra-red dyes and photosensitizers for photodynamic therapy and iron (III) iso-porphyrins as alternative to iron (IV)oxo porphyrin	DST	293	Dr. Jagannath Bhuyan
16	Development of Employment generation feasibility in Ziro of Arunachal Pradesh through cottage industry for making biodegradable disposable serving dish utilizing locally available nonpoisonous leaves and Renewable energy	DST	294	Dr. Adiknda Parida
17	Use of non-toxic nanoformulation for prolonging shelf life and reduction of post-harvest loss of mandarin orange ( <i>Citrus reticulata</i> ) of North East India	DBT	299	Dr. Madhu Kamle
18	Impact of Climate Change on Water Resources of Arunachal Pradesh	DST	300	Dr. H.S. Yadav
19	Development of solar operated paddy thresher for sustainable livelihood of Agricultural workers in North-eastern India	NECTAR	NA	Dr. T. Patel
20	Mass Propagation, packaging and marketing of wild ornamental banana from North Eastern India	DBT	304	Dr. S. Sureshkumar Singh
21	Study and Development of Epoxy-Based Bamboo Composites for shipping containers using Indigenous Bamboo species of Arunachal Pradesh using Artificial Intelligence (Graph Neural Networks)	AICTE	308	Dr. Santosh Tamang
22	Exploration of native legumes and characterization of associated nitrogen fixing microsymbiots in North-Eastern India for development of biofertilizers	DBT	309	Dr. P. R. Gajurel

**5.3.4.Details of ongoing consultancy research projects**

<b>Consultancy Project Title</b>	<b>Industry</b>	<b>Faculties involved</b>	<b>Start Date</b>	<b>Department /Centre</b>
Software Validation	Mahindra and Mahindra	Mr. Anubhab Pal	18/11/2019	Agricultural Engineering
Development of Flood Warning System for Tlawng River, Mizoram, Development of Rating Curve & Preparation of Water Data Yearbook	Irrigation & Water Resources Department (IWRD), Mizoram	Dr. Arnab Bandyopadhyay and Dr. Aditi Bhadra	01/04/2022	Agricultural Engineering





## 5.4 CONTINUING EDUCATION PROGRAMME

### 5.4.1. A Brief Profile of the Section

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

### 5.4.2. Status report regarding activities:

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

## 5.5. KENDRIYA VIDYALAYA

### 5.5.1. A Brief Profile of the KV and its Activities

Kendriya Vidyalaya NERIST is a renowned institution in Nirjuli. It is a single section school from class I to XII. The present strength of the vidyalaya is 480.

CBSE curriculum is followed in KV NERIST which aims at holistic development of the students. The quality education provided in the Vidyalaya on the guidelines at NEP-2020 aims at preparing the students to be capable enough to come out with flying colors at global level.

### 5.5.2. Result of the Vidyalaya

Class wise Result

Class	Pass Percentage
X	97.56
XII	96.97

Following students have secured 90% and above in class X and XII.

#### Class X

Sl.No.	Name	Percentage
1	Akhand Upadhyay	93.80
2	Subhamoy Bhowmik	93.20
3	Kaushiki	93.20
4	Palak Pandey	90.80

#### Class XII

Sl.No.	Name	Percentage
1	Ritesh Tiwari	92.40

### 5.5.3. Achievement of Vidyalaya Sakura Science High School Program

Arya Pangging of class 12 got selected for Sakura science high school program where he got an opportunity to visit various educational institute and research institute in Japan. His visit has enriched his scientific intellect and has further increase his inclination towards research which will be instrumental in making him a promising asset for contributing towards bright future of India.

## NSTSE

Aiman Tanish of KV NERIST was awarded by UNIFIED COUNCIL foundation for securing first rank at state level in National Level Science Talent Search Examination held on 2022-23.



## YUVIKA

Aiman Tanish and Adya Rani were selected for YUVIKA in April 2023, a residential programme for the high school students conducted by ISRO in which 350 students were selected from all over India. They were given a 14 days residential program at NESAC, Shillong. Where they were taught about space, drones, celestial bodies and many more. They were given an opportunity to perform various experiments and even launched rockets made by them.

Aiman Tansih got first prize in overall performance in YUVIKA 2023.



## JNNSMEE 2023

Adya Rani's project title "Preparation of mask using Activated Bamboo Carbon" got selected for KVS National level of JNNSMEE which took place on 11-13 July 2023 in KV IIT Kanpur. She got a chance to meet renowned physicist HC Verma there who highly appreciated her project.



### 29th NCSC 2022

Aakanksha Singh's project titled "Minimising The effect of Diabetes Using Dhekia" (in senior group) got selected for KVS NCSC 2022-23 where she got a chance to visit Radar Development Area of Ministry of Defence.

### Vidyarthi Vigyan Manthan

Aiman Tanish secured 2nd position at State Level in VVN and won a prize money of Rs. 3000/- only. He also attended the National Level Camp organized at IISER, Thiruvananthapuram

### Student Performance Summary in Kamp Nasta 2022:

SCHOOL CODE	SCHOOL NAME	CLASS NAME	ENROLLMENT NUMBER	STUDENT NAME	DOB	NATINL GRADE	TOPPER
12913	KENDRIYA VIDYALAYA NERIST	5	2210106071	SOUNAV BAKALI	14-02-2012	B	
12913	KENDRIYA VIDYALAYA NERIST	6	2210222365	ABHINAV PATEL	23-06-2011	A	
12913	KENDRIYA VIDYALAYA NERIST	6	2210111366	SPANDAN PAL	03-01-2012	B+	
12913	KENDRIYA VIDYALAYA NERIST	8	1910067252	UJJAWAL KUMAR MISHRA	21-10-2009	A	District
12913	KENDRIYA VIDYALAYA NERIST	8	2210111001	ARIHANT PATEL	16-09-2009	A	
12913	KENDRIYA VIDYALAYA NERIST	9	2210102246	AKSHANSH RAY	28-02-2008	B+	
12913	KENDRIYA VIDYALAYA NERIST	9	2210111018	ADWITA SINGH	29-03-2009	B+	
12913	KENDRIYA VIDYALAYA NERIST	9	2210111600	ANUBHA SHARMA	16-02-2008	B+	
12913	KENDRIYA VIDYALAYA NERIST	10	2210102113	ARYA PANGGING	12-04-2006	C	
12913	KENDRIYA VIDYALAYA NERIST	12	2210114132	RITESH TIWARI	12-01-2007	B+	
12913	KENDRIYA VIDYALAYA NERIST	12	2210114131	RICKY DHAR	18-10-2005	D	

### AryabhataGanit Challenge 2022

The following students of KendriyaVidyalya NERIST came in Top 100 students from Guwahati Region.

Sl.no.	Roll No.	Name
1.	39211008	ADWITA SINGH
2.	39211022	KAUSHIKI
3.	39211026	UJJAWAL KUMAR MISHRA

### Rangotsav Celebration 2022

NATIONAL LEVEL WINNERS				
NAME OF STUDENT	STD	TYPE OF COMPETITION	RANK	AWARD
NIMPI MAYING	3 <sup>RD</sup> /B	HANDWRITING	2 <sup>ND</sup> PRIZE	ROLLER SKATES WITH TROPHY
TADAR NATMAN	7 <sup>TH</sup>	CARTOON MAKING	4 <sup>TH</sup> PRIZE	COLOUR SET WITH GOLD MEDAL
AASHI PANDEY	6 <sup>TH</sup>	PHOTOGRAPHY	ART MERIT AWARD	TROPHY
ARADHANA SAIKIA	4 <sup>TH</sup>	FINGER AND THUMB PAINTING	ART MERIT AWARD	TROPHY
AKASH MEHTA	5 <sup>TH</sup>	COLLAGE MAKING	CONSOLATION PRIZE	SURPRISE GIFT
RINYUM LEU	3 <sup>RD</sup>	COLOURING	CONSOLATION PRIZE	SURPRISE GIFT
SIDDHI	7 <sup>TH</sup>	GREETING	GOLD MEDAL AWARD	GOLD MEDAL
TOKU LAPSING	7 <sup>TH</sup>	CARTOON MAKING	GOLD MEDAL AWARD	GOLD MEDAL
GEPIN SAMUEL SORA	4 <sup>TH</sup>	CARTOON MAKING	GOLD MEDAL AWARD	GOLD MEDAL
MISS HIYAA KASHYAP	7 <sup>TH</sup>	COLOURING	GOLD MEDAL AWARD	GOLD MEDAL
ABHI KUMAR	6 <sup>TH</sup>	HANDWRITING	GOLD MEDAL AWARD	GOLD MEDAL
KHYODA RHYNIAM	5 <sup>TH</sup>	COLOURING	GOLD MEDAL AWARD	GOLD MEDAL
RAJDEEP BARMAN	6 <sup>TH</sup>	FINGER AND THUMB PAINTING	GOLD MEDAL AWARD	GOLD MEDAL
DIVYANSH SINGH	4 <sup>TH</sup>	COLOURING	GOLD MEDAL AWARD	GOLD MEDAL
NABAM PAPUNG	5 <sup>TH</sup>	HANDWRITING	GOLD MEDAL AWARD	GOLD MEDAL
GAUTAM DAS	4 <sup>TH</sup>	HANDWRITING	GOLD MEDAL AWARD	GOLD MEDAL
MEDHA SHARMA	5 <sup>TH</sup>	FINGER AND THUMB PAINTING	GOLD MEDAL AWARD	GOLD MEDAL
HIYAA KASHYAP	7 <sup>TH</sup>	SKETCHING	GOLD MEDAL AWARD	GOLD MEDAL
KUNDAN RAI	6 <sup>TH</sup>	GREETING	SILVER MEDAL AWARD	SILVER MEDAL
TELI PUYUM	4 <sup>TH</sup>	COLLAGE MAKING	SILVER MEDAL AWARD	SILVER MEDAL
RINYUM LEIJ	3 <sup>RD</sup>	FINGER AND THUMB PAINTING	SILVER MEDAL AWARD	SILVER MEDAL
MARRY HANDIQUE	4 <sup>TH</sup>	SKETCHING	SILVER MEDAL AWARD	SILVER MEDAL
ABHI KUMAR	6 <sup>TH</sup>	COLOURING	BRONZE MEDAL AWARD	BRONZE MEDAL
RINYUM	3 <sup>RD</sup>	SKETCHING	BRONZE MEDAL AWARD	BRONZE MEDAL
SOUNAV BAKALI	5 <sup>TH</sup> /A	SKETCHING	SILVER MEDAL AWARD	SILVER MEDAL
ANSHU KUMAR SHARMA	7 <sup>TH</sup>	HANDWRITING	BRONZE MEDAL AWARD	BRONZE MEDAL
TAME AYIN	3 <sup>RD</sup>	CARTOON MAKING	BRONZE MEDAL AWARD	BRONZE MEDAL
NANI HATA	6 <sup>TH</sup>	SKETCHING	BRONZE MEDAL AWARD	BRONZE MEDAL

INTERNATIONAL WINNERS			
STUDENT NAME	STD	COMPITITION NAME	AWARD
MEHTA AKASH	5 <sup>TH</sup>	COLLAGE MAKING	3 <sup>RD</sup> PRIZE
SAIKIA ARADHANA	4 <sup>TH</sup>	FINGER AND THUMB PAINTING	SPECTACULAR PERFORMANCE AWARD
HIYAA KASHYAP	7 <sup>TH</sup>	COLOURING	SPECTACULAR PERFORMANCE AWARD
NIMPI MAYING	3 <sup>RD</sup>	HANDWRITING	EMERGING YOUTH ARTIST AWARD(MEDAL)
AYIN TAME	3 <sup>RD</sup>	CARTOON MAKING	EMERGING YOUTH ARTIST AWARD(MEDAL)
MEDHA SHARMA	5 <sup>TH</sup>	FINGER AND THUMB PAINTING	EMERGING YOUTH ARTIST AWARD(MEDAL)
SOUNAV BAKALI	5 <sup>TH</sup>	CARTOON MAKING	EMERGING YOUTH ARTIST AWARD(MEDAL)
ABHI KUMAR	6 <sup>TH</sup>	COLOURING	EMERGING YOUTH ARTIST AWARD(MEDAL)
BARMAN RAJDEEP	6 <sup>TH</sup>	FINGER AND THUMB PAINTING	EMERGING YOUTH ARTIST AWARD(MEDAL)



HIYAA KASHYAP	7 <sup>TH</sup>	SKETCHING	EMERGING YOUTH ARTIST AWARD(MEDAL)
PUYUM TELI	4 <sup>TH</sup>	COLLAGE MAKING	EMERGING YOUTH ARTIST AWARD(MEDAL)
GAUTAM DAS	4 <sup>TH</sup>	HANDWRITING	CONSOLATION AWARD
PANDEY AASHI	6 <sup>TH</sup>	PHOTOGRAPHY	CONSOLATION AWARD

## **5.6 NERIST KG SCHOOL**

### **5.6.1 A Brief Profile of the KG School**

NERIST KG School was established in the year 1992. It has 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).

Class	Strength	Min. Age of Admission
Play	21	2.5 Years
LKG	48	3.5 Years
UKG	49	4.5 Years

### **5.6.2 Status report regarding activities**

The classes for the children were conducted in offline mode. The school celebrated Annual Day on the 14th of November, 2022 , where the children of different classes presented their different forms of talent. Activities performed in the school are listed below:

a	Annual day celebration 14 <sup>th</sup> November
b	Rhymes – 17 to 19 October
c	Drawing Competition – 17 to 19 October
d	Handwriting Competition – 17 to 19 October
e	Sports week – 16-25 January

### **5.6.3 List of Committee Members**

School Management Committee during 2022-23

1. Prof. Madhu Bala Sharma – Chairperson
2. Dr. S. Choudhury -- NFA representative
3. Mrs. S. Joshi -- NTSU representative
4. Mrs. Sangita Roy -- Principal, NERIST KG School



## 5.7 TRANSPORT SECTION NERIST

### 5.7.1 A Brief Profile of the section:

Transport Section of NERIST was established in 1987 under the administrative control to fulfil the need of in – campus and off- campus Transport requirements of the Institute’s stakeholders., The Transport Section was kept under the control of Chairman (TPT) and under supervision of Transport Officer, as the requirements for vehicle servicing and maintenance started growing. The Transport Section is providing better service round the clock for all Institute’s activities necessary for students, Staffs and their family members, Departmental works and other Official works including Medical emergency service.

### 5.7.2 Various services offered by the transport section at present are as follows:

- a) Providing the vehicles for in campus and off –campus official duty as and when required including odd hours.
- b) Providing the Bus service to NERIST students for attending classes to Degree Block as per their schedule every day (Monday to Friday 7.45am to 5.30pm)
- c) Providing the vehicle to the employees and students under staff welfare and students scheme for religious and social functions on payment basis as and when vehicles are available.
- d) Providing the vehicle for campus interview of students at NERIST campus, Guwahati and other places Seminars, Conferences, Short term course, Short Term training programs, Students Study Tour, SHRISTI, RACAF, and Workshops organized by the faculty of various departments of NERIST.
- e) Providing the vehicle to various Departments for conducting of Practical Training to different module students including field visits, Industrial visits both in campus and off campus for students developments.
- f) Providing the vehicle to NCC/NSS of NERIST for attending camps and awareness programme etc.
- g) Providing the ambulance service for students and employees of NERIST as and when required within Capital Complex and even up to Guwahati for emergency medical treatment (24x7).
- h) Providing vehicles to physical handicapped students’ for their attending classes and other purpose like Social events related to students programme.

### 5.7.3 Status report regarding activities:

The Transport Section is one of the most important supporting departments of the institute. This runs fleet of vehicles for official purposes. **This department has 2 Nos of heavy motors vehicle (Bus), 1 No medium vehicle i.e. Tata Mobile, 7 Nos light vehicles.** 2 Nos buses are normally engaged for various activities such as departmental purchase (local and outside) NERIST student duty for attending classes (7.45am to 5.30 PM, NERIST Students Educational tour, Student’s industrial visits, Practical duty and Departmental/official duties.

AR-01N-7897 (Eeco Van):- This vehicle is used for Physically Handicap student’s duty and other official duty when required by the Departments and Offices.

1 No. of light vehicle Innova Crysta is earmarks for Director, NERIST,

1 No. of (Innova)is detailed under Registrar, NERIST and Chairman BOM and other official dignitaries visiting the Institute asguest etc.

1 No. of Maruti Ertiga is detailed for all Deans as and when required for their Official duties.

1 No. of (Scorpio) is detailed for Director’s cell, Registrar’s Cell, Finance Section,Departmental Seminar, S&P Section, T&P Cell (for campus interview) Academic Section Exam. Cell, HMC, Gymkhana, Library and other Official/Departmental works like meeting, seminar etc.,



1 No. (Tata Mobile) is detailed for Transportation of material for Departmental works /laboratory works, EE (Civil) office (Institute Engineer), E.O office, Store & Purchase section, Hostel HMC, Library, EMC, Gymkhana and as per Departmental/Official requirement etc.

2 Nos. of Ambulances TATA Sumo and Tavera Ambulance is detailed for medical service for students and employees and their family members as and when require in-campus and off-campus (like Tomo Riba Institute of Health and Medical Sciences, Naharlagun, RKM Hospital, Niva Hospital, Papu Nallaha, Heema Hospital and up to Guwahati Hospital/ Airport) for emergency medical treatment round the clock (24x7).

The Transport Section has water servicing /washing equipment for vehicle servicing and maintenance of institute vehicle from time to time.

The Transport Section has 09 Nos of Driver only at present, the transportation section required additional 3 Nos of Drivers for smooth functioning of transport section.

#### **5.7.4 Highlights:**

Transport Section has helped Institute in a big way to speed up the administrative activities by best utilization of the vehicles, provision for (24X7) Ambulance Service for NERIST Students, Employees and their family member's. There is a provision of vehicle to NERIST Students for attending classes to Degree Block (7:45 am to 5:30 pm), Departmental Seminar, Study Tour, Practical classes as per their requirement. Also vehicle are provided to all students and employees of NERIST at subsidized rates to their best satisfaction.

## 5.8 NERIST HEALTH UNIT

**5.8.1 NERIST Health Unit is functioning with the following number of staff and Officers as under:-**

1. Dr. Sushmita P Taggu	Chief medical Officer Officer
2. Dr. Gyamar Inja	Medical Officer ( On study leave)
3. Dr. Popi Camdir Tok	Medical Officer
4. Hareendran P M	Pharmacist
5. Mrs. Mary Biswas	Nursing Sister
6. Mrs. O. barman	Xerox operator
7. Mr. Minyo Blange	Lab Assistant
8. Mr. E Deomari	Lab Assistant
9. Miss. Poornima Deb	Attendant
10. Mrs. Koj Yallo	Helper
11. Mrs. Tana Parbati	Peon
12. MR. Mahesh Mallick	Sweeper

### 5.8.2 Activities

During 2022-2023 approx 548 students and 15550 patients (including staff and OPD patients) were examined.

Approx 280 patients referred to nearby Health facility more than 400 emergency patients attended.

The unit provided 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. And also 24x7 emergency service is provided to the residents of the campus throughout the year.

N H U actively participated in pulse Immunization program conducted by Govt. of India on 6th March (IPPI)

Due to the ongoing Pandemic, NHU doctors provided telemedicine services and many cases were dealt with via this method.

NHU conducted COVID vaccination camps under COVID Vaccination Amrit Mahotsav, in coordination with Government of Arunachal Pradesh, where 1st, 2nd and booster dosages were provided to eligible candidates, on the following dates:

- 15th July 2022 (295 beneficiaries)
- 24th August 2022 (74 beneficiaries)
- 27th August 2022 (150 beneficiaries)
- 3rd February 2023 (63 beneficiaries)

Routine vaccination organized in coordination with Dept of HFW for under 5 years of age group on 10th March and 11th May 2022.

NHU provided early detection and transportation for COVID-19 patients. They also coordinated with the state health team in patient care for covid affected patients. Approximately 13 students were admitted and kept under isolation in NHU and managed without complications.



Camps organised in NHU for NERIST staff members and students are as follows:

- a) Hb camp on 19th January 2023 (100 beneficiaries)
- b) Hb camp on 29th September 2022
- c) Fibrosan for liver disorder screening on 3rd September 2022 (30 beneficiaries) and on 26th November 2022 (50 beneficiaries).
- d) Blood donation camp on 14th May 2022 and 29th September 2022 in collaboration with TRIHMS
- e) Cancer awareness camp conducted in collaboration with state cancer society on 4th February 2023.
- f) Neurology camp conducted on 4th and 5th March where five neuro-therapists visited and benefitted 400 patients.

## SECTION – 6

### MANPOWER AS ON 31.03.2021

#### 6.1. Teaching (Faculty)

Department wise existing break-up of faculty as on 14.03.2023

1	Forestry	12
2	Agriculture Engineering	13
3	Civil Engineering	13
4	Computer Science & Engineering	11
5	Electrical Engineering	15
6	Electronics & Communication Engineering	11
7	Mechanical Engineering	16
8	Chemistry	11
9	Humanities & Social Sciences	03
10	Mathematics	04
11	Physics	07
12	Centre for Management Studies	04
<b>Total (A)</b>		<b>120</b>

Break-up of existing Officers, Technical, Ministerial and Group -C staff in position as on 14.03.2023 is given below

#### Officers

a	Group 'A'	10
b	Group 'B'	06
<b>Total</b>		<b>16</b>

#### Technical/vocational staff (Non-teaching)

a	Group 'A'	03
b	Group 'B'	16
c	Group 'C'	31
<b>Total</b>		<b>50</b>

#### Ministerial Staff

b	Group 'C'	47
<b>Total</b>		<b>47</b>

#### Non Ministerial Staff Group – C

a	Lab Attendants/Helpers	28
b	Multi Task Worker	05
c	Malis, Labourers & Sweepers	22
d	Peons	31
e	Cook & Cook Helpers	48
<b>Total</b>		<b>134</b>

**Total (B) 247**

**Grand Total (A + B) -367**

## SECTION – 7

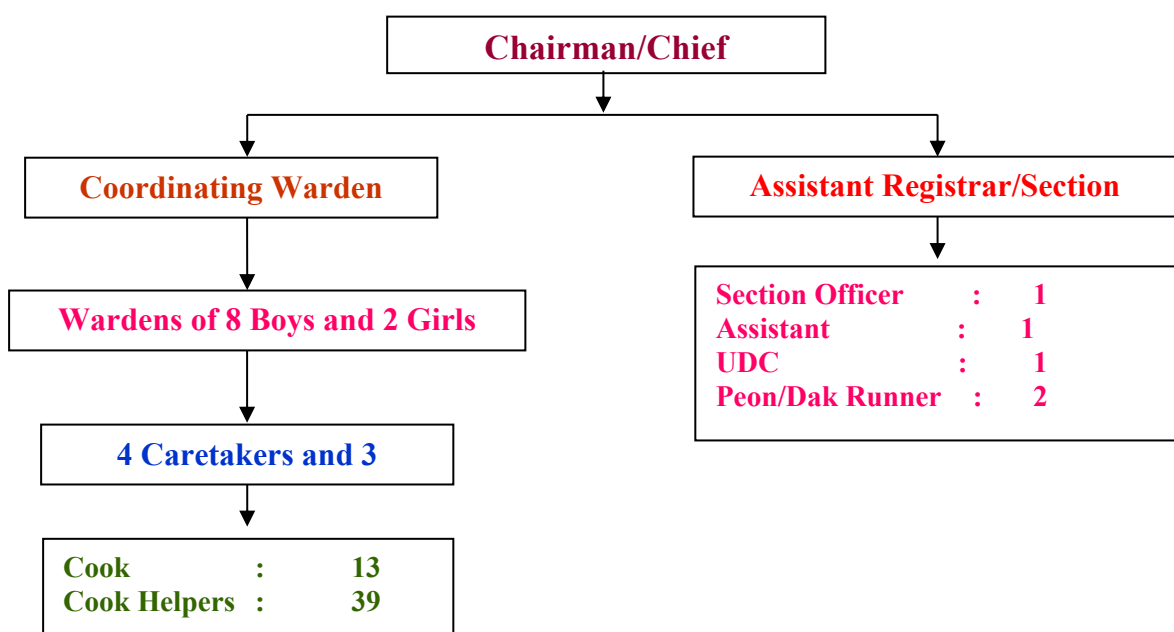
### CAMPUS LIFE AN EXTRA CURRICULAR ACTIVITIES

#### 7.1 HOSTEL MANAGEMENT COUNCIL

##### 7.1.1 Brief Profile of the Department

NERIST is a residential technical Institute and declared as Deemed to be University by Ministry of Human Resource Development, Govt. of India in the year 2005. There are Halls of Residence under section 26(a) of NERIST MoA, 2005 under which there are various hostels namely Hostel Block-A, Hostel Block-B, Hostel Block-C, Hostel Block-D, Hostel Block-E, Hostel Block-F, Hostel Block-G, Hostel Block-H, Hostel Subansiri and Hostel Brahmaputra respectively. Students (both boys and girls) are mandatorily required to stay in the Hostels within the Campus. For the Maintenance of Discipline among students and also for proper maintenance of the condition of Residence and Health of students of the institute, Hostel Management Council (HMC) has been established under section 26(h) and (j) of NERIST MoA, 2005. The Hostel Management Council being an autonomous body of the institute has varied range of functions which includes accommodation of students in hostels, Mess Facilities and staffs management, accounting of students, deposit and hostel expenditure, implementation of hostels Rules for students and enforcement of Conduct and Discipline among the students in accordance with the Academic bye-laws of the Institute. By implementing the above functions, the Hostel Management Council creates and develop an integrated personality development amongst the students and enables the students to receive training in co-operate living and continuous communication with fellow students and teachers in a most discipline manner and thereby producing a good human being. As on today there are 10(ten) numbers of hostels as mentioned above, out of which 8(eight) hostels are for boys and 2(two) hostels namely hostel Block-G and Hostels Subansiri are for girl students of the institute. Among the boys hostels, Hostel Block-H and Hostels Brahmaputra are meant for Post Graduate students (M.Tech./M.Sc/MBA) and Ph.D students respectively, while for the girls students hostel Subansiri is meant for Post Graduate and Ph.D students on sharing accommodation basis. In no case, single accommodation is allotted to the students.

#### Organizational structure of Office of HMC



### 7.1.2 Status Report

In pursuance of the resolution of item No.33.02(32.11) of 33<sup>rd</sup> Meeting of Academic Council held on 04.12.2021, the name of hostels numbering alphabetically have been changed and accordingly renamed as under.

S.No	Old Hostels Name(s)	New Name(s)
1	Hostel-A	TIRAP
2	Hostel-B	PARE
3	Hostel-C	DIBANG
4	Hostel-D	PANYOR
5	Hostel-E	KAMENG
6	Hostel-F	LOHIT
7	Hostel-G	SIANG
8	Hostel-H	KARUNG PANIU
9	Hostel Subansiri remained unchanged	
10	Hostel Brahmaputra remained unchanged	

Presently Prof.Radak Blange, Associate Professor in the Department of Electrical Engineering is the Chairman cum Chief Warden of the Hostel Management Council. Among the wardens, one of the wardens is appointed as coordinating warden. Following are the details of coordinating warden/Wardens and Assistant/Mess-Manager-Cum-Caretakers posted in different Hostels.

Sl. No.	Hostels	Hostel Capacity	Hostel Wardens	Mess Manager-cum-Caretakers/Assistants
1.	Warden-TIRAP	124	Dr. C. P. Pandey	No caretaker, temporarily looking after by Lohit Caretaker.
2	Warden-PARE	124	Dr. M. Hassan	Dorjee Shangmu
3	Warden-DIBANG	124	Dr.A Murugan	No caretaker, temporarily looking after by Panyor Caretaker
4	Warden-PANYOR	124	Mr.Ajit Kr. Singh Yadav	Mr. Banji Patir
5	Warden-KAMENG	250	Dr. K. Borah	No caretaker, temporarily looking after by Sh.Dorjee Sangmu - Pare Caretaker
6	Warden-LOHIT	250	Mr. Akhilesh Sharma	Mr. E. N. V. Nair
7	Warden-SIANG	250	Dr. Piyali Das	Mrs. M. Roy Choudhury
8	Warden-KURUNG-PANIU	250	Dr. M. Upadhaya (also Coordinating warden)	Mr. M.hazarika
9	Warden- SUBANSIRI	250	Dr. Deepika Devi	Mrs. N. Siyum
10	Warden-BRAHMAPUTRA	416	Dr. Ashish Paul	No caretaker, temporarily looking after by Mr.M.Hazarika,Caretaker- Kurung-Paniu

### 7.1.3 Highlights

- (i) Like previous years, a Hostel Level Anti-Ragging Squad consist of faculty members including hostels wardens has been constituted to visit hostels between 8 p.m. and 12 a.m for three weeks after admission of new students to build confidence in their minds. Apart from the above squad there was another Flying Squad headed by Dean(SA) with other three Deans, COE & Chairman(HMC) as members. The Institute constituted an Institute Level Anti-Ragging Committee to contain the ragging as per UGC guidelines.
- (ii) The Independence and Republic Days are being celebrated in all the Hostels by hoisting the National Flag by the respective Wardens/Chief Warden(Hostel) in the front of the respective Hostel Blocks.



- (iii) The Boarders of Hostels celebrated Block Day separately in each Hostel Block which the Director, Deans, Registrar, Chief Warden (Hostel), Coordinating Warden, Hostel Wardens and other Faculty members and Officers are being invited in the said function.
- (iv) The ERP module for the hostels have been created for the smooth regulation of online mess advance fees for the compilation of details of the students and respective rooms/furniture etc, while doing their registration. Accordingly, emails addresses for all caretakers have been generated in the name and style of [careHostel@nerist.ac.in](mailto:careHostel@nerist.ac.in) e.g. email ID for hostel block-A is [careA@nerist.ac.in](mailto:careA@nerist.ac.in). The overall status of Hostel ERP module is already implemented and in operational.

#### 7.1.4 : Administrative Staffs in the office of Hostel Management

**Chairman cum Chief Warden** : Prof. Radak Blange, Associate Professor, Department of Elect. Engg.

**Assistant Registrar** : AR(HMC) post are lying vacant now due to the retirement of Shri Animesh Basu on 31/12/2021 last.

**Section Officer** : Mrs. Pratibha Saikia

**Assistants** : Mrs. A. Adhikari. 1(one) Assistant post are lying vacant now due to the retirement of Shri Thomas Mathew last year

**UDC** : Mr. E.N.V Nair

**Peon/Dak Runner** : (i) Mr. J. Milli, (ii) Mr. N. B. Thapa,

#### **Acute Shortage of caretakers:**

Out of 10(Ten) Hostels, there are only 6(six) caretakers. There is no caretakers in the hostels namely Pare, Dibang, Kameng and Kurung Paniu and these hostels are temporarily looked after by the existing caretakers in addition to their own duty.

**Attention** : For the smooth running of the hostels and for the student's interest, immediate posting of 4(four) Caretakers for the said hostels are requested. (MOST URGENT). One AR(HMC) and one office assistant may also be posted as the HMC is one of the largest section in the institute.

## 7.2 NATIONAL CADET CORPS (NCC)

### 7.2.1 A Brief Profile of the Section

NERIST has 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 2022-23 total students (SD) enrolled (out of 160) is given below:

Cadets Enrolled	SD
1 <sup>st</sup> Year	71
2 <sup>nd</sup> year	75
3 <sup>rd</sup> Year	14
<b>Total</b>	<b>160</b>

### Manpower status

	Present	Requirement	Deficiency
CTO	02	02	NIL
Supporting staff	01	04	03

### Infrastructure

	Present	Requirement	Deficiency
Office	01	01	NIL
Store room (Big )	01(Small)	02	01

### 7.2.2 Status report regarding activities

#### STATUS REPORT REGARDING ACTIVITIES

NCC Rising Day Celebration

Blood donation camp

SwachhataPakhwara

River cleaning

Parades Conducted : Total 83 parades

Ceremonial Drill participated:

Independence Day (15-08-2022) : 45 SD & 33 SW Cadets

Republic Day (26-01-2023) : 52 SD & 36 SW Cadets

1. Combined Annual Training Camp (CATC) 06/07/2022 – 12/07/2022 at NERIST Nirjuli.
2. Rock Climbing Trg Camp (RCTC) 09/11/2022 – 18/11/2022 at 15 MP Bn NCC, Gwalior.
3. Ek Bharat Shresth Bharat camp (EBSB) 28/12/2022 – 08/01/2023 at RGU Rono Hills, Doimukh, Arunachal Pradesh.
4. Combined Annual Training Camp (CATC) 04/02/2023 – 11/02/2023 at PTC Banderdewa.

#### HIGHLIGHTS:

‘B’ Certificate Exam Appeared - 25 SD Cadets

‘C’ Certificate Exam Appeared - 16 SD Cadets

ANY OTHER RELEVANT INFORMATION/DATA : Combined annual training camp (CATC) conducted at NERIST w.e.f. 06/07/2022 – 12/07/2022.

## 7.3 NATIONAL SERVICE SCHEME (NSS)

### 7.3.1 A Brief Profile of the Section

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

1.	Name of NSS Programme Coordinator	: Prof. Ajay Bharti
2.	No. of Programme Officers	: 15
3.	Total No. of Volunteers enrolled	: 1062
4.	Male Volunteers enrolled	: 693
5.	Female Volunteers enrolled	: 369

### 7.3.2 Status Regarding Activities

The fresher's Orientation Programme for the newly admitted students was held on 13<sup>th</sup> September 2022. Welcome address was given by the Registrar, NERIST. Prof. H. S. Yadav, Director, NERIST highlighted in his address about the importance of NSS and its role played for the development of a person. Prof. Pradeep Lingfa, Dean (SA) also addressed the newly joined volunteers and enlightened about the aims and objectives of NSS, significance of its motto, badge, about the role expected from an NSS volunteers etc.

### 7.3.3. Voluntary Blood Donation Camp at NHU, NERIST

The NSS Cell of NERIST in association with the Tomo Riba Institute of Health and Medical Science (TRIHMS), Naharlagun organised a Voluntary Blood Donation Camp at NERIST Health Unit on 14<sup>th</sup> May 2022. A total of 60 volunteers turned up, of which 42 units were collected after deferring. Zion Institute of Nursing extended support by providing nursing staff. An expert team of Blood Bank, TRIHMS led by Dr. Tashi Paleng, accompanied by Dr. Joram Khopey, Deputy Director, State Blood Transfusion Council, also participated in the camp.



#### **7.3.4. Voluntary Blood Donation Camp at Raj Bhavan, Itanagar**

As a part of “Azadi Ka Amrit Mahotsav”, a Blood Donation Camp was organised under the guidance of the Hon’ble Governor of Arunachal Pradesh, at the Darbar Hall of Raj Bhavan on 29th July, 2022. Due to Summer Vacation, UG students were not available, however, PG and PhD Students of NERIST actively participate in the Blood Donation Camp.

#### **7.3.5. Independence Day programme**

NSS Students Volunteers and Group Leaders in the supervision of Programme Officers successfully arranged for sweets distribution during Independence Day Programme at NERIST.

#### **7.3.6. Colony's street cleaning and Collection of National Flag on 27/08/2022**

NSS Students Volunteers, Group Leaders and Programme Officers initiated towards the NERIST Colony's street cleaning. They also collected the National Flags that were hoisted in the quarters during Independence Day and hand it over to the NERIST authority for proper disposal.





### **7.3.7. Red Ribbon Quiz 2022**

The Third State Level Red Ribbon Quiz Competition was conducted at Hotel Dhasang, Naharlagun, Arunachal Pradesh. The event was organized by the Arunachal Pradesh State AIDS Control Society (APSACS), aiming to engage members of Red Ribbon Clubs of universities and colleges actively. The competition's objective was to spread complete and accurate information about HIV/AIDS, adolescent health, mental health, and other public health threats through a quiz format and encourage discussions on these issues. The competition saw participation from 90 students representing 45 higher education institutions of the state. The event was inaugurated by Project Director Dr Riken Rina.

Mr. Tapi Tony and Mr. Arsis Sarma, NSS volunteers from NERIST, Nirjuli, won the first prize, while the second prize went to the government polytechnic college from Dirang and the third prize to Dera Natung Government College from Itanagar. The 1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> prize winners received cash prizes of Rs 20,000, Rs 15,000, and Rs 10,000 respectively, along with certificates and mementoes.

### **7.3.8. Voluntary Blood Donation Camp**

NSS Cell NERIST, Unnat Bharat Abhiyan (UBA), & Bharat Vikash Parishad (BVP) jointly organized a Voluntary Blood Donation Camp at NHU on 9/11/2022 with collaboration of TRIHMS, Naharlagun.

Total 68 Donors participated in the Camp, out of which 49 (45 males and 4 females) were able to donate blood. 49 Units of blood collected. 19 numbers (9 males and 10 females) donors were Deferred. Out of 54 males, 9 deferred (about 16 %). Out of 14 females, 10 deferred (about 70%), mostly due to lesser value of hemoglobin. This is alarming situation of our girls students. They must get proper diet/medicine so that they could prepare themselves to fulfill their desire of donating blood in future.





### **7.3.9. Online BKJ Global Quiz-2022**

Students volunteers and group leaders of NSS Cell NERIST participated in Online “Bharat Ko Jano Global Quiz-2022” competition conducted by Bharat Vikash Parishad on 12/11/2022.

### **7.3.10. 17th Youth Pravasi Bharatiya Divas**

The 17th edition of Pravasi Bharatiya Divas (PBD) held on 08<sup>th</sup> January 2023 was hosted in Indore, Madhya Pradesh, a city known for its cleanliness and rich cultural heritage. The event was inaugurated by Hon'ble Prime Minister Shri Narendra Modi and was attended by dignitaries from various fields, including government officials, investors, founders, and NRIs.

The Chief Guest and Guest of Honour for the event were Hon'ble External Affairs Minister Dr. S. Jaishankar and Ms. Zaneta Mascarenhas, Member of Parliament Australia, respectively. Other dignitaries, including the Chief Minister of Madhya Pradesh and the Minister of Youth Affairs and Sports, addressed the audience and shared their vision for a New India.

External Affairs Minister Dr. S. Jaishankar remarked at the inaugural address of the PBD, “Whether it is startups or sports, whether it is technology usage or tourism, the energies of young India are increasingly visible.”. He added, “The optimism in our society is reflected in the energy of our youth and they are connecting India to the world”.

Mr. Tapi Tony, a Group Leader from NSS Cell NERIST, Arunachal Pradesh, was recommended by Dr. Ajay Mishra, State Liaison Officer of NSS, Arunachal Pradesh, to attend the 17<sup>th</sup> Youth Pravasi Bharatiya Divas. Tony, along with other NSS volunteers from different states, had the opportunity to interact with notable personalities and listen to their thoughts on building a better India.

### **7.3.11. Republic Day Programme**

NSS Students Volunteers and Group Leaders in the supervision of Programme Officers successfully arranged for sweets distribution during Republic Day Programme at NERIST.





### 7.3.12. SPECIAL CAMP

Special camp was conducted by the NSS Cell & UBA, NERIST at Nirjuli Village – II from 25<sup>th</sup> March 2023.





## Special Camp for sustainability, harmony held at Nirjuli village-II



**NIRJULI, Mar 25:** NSS NERIST in association with Unnat Bharat Abhiyan NERIST conducted a remarkable Special Camp for sustainability and harmony at Nirjuli village-II today.

Organised under the adept leadership of Professor. Ajay Bharti, NSS Coordinator, NERIST, Professor Pradip Lingfa, Regional Coordinator, and Dr T Patel, Coordinator of UBA NERIST, the event witnessed active participation from over 40 zealous NSS NERIST volunteers and UBA NERIST members.

The programme commenced with a noteworthy plantation drive, where sev-

eral species of trees were planted by distinguished members of NSS and UBA, Gaon Bura (Village Head), villagers, and NSS volunteers, accentuating the need for a greener and cleaner environment.

The event included a profound discourse on the prevention of HIV/AIDS and drugs, spreading awareness amongst the village populace.

The Special Camp left an indelible mark on the attendees, imparting a sense of responsibility towards the environment and the community.

The initiative exemplified the relentless efforts of

NSS NERIST and UBA NERIST in promoting a sustainable future and communal harmony. The organisers expressed their gratitude to all the volunteers and participants for their efforts and commitment towards creating a better and healthier future for all.

The event serves as a testimony to NERIST's commitment towards nurturing responsible citizens who are dedicated to the betterment of society. It highlights the institute's relentless efforts in promoting sustainable development and environmental conservation.

### 7.3.13. Group Discussion

NSS Cell NERIST in collaboration with the **Think India NERIST** organized a Group Discussion on the topic "**G20: North East Indian Flood**" on 26<sup>th</sup> March 2023.

### 7.3.14. Regular activity organized

NSS Students Volunteers, Group Leaders and Programme Officers organized Academic Block cleaning on 26<sup>th</sup> March 2023.



### 7.3.15 List of NSS Committee Members

S. No.	Name	Department	Member
1.	Prof. Ajay Bharti	Civil Engineering	Coordinator
2.	Dr. Vanita Pandey	Agricultural Engineering	Programme Officer
3.	Dr. Dibyendu Pal	Civil Engineering	Programme Officer
4.	Dr. Ajanta Kalita	Civil Engineering	Programme Officer
5.	Mr. Yogendra Mohan	Computer Science & Engineering	Programme Officer
6.	Mr. Anil Kumar Gautam	Electronics & Communication Engg	Programme Officer
7.	Mr. Moirangthem Edison Singh	Electronics & Communication Engg	Programme Officer
8.	Dr. Piyali Das	Electrical Engineering	Programme Officer
9.	Dr. Pukhrambam Devachandra Singh	Electrical Engineering	Programme Officer
10.	Mr. Nameirakpam Loyalakpa Meitei	Electrical Engineering	Programme Officer
11.	Dr. Ashish Paul	Forestry	Programme Officer
12.	Dr. C. P. Pandey	Mathematics	Programme Officer
13.	Dr. Mohammad Hassan	Mathematics	Programme Officer
14.	Mr. Santosh Tamang	Mechanical Engineering	Programme Officer
15.	Dr. Kunal Borah	Physics	Programme Officer
16.	Dr. Kamal Saharia	Physics	Programme Officer

## 7.4 INSTITUTE ENGINEER OFFICE

### 7.4.1 A Brief Profile of the section and its Activities

Executive Engineer (Civil) office is one of the important offices in NERIST which plays a pivotal role in the overall development and maintenance of total Institute's infrastructural facilities under the overall supervision of E.E (Civil).



Under this Executive Engineer Office, Civil Maintenance and Sanitation wings are in operation and working for the development of Institute's infrastructural facilities. Civil Maintenance wings carry out day to day civil maintenance, repairs of buildings in the campus including hostels, offices, residential and non-residential including water supply & sanitation. Further Executive Engineers of the Civil Engineering Cell monitor the all works executing by the various working agencies under the guidance of Planning and Monitoring Committee. The Sanitation wing maintains good hygienic atmosphere by keeping up the overall campus in neat and clean.

Executive Engineer (Civil) to supervise all the major & minor works under their control.

To vigil the works, a Planning & Monitoring Committee was constituted in September 2015 for identifying the developmental works to be taken up by the Institute on priority and to monitor the progress & quality of works in the Institute.

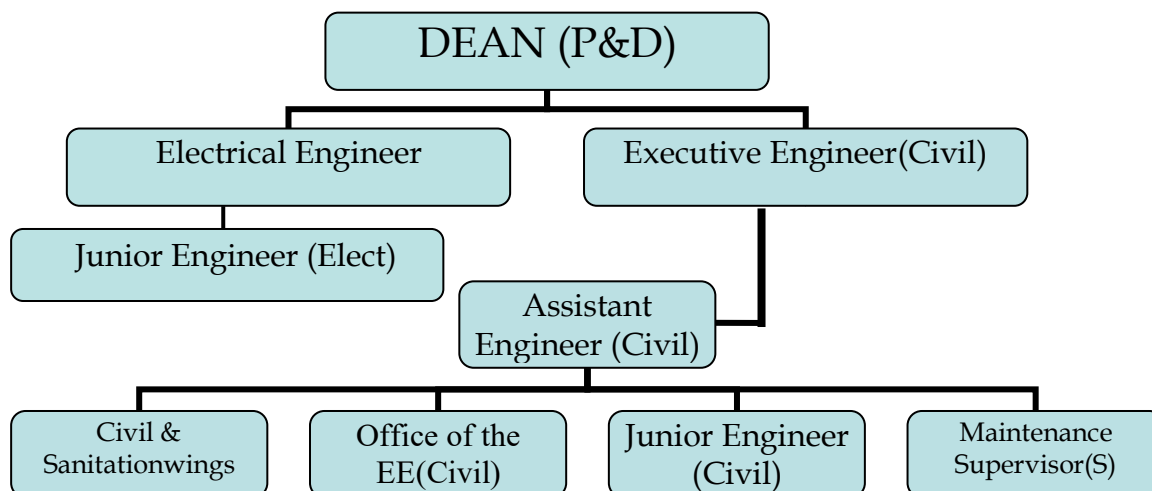
#### 7.4.2. Status report of the on going constructional activities in the campus:

Sl. No.	Name of Work	Estimate cost in Lakh	Amount Release(in Lakh)	Agency	Physical Progress	Remarks
1	Construction of Utility Center.	831.52	725.00	CPWD, Kimin	100%	Completed & taken over
2	Construction of Permanent Administrative Building	3604.00	33,66,00,000	NPCC Ltd., Guwahati	100%	Completed & taken over
3	Construction of Residential Quarters Type – III, IV & V	1671.00	1622	Dept. of UD & H Govt. of A.P.	100%	Completed & taken over
4	Construction of Central Work shop	2927.00	2862.00	APPWD, NLG Division	100%	Completed & taken over
5	Construction of 500 Capacity G+3 Girls Hostel	3757		APPWD	40%	Work in progress
6	Construction of Water Treatment Plant (WTP)	849.60	689.38	M/s North East Engineering & Construction Agency	90%	Work in progress
7	Construction of Civil Maintenance Horticulture and Sanitation Office Building at NERIST	99.597	-	M/s Yalpu Enterprise	100%	Completed
8	Construction of Plant Nursery at NERIST	68.57	-	M/s R.Y.Z.J. Enterprise	100%	Completed
9	Construction of 50 bedded Student Hostel at NERIST	467.00	250	M/s Roshan Construction Company	50%	Work in Progress
10	Development of Botanical Park in South Campus at NERIST	179.74	129	M/s Camdir Trading Co.	95%%	Work in Progress
11	Construction of Permanent Health Unit Building	660.00		M/s Mercy Engineering	Work awarded	



12	Construction of Multipurpose Indoor Hall	1578.00		M/s North East Engineering & Construction Agency	Work awarded	
13	Construction of 1000 Capacity Boys Hostel (SH: 500 Capacity Building at NERIST (Unit-I)	8500.00		RWD, Govt. of A.P.	Work awarded to RWD, Govt. of A.P.	
14	Construction of Examination & Seminar Hall at NERIST	1200.00			Work started	
15	C/o Boundary Wall in GREF Camp NERIST (Section -I to XIV)	271.68		NERIST IE OFFICE	90%	
16	C/o Boundary Wall from Degree Block to Police Station, Nirjuli (Section -I to VI)	116.43		NERIST IE OFFICE	70%	
17	C/o Construction of Boundary wall at Sukha Nalah, NERIST.	52.24		M/s Yalpu Enterprise	95%	
18	C/o Re-Carpeting of Road in Residential T-III & IV area, NERIST.	231.00		M/s North East Engineering Construction Agency	100%	Completed
19	Repair and renovation of flood protection wall from security barrack to Indoor Badminton Hall, NERIST (Section-A	250.00		M/s Raj Steel	100%	Completed

### The Present organization setup



Utilizing the above said manpower, respective wings of the engineering cell of the Institute carried out, routine & regular maintenance works of the whole campus departmentally.

#### 7.4.3. FUTURE WORKS PLANNED TO BE TAKEN UP

In future Engineering cell of the institute has planned to take up the following works subject to the availability of fund from the Ministry of Education, Govt. of India and as per priority fixed by the Institute authority.

Sl.No.	Name of Work	Estimated cost in Lakh	Remarks
1.	Construction of Research & Project Building	10851.88	
2.	Construction of Permanent K.V. Building	4054.00	
3.	Construction of Class Rooms	1812.00	



## 7.5. EDUCATIONAL TECHNOLOGY

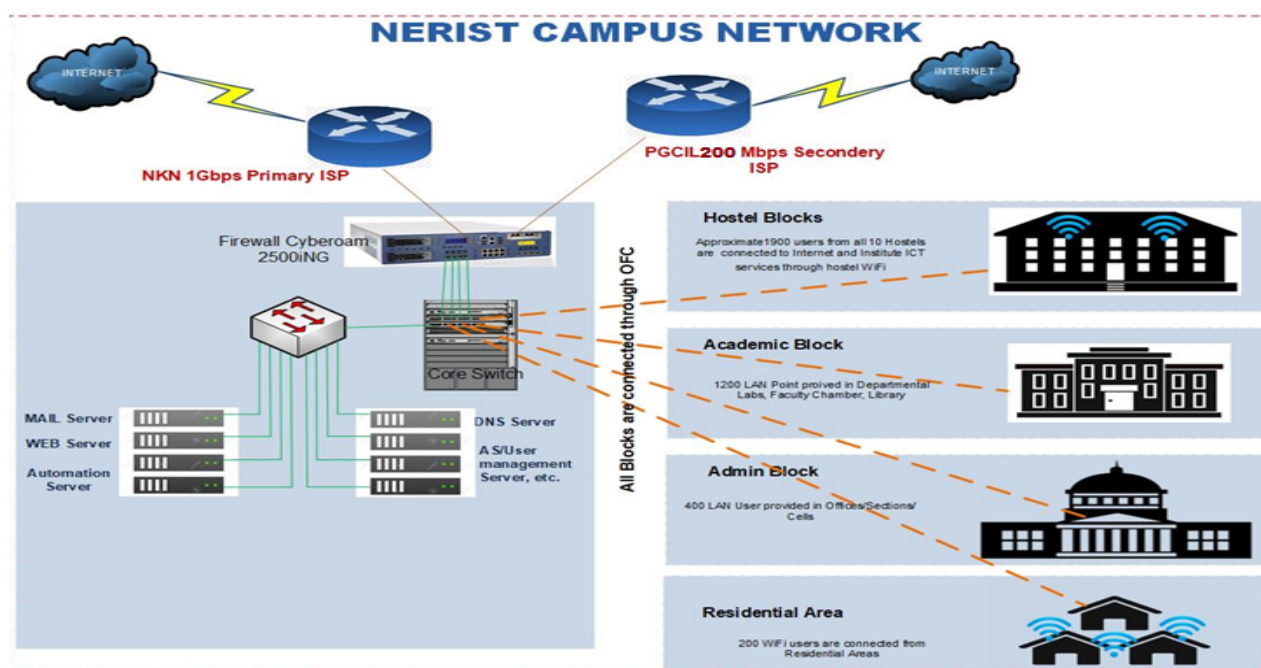
### 7.5.1 A Brief Profile of ET Cell

The ET cell has been established as a project sponsored by the MoE, Govt. of India with an objective to increase the effectiveness of teaching-learning process with the help of modern audio-visual equipment and Information and Communication Technology (ICT). Presently, the cell mainly manages and maintains the Internet Connectivity to the Institute, Local Area Network (LAN), Wi-Fi LAN, and Server Farm, and different ICT Services. The Cell consists of Institute datacenter, seminar room, and board room that are well equipped with the state of art audio-visual equipment. These are used for Seminars, Conferences, Workshops and special lectures by faculty members and professionals from institutions and industries. ET Cell also supports/manages different Academic activities in online mode, i.e. Conducting Online Classes, Online Ph.D. defence, Video Conferencing, Interviews for student's recruitments as well as conducts computerised recruitments for different govt. organizations.

### 7.5.2 The major ICT Services facilitating by ET Cell are as follows:

1. Managing/maintaining the 1Gbps Internet Connectivity to the Institute provided by NKN ISP(Internet Service Provider) and a 200 Mbps failover Internet Link provided by.
2. Provides and maintain LAN Connectivity to all the 12 Academic Departments/Centres, 10 Hostels, Offices, and the Schools in the campus.
3. Wifi LAN Connectivity to Hostels and Residential Areas.
4. E-mail Services to Students, Research Scholars, Faculties and Staff.
5. Locally hosting and maintaining the Institute Web Server.
6. ET Cell also houses several high-end Servers that facilitates number of Services as: Hyper-V Virtual Platform, DNS, DHCP, Active Directory, RADIOUS, and so forth.
7. Development, Management, and Maintenances of CORE Hardware Infrastructure of Institute's Datacentre as well as IT infrastructures deployed in whole Institute Campus.
8. Provides support for online classes to all students and faculties.
9. Provides support for any issue related to Internet access of all users of the Institute.
10. Arrangement of online Seminar, Video Conferencing, Online PhD Oral Defense, etc. whenever required.

### 7.5.3 General Network Diagram of NERIST Campus:





### 5.5.4 : Network Devices/Servers:

Network Devices			
Sr. No	Item	Quantity	Objective
1	UTM/Firewall (Sophos-XG550)	1	To provide user-based Internet access, traffic filtering and restricting.
2	Core Switch (Cisco 6509)	1	All NERIST Campus Network Segments are Interconnected through Core Switch.
3	Distribution switch (Cisco 4503)	1	All LANs of Degree Blocks are connected to Distribution Switch.
4	Access Switch	89	All Departments/Sections/Hostels users are connected through Access Switches.
5	Wireless Controller (Ruckus ZD3000)	2	Manage policies, rules and configurations of all Access Points.
6	Access Points (RuckusZF 7782, R610, T610, Cisco 9120AXI, TP-Link EAP245)	195	To provide Wireless connectivity to Residential Area.
7	SAN Switch (Brocade)	1	To provide connectivity between storage and Servers over fibre channel.
Servers and Storage:			
8	Dell PowerVault R430 Rack Server	6	Using for Automation (App Server1, App Server2, DB Server, Load Balance Server) and Hyper-V node.
9	Storage Power Vault MD 3000	1	Using for Automation
10	IBM SystemX Rack Server	3	Using for Hyper-V node, Microsoft SCCM, and AD Sever.
11	IBM and HCL Tower Server	3	Using for Public DNS, Web Server, and Mail Server.

### 7.5.5 Status Report Regarding Activities, 2020-2021:

1. Renewed/Upgraded the Office 365 Cloud License to Microsoft 365 Cloud License Solution.
2. Established underground OFC Link between PG Girls hostel to T-III, T-IV, and T-V Quarters Girls hostel extension to provide Internet connectivity.
3. Renewed SSL Certificate for Institute Website, ERP Portals, Library Portals.
4. Deployed WiFi Access points at T-III, T-IV, and T-V Quarters to provide WiFi connectivity to the students.
5. Deployed WiF/LAN at K.V. School NERIST which facilitates fully WiFi enabled school.
6. Renewed the ISP link from PGCIL from 100 Mbps to 200 Mbps, which facilitates backup of primary NKN ISP Link.
7. Provided support to Conduct online classes, arranging different online Seminar, FDP, Video Conferencing, Online PhD Oral Defence, etc. whenever required.
8. Provided support for any issue related to Internet access of all users of the Institute.
9. Provided support to conducted different Online Campus Interviews for students during 2022-2023 session.
10. Provided support to established required network setup for conducting NTA Exams during 2022-2023 session.
11. Provided IT infrastructure supports during online Registration, Counselling, and Admission process for NEE-2022-23/PG/Ph.D of 2022-23 sessio

## **7.6. GYMKHANA**

### **7.6.1 A Brief Profile of the Section and its Activities**

Extracurricular activities play an important role in students' life and hence well-equipped facilities for games and sports are provided to the student community of NERIST. Activities are organized all the year round.

A Gymnasium having all modern equipment to keep the students fit is operational and both students and teachers are regular in performing their work outs.

The Gymkhana premises has shifted to new premises, and all the facilities have been setup.

1. Tadar Eachu Memorial football ball event were also held in the month of March '22
2. RACAF 2021 which could not be held in the year 2021 was held in the year 2022, was held from 30<sup>th</sup> April to 2<sup>nd</sup> May2022. The artistic caliber of the students were exhibited during a series of events. Many clubs like hobby club, drama club, photography club, dance club, elocution club, etc., to name a few of them, provided ample opportunity to the students to exhibit their talent.
3. Students of NERIST participated in 4<sup>th</sup> Edition of Teachers Football trophy 2022, held from 13<sup>th</sup> September 2022 onwards at DN college Itanagar.
4. RACAF 2022 was held from 3<sup>rd</sup> - 5<sup>th</sup> November 2022. Many clubs like hobby club, drama club, photography club, dance club, elocution club, etc., to name a few of them, provided ample opportunity to the students to exhibit their talent. The artistic caliber of the students were exhibited during a series of events.
5. A series of Pre-synergy events which were a part of synergy 2023 was organized in the month of January 2023. Indoor as well as outdoor events were organized in Pre-Synergy and very active participation was witnessed from the student community. Events like Badminton, Table tennis, Football, Volleyball, Chess to mention a few were part of this event.
6. The Annual Athletic Meet Synergy-2023 was organized during 2<sup>nd</sup> to 4<sup>th</sup> February 2023, wherein more than 1000 students (both boys and girls) from all the modules of Engineering and Applied Science participated in different track and field events. Major events include, Long runs (500m and 3000m race); Sprints (100m, 200m, 400m & 800m race); Relays 4X100m and 4X400m race); Long jump, High jump, Throws (Javelin, Discuss, shot-put, Hammer); Tug-of-War etc.
7. Students of NERIST participated in 4x4 basketball tournament held from 2<sup>nd</sup> -5<sup>th</sup> February 2023.



## SECTION – 8

### FUND AND AUDIT

The Institute is a Central Scheme of the Ministry of Education and is fully funded by the Government of India through the MoE.

At the beginning of the financial year 2022-23, the institute had an unspent balance of Rs.1849.39lakhs. During the year, the Institute received Rs.15940.00 lakhs as grant and Rs.496.30 lakhs as IRG. The unspent balance as on 31.03.2023 is Rs.966.10lakhs which will be adjusted towards the grant in aid payable during the next financial year 2023-24. Brief breakup of fund received and expenditure incurred is given as under :-

Rs.in lakhs

Details of Account	HEAD			Grand Total (2+3+4)
	OH-31 (General)	OH-35 (Capital)	OH-36 (Salary)	
1	2	3	4	5
Previous Balance	1536.49	21.52	291.38	1849.39
Fund received during 2022-23	6800.00	1850.00	7290.00	15940.00
IRG 2022-23	-	-	496.30	496.30
Expenditure incurred during 2022-23	8150.94	1847.36	7321.29	17319.59
Unspent Balance as on 31.03.2023	185.55	24.16	756.39	966.10

The detailed information related to the accounts of the Institute for the year 2022-23 and the audited accounts of the Institute is given in Annexure.

## ANNEXURE – I

MEMBER OF THE NERIST SOCIETY AS ON 31<sup>ST</sup> MARCH 2023

1.	<b>Lt Gen Kaiwalya Trivikram Parnaik,</b> PVSM, UYSM, YSM (Retd) Hon'ble Governor of Arunachal Pradesh, Raj Bhawan, Itanagar, Arunachal Pradesh	--	President
2.	<b>Joint Secretary &amp; F.A</b> IFD, MoE, Govt. of India, Shastri Bhavan, 'C' Wing, New Delhi.	--	Member
3.	<b>Joint Secretary (NITs &amp; CFTIs)</b> MoE, Govt. of India, Shastri Bhavan, 'C' Wing, New Delhi.	--	Member
4.	<b>Hon'ble Minister,</b> Education, Govt. of Assam, Dispur, Guwahati.	--	Member
5.	<b>Hon'ble Minister,</b> Education, Govt. of Mizoram, Aizawl, Mizoram	--	Member
6.	<b>Hon'ble Minister,</b> Education, Govt. of Nagaland, Kohima, Nagaland.	--	Member
7.	<b>The Hon'ble Minister,</b> Education, Govt. of Tripura, Agartala, Tripura.	--	Member
8.	<b>The Hon'ble Minister,</b> Education, Govt. of Manipur, Imphal , Manipur.	--	Member
9.	<b>The Hon'ble Minister,</b> Education, Govt. of Meghalaya, Shillong , Meghalaya.	--	Member
10.	<b>The Hon'ble Minister,</b> Education, Govt. of Sikkim, Gangtok, Sikkim.	--	Member
11.	<b>The Hon'ble Minister,</b> Education, Govt. of Arunachal Pradesh,	--	Member



Itanagar , Arunachal Pradesh.

- |   |    |                         |
|---|----|-------------------------|
| <b>12. Dr. Nisha Mendiratta,</b><br>Head (CCP) & Scientist 'G', Ministry of Science &<br>Technology, Technology Bhawan, New Delhi - 110 016<br>Representative, Ministry of Science & Technology |    | Member                  |
| <b>13. Dr. Uday Shanker Dixit,</b><br>Nominee, AICTE<br>Dept. of Mechanical Engineering<br>IIT, Guwahati , Assam.   | -- | Member                  |
| <b>14. Shri Oken Tayeng,</b><br>Nominee of President, Society for the NERIST<br>Industrialist and Founder of ACTE,<br>B-Sector, Near Raj Bhavan,<br>Itanagar-791 111, Arunachal Pradesh.        | -- | Member                  |
| <b>15. Chairman, BoM, NERIST</b>  | -- | Member                  |
| <b>16. Prof. M. Muralidhar,</b><br>Director, NERIST   | -- | Member                  |
| <b>17. M.K. Camder</b><br>Registrar i/c   | -- | Non-Member<br>Secretary |

## ANNEXURE – II

MEMBER OF NERIST BOARD OF MANAGEMENT AS ON 31<sup>ST</sup> MARCH 2023

1.	<b>Prof. (Dr.) T.G. Sitharam,</b> Chairman AICTE Nelson Mandela Marg, Vasant Kunj, New Delhi-110070.	--	<b>Chairman</b>
2.	<b>Joint Secretary &amp; F.A</b> IFD, MoE, Govt. of India, Shastri Bhavan, 'C' Wing, New Delhi.	--	<b>Member</b>
3.	<b>Joint Secretary (NITs &amp; CFTIs)</b> MoE, Govt. of India, Shastri Bhavan, 'C' Wing, New Delhi.	--	<b>Member</b>
4.	<b>Prof. S. Kushwaha</b> <b>Vice Chancellor,</b> Rajiv Gandhi University, Rono Hill, Doimukh, A.P.	--	<b>Member</b>
5.	<b>Commissioner &amp; Secretary,</b> Higher & Technical Education, Govt. of Mizoram.	--	<b>Member</b>
6.	<b>Principal Secretary,</b> Technical Education, HRDD Govt. of Sikkim.	--	<b>Member</b>
7.	<b>Principal Secretary</b> Higher & Technical Education, Govt. of Meghalaya.	--	<b>Member</b>
8.	<b>Principal Secretary</b> Higher & Technical Education, Govt. of Nagaland.	--	<b>Member</b>
9.	<b>Commissioner &amp; Secretary</b> Higher Education, Govt. of Manipur.	--	<b>Member</b>
10.	<b>Principal Secretary</b> Higher Education, Govt. of Tripura.	--	<b>Member</b>
11.	<b>Principal Secretary</b> Higher & Technical Education, Govt. of Assam.	--	<b>Member</b>
12.	<b>Secretary,</b>	--	<b>Member</b>





Education, Govt. of Arunachal Pradesh,		
<b>13. Prof. Samarendra Dandapat</b> Department of EEE, IIT, Guwahati.	--	<b>Member</b>
<b>14. Dr. Leishangthem Jeecelee,</b> Divisional Forest Officer, Tengnoupal Forest Division, Manipur Forest Department, Govt. of Manipur.	--	<b>Member</b>
<b>15. Prof. C.L. Sharma,</b> Dean (Administration) NERIST, Nirjuli.	--	<b>Member</b>
<b>16. Prof. O.P. Roy,</b> Dean (Planning & Development), NERIST, Nirjuli.	--	<b>Member</b>
<b>17. Prof. P. Lingfa,</b> Dean (Students Affair), NERIST, Nirjuli.	--	<b>Member</b>
<b>18. Prof. P Parida,</b> Professor NERIST, Nirjuli.	--	<b>Member</b>
<b>19. Dr. Satya Jyoti Borah</b> Associate Professor NERIST, Nirjuli.	--	<b>Member</b>
<b>20. Ms. Y. Bidyalaxmi Devi,</b> Assistant Professor NERIST, Nirjuli.	--	<b>Member</b>
<b>21. Prof. M. Muralidhar,</b> Director, NERIST.	--	<b>Member</b>
<b>22. M.K.Camder</b> Registrar i/c, NERIST	--	<b>Non-Member Secretary</b>

## ANNEXURE - III

MEMBER OF NERIST FINANCE COMMITTEE AS ON 31<sup>ST</sup> MARCH 2023

1.	<b>Prof. (Dr.) T.G. Sitharam,</b> Chairman AICTE, New Delhi. & Chairman, BoM, NERIST	--	<b>Chairman</b>
2.	<b>The Joint Secretary &amp; F.A</b> IFD, MoE, Govt. of India, Shastri Bhavan, 'C' Wing, New Delhi.	-	<b>Member</b>
3.	<b>The Joint Secretary (NITs &amp; CFTIs)</b> MoE, Govt. of India, Shastri Bhavan, 'C' Wing New Delhi.	-	<b>Member</b>
4.	<b>The Vice Chancellor,</b> Rajiv Gandhi University, Rono Hill, Doimukh. Arunachal Pradesh.	--	<b>Member</b>
5.	<b>The Commissioner/Secretary to Governor</b> Nominee of HE the Governor of AP & President of NERIST Society Itanagar, Arunachal Pradesh.	--	<b>Member</b>
6.	<b>The Secretary (Education)</b> Govt. of Arunachal Pradesh, Itanagar, Arunachal Pradesh	--	<b>Member</b>
7.	<b>Prof. M. Muralidhar,</b> Director , NERIST	--	<b>Member</b>
8.	<b>Shri M.K.Camder,</b> Registrar i/c, NERIST	--	<b>Member</b>
9.	<b>Shri Toko Shama,</b> Assistant Registrar (Fin)	--	<b>Ex- Officio Non- Member Secretary</b>



**ANNEXURE - IV**

**MEMBER OF ACADEMIC COUNCIL AS ON 31<sup>ST</sup> MARCH 2023**

Sl.No.	Name	Designation
1.	Prof. M. Muralidhar, Director, NERIST	Chairman
2.	Prof. S. Gao, Dean (Academic)	Member
3.	Prof. O.P. Roy, Dean (Planning & Development)	Member
4.	Prof. C.L. Sharma, Dean (Admn.)	Member
5.	Prof. P. Lingfa, Dean (Students Affairs)	Member
6.	Prof. S. Ravi, Department of Physics, IIT Guwahati, Assam	Member
7.	Prof. M.K. Hazarika, Deptt of Food Engg & Technology, Tezpur University, Napaam, Assam	Member
8.	Prof. Vandana Upadhyay, Deptt of Economics, Rajiv Gandhi University, Rono Hills, Doimukh, AP	Member
9.	Prof. B.P. Mishra, Deptt of Environmental Science, Mizoram University, Aizwal	Member
10.	Prof. Utpal Bhattacharjee, Deptt of Computer Science & Engg, Rajiv Gandhi University, Rono Hills, Doimukh	Member
11.	Prof. Sanjeev Kumar, Deptt of Physics, Rajiv Gandhi University, Rono Hills, Doimukh	Member
12.	Er. Talo Potom, IAS, DC (Capital), Office of the Dy. Commissioner, Govt. of A.P., Itanagar	Member
13.	Prof. P.K. Tripathy, Deptt. of Chemistry	Member
14.	Prof. M.F. Hussain, Dept. of Chemistry	Member
15.	Prof. Md. A. Hussain, Deptt. of ECE.	Member
16.	Prof. M. Muralidhar, Deptt. of Mechanical Engg	Member
17.	Prof. Binay Singh, Deptt. of Forestry	Member
18.	Prof. P. Parida, HoD, Dept. of HSS.	Member
19.	Prof. K. N. Dewangan, HoD, Deptt. of Agri. Engg	Member
20.	Prof. B.D. Nayak, Dept. of HSS	Member
21.	Prof. C.L. Sharma, Department of Forestry	Member
22.	Prof. R. K. Prasad, Deptt. of Civil Engg.	Member
23.	Prof. A. Giri, Deptt. of Mechanical Engg.	Member
24.	Prof. N. Deb, Dept. of Chemistry	Member
25.	Prof. O.P. Roy, Department of Elect. Engg	Member
26.	Prof. S. Gao, Department of Elect. Engg	Member
27.	Prof. R.K. Mehta, Deptt. of Electrical Engg.	Member
28.	Prof. S.K. Shrivastava, Deptt. of Agri. Engg	Member
29.	Prof. T. Karlo, HoD, Deptt. of Physics	Member
30.	Prof. (Mrs.) M. Sharma, HoD, Dept. of Forestry	Member
31.	Prof. P Lingfa, Department of Mech. Engineering	Member
32.	Prof. M. Chandrasekaran, Dept. of Mech. Engg.	Member



33.	Prof. K. Shrivastava, Dept. of Forestry	Member
34.	Prof. S.K. Bhagat, Deptt. of Electrical Engg	Member
35.	Prof. S. Mahto, HoD, Dept. of Mech. Engg.	Member
36.	Prof. S. Baishya, Deptt. of Civil Engg	Member
37.	Prof. S. Mishra, Deptt. of Civil Engg	Member
38.	Prof. A.K. Gupta, HoD, Deptt. of Chemistry.	Member
39.	Prof. A.K. Singh, HoD, Deptt. of Electrical Engg	Member
40.	Prof. B.K. Singh, HoD, Dept. of Mathematics	Member
41.	Dr. (Mrs.) N. Marchang, Associate Prof. Deptt. of CSE	Member
42.	Prof. S. Samanta, Department of Mechanical Engg	Member
43.	Dr. P. R. Gajurel, Associate Prof. Deptt. of Forestry	Member
44.	Dr. Awadesh Kumar, Associate Prof. Deptt. of Forestry	Member
45.	Prof. S.S. Gautam, Department of Mechanical Engg	Member
46.	Prof. Ajay Bharti, Department of Civil Engineering	Member
47.	Prof.(Mrs) Aditi Bhadra, Deptt of Agril. Engineering	Member
48.	Prof. Arnab Bandyopadhyay, Deptt of Agril. Engineering	Member
49.	Prof. Raju Barthakur, Deptt of HSS	Member
50.	Prof. M.M Dixit, Department of Mathematics	Member
51.	Prof. Rajesh Kumar, Department of ECE	Member
52.	HoD (AE)	Member
53.	HoD(CE)	Member
54.	HoD (CSE)	Member
55.	HoD (ECE)	Member
56.	HoD(EE)	Member
57.	HoD(ME)	Member
58.	HoD(CH)	Member
59.	HoD(MA)	Member
60.	HoD(FO)	Member
61.	HoD(PH)	Member
62.	HoD(HSS)	Member
63.	HoC (CMS)	Member
64.	Mr. S.K. Sahu, Associate Prof. Deptt. of Civil Engg	Member
65.	Mr. K.Lego, Associate Prof. Deptt of CSE	Member
66.	Mr. Radak Blange, Associate Prof. Deptt of Elect. Engg	Member
67.	Mr. A.K. Patra, Asstt. Prof. Deptt of CSE	Member
68.	Dr. S. Choudhury, Assistant Prof. CMS	Member
69.	Dr. (Ms) Bijoylaxmi Sarmah, Assistant Prof. CMS	Member
70.	Controller of Examination	Member
71.	Registrar	Non-Member Secy.



**ANNEXURE - V**

**MEMBER OF BUILDING AND WORKS COMMITTEE AS ON 31<sup>ST</sup> MARCH 2023**

<b>1. Prof. M. Muralidhar,</b> Director, NERIST Itanagar, Arunachal Pradesh	--	<b>Chairman</b>
<b>2. Dean (Planning &amp; Development)</b> NERIST Itanagar, Arunachal Pradesh	--	<b>Member</b>
<b>3. Secretary (Higher Education)</b> Govt. of Arunachal Pradesh Itanagar	--	<b>Member</b>
<b>4. Chief Engineer (PWD)</b> Western Zone, Itanagar Arunachal Pradesh	--	<b>Member</b>
<b>5. Director (T)</b> Department of Higher Education MoE, Govt. of India, Shastri Bhavan, 'C' Wing, New Delhi – 110 015.	--	<b>Member</b>
<b>6. Senior Architect,</b> PWD, Govt. of Arunachal Pradesh Itanagar, Arunachal Pradesh	--	<b>Member</b>
<b>7. Registrar i/c,</b> NERIST	--	<b>Member</b>
<b>8. Assistant Registrar (Finance)</b> NERIST	--	<b>Member</b>
<b>9. Head of the Department (Civil Engg.)</b> NERIST.	--	<b>Member</b>
<b>10. Head of the Department (Electrical Engg.)</b> NERIST.	--	<b>Member</b>
<b>11. Electrical Engineer</b> NERIST	--	<b>Member</b>
<b>12. Executive Engineer (Civil)</b> NERIST	--	<b>Member-Secretary</b>



**ANNEXURE - VI**

**INSTITUTE ADMINISTRATION AS ON 31<sup>ST</sup> MARCH, 2023**

<b>1. Director</b>	:	<b>Prof.M. Muralidhar</b>
<b>2. Deans:</b>		
Administration	:	Prof. C.L. Sharma
Academic	:	Prof. Sarsing Gao
Student's Affairs	:	Prof. P. Lingfa
Planning & Development	:	Prof. O.P Roy
<b>3. Group – A Officers</b>		
Deputy Registrar/Registrar(In-Charge):		Shri. M.K. Camder
Assistant Registrars:		
Finance	:	Shri Toko Shama
Academic	:	Dr. K.K. Rajesh
Examination Cell	:	Shri Gautam Kumar Roy
Medical Officers:	:	Dr. P. Camdir Tok
	:	Dr. Sushmita P. Taggu
	:	Dr. Gyamar Inja
Security Officer	:	Shri Toko Shama (In-Charge)
Scientific Officers	:	Shri T. Ghosh
Assistant Workshop Superintendent	:	Shri Harshendra Misra
Network Administrator	:	Shri Dewan Rasidul Alam
<b>4. Group – B Officers</b>		
<b>Section Officers:</b>		
Establishment & Administration	:	Shri Doge Kamduk
Store & Purchase	:	Shri Rabindra Deb
Hostel Management Council	:	Smti. Pratibha Saikia
<b>5. Chief Vigilance Officer</b>	:	<b>Prof. K.N. Dewangan</b>
<b>6. Estate Officer</b>	:	<b>Shri Gautam Kumar Roy</b>
<b>7. Liaison Officer (SC/ST)</b>	:	<b>Dr. G. Pangging</b>
<b>8. Head of the Departments:</b>		
Agriculture Engineering	:	Prof. K.N. Dewangan
Civil Engineering	:	Prof. Ajay Bharti
Computer Science & Engineering	:	Dr. Satya Jyoti Borah
Electrical Engineering	:	Prof. A.K. Singh
Electronics & Communication Engineering:		Dr. Tripurari Sharan
Mechanical Engineering	:	Prof. S Mahto
Forestry	:	Prof. (Mrs.) Madhu Bala Sharma





Physics	:	Prof. Tado Karlo
Chemistry	:	Prof. P.K. Tripathy
Mathematics	:	Prof. B.K. Singh
Humanities & Social Sciences	:	Prof. P. Parida
Centre for Management Studies	:	Dr.(Mrs) Bijoylaxmi Sarmah

9. Chairman:

Students Grievance Redressal Committee	:	Prof. M. Muralidhar
NEE Committee	:	Dr. Rajesh Kumar
Security	:	Prof. P. Lingfa
Hostel Management Council	:	Shri Radak Blange
Gymkhana	:	Shri Ashok Kumar Ray
Telecom	:	Dr. P.K. Dutta
Transport	:	Dr. K.K. Mandal
Library	:	Shri Rajesh Kumar Yadav
HAC	:	Dr. M.M. Dixit
CTTC	:	Dr. Thaneswar Patel
NEPGET	:	Prof. Salil Kumar Shrivastava
Hindi Cell	:	Dr. Mukesh Upadhyay

10. Training & Placement Cell in-charge : Prof. M. Chandrasekaran

11. ET Cell in-charge : Shri Pradeep Kamboj

12. Co-ordinators:

SRIC	:	Prof. Aditi Bhadra
NSS	:	Dr. Ajay Bharati
CEP	:	Dr. C.L. Sharma
CRF	:	Dr. Jagannath Bhuyan
ACCF	:	Shri Pradeep Kamboj
TEQIP	:	Prof. S. Misra
AICTE	:	Prof. S. Misra
NBA	:	Prof. R.K. Prasad

13. Controller of Examination in-charge : Prof. Arnab Bandhyopadhyay

14. Secretary NEE Committee : Dr. K.K. Rajesh

15. NCC Officer : Dr. Mukesh Upadhyay



**ANNEXURE - VII**

**MEMBERS OF LIBRARY COMMITTEE AS ON 31<sup>ST</sup> MARCH, 2023**

Sl	Name	Department	Member
1.	Dr.Rajesh Kumar Yadav	Physics	Chairman
2.	Dr. K James Singh	Civil Engg	Member
3.	Dr. S.L. Bharati	Chemistry	Member
4.	Dr. K. Saharia	Physics	Member
5.	Dr. M.D. Singh	Electrical Eng.	Member
6.	Dr. K.K. Mandal	Mechanical Eng.	Member
7.	Dr. C.P. Pandey	Mathematics	Member
8.	Dr. Raju Barthakur	HSS	Member
9.	Dr. Manmohan Mall	CMS	Member
10.	Dr. P.K. Pandey	Agriculture Eng.	Member
11.	Dr. Awadesh Kumar	Forestry	Member
12.	Dr. P.K. Dutta	Electronic Eng.	Member
13.	Dr. M. Marjit Singh	Computer Sc. & Eng.	Member
14.	Mr. D.M. Sahu	Central Library	Member Secy.

**ANNEXURE - VIII****MEMBERS OF NERIST ENTRANCE EXAMINATION COMMITTEE**

1.	Dr. Rajesh kumar	Professor	Chairman
2.	Dr. A.K. Ray	Associate Professor	Member
3.	Dr.Ashis Paul	Assitant Professor	Member
4.	Dr.Santosh Tamang	Assitant Professor	Member
5.	Dr. N.N. Yadav	Assitant Professor	Member
6.	Dr. K.K. Rajesh	Assitant Registrar (Acad)	Member Secretary

**ANNEXURE - IX****MEMBERS OF NERIST POST GRADUATE ENTRANCE TEST (NEPGET) COMMITTEE**

1.	Dr. S. K. Shrivastava	Professor	Chairman
2.	Dr. Raju Barthakur	Professor	Member
3.	Dr. P. R. Gajurel	Professor	Member
4.	Dr. Satyajyoti Borah	Associate Professor	Member
5.	Dr. T. Patel	Associate Professor	Member
6.	Dr. K.K. Rajesh	Assistant Registrar (Acad)	Member Secretary



**ANNEXURE - X**

**MEMBERS OF HOSTEL MANAGEMENT COUNCIL AS ON 31.03.2023**

Sl.No.	Hostel Management Council	
1	Chief Warden	Chairman
2	Warden-TIRAP	Member
3	Warden-PARE	Member
4	Warden-DIBANG	Member
5	Warden-PANYOR	Member
6	Warden-KAMENG	Member
7	Warden-LOHIT	Member
8	Warden-SIANG	Member
9	Warden-KURUNG-PANIU	Member
10	Warden-SUBANSIRI	Member
11	Warden- BRAHMUPTRA	Member

**ANNEXURE - XI**

**NERIST ENTRANCE EXAMINATION**

**REPORT ON ADMISSION DURING 2022-23 SESSION THROUGH  
NERIST ENTRANCE EXAMINATION (NEE – I, II & III)**

**Admission notice:**

The admission notification was published in the following newspapers:

Sl.	Name of News Paper
1.	Times of India – All India Edition( Kolkata +NE States)
2.	Niyomiya Barta - Assam
3.	Shillong Times - Meghalaya
4.	Nagaland Post - Nagaland
5.	Dainik Ganadoot - Nagaland
5.	Sikkim Express - Sikkim
6.	Mizoram Post - Mizoram
7.	Dainik Jugsankha - Mizoram
7.	Dainik Sambad - Tripura
8.	Sangai Express ( Eng+Mani) - Manipur
9.	Arunachal Times - Arunachal Pradesh
10.	Echo of Arunachal - Arunachal Pradesh
11.	Arunachal Front - Arunachal Pradesh

Date of Examination : 13.08.2022 - NEE – II & III  
14.08.2022 - NEE - I

**Candidates Appeared in NEE-2022 (State, Category & Module wise)**

Name of state	Module						Total
	NEE-I		NEE-II		NEE-III		
	Male	Female	Male	Female	Male	Female	
Arunachal Pradesh	887	654	504	477	126	29	2677
Assam	265	141	182	129	236	104	1057
Manipur	121	52	114	64	21	11	383
Meghalaya	78	33	47	36	52	28	274
Mizoram	8	5	3	3	8	2	29
Nagaland	49	36	68	36	26	15	230
Sikkim		1	10	2	7	6	26
Tripura	138	92	30	27	37	10	334
All India	71	25	42	17	34	9	198
PD	2		2		1		5
<b>Total</b>	<b>1619</b>	<b>1039</b>	<b>1002</b>	<b>791</b>	<b>548</b>	<b>214</b>	<b>5213</b>

**STATE & BRANCH WISE DETAILS OF CANDIDATES APPEARED IN NEE-III, 2022**

Name of State	AE		CE		CSE		ECE		EE		ME	
	M	F	M	F	M	F	M	F	M	1	M	F
Arunachal Pradesh			109	20	6	5	2		5	4	4	
Assam	6	2	84	58	17	17	13	10	56	10	60	7
Manipur			10	5	7		1		2	6	1	
Meghalaya		1	6	12	8	7	3	3	12	4	23	1
Mizoram			2	1			3		1	1	2	
Nagaland			19	9	2	3	1	1	3	1	1	1
Sikkim			2	4		1			3		2	1
Tripura			11	7	6	1	4	1	5	1	11	
All India	1		12	5	4	2	4		7	2	6	
PD			1									
<b>Total</b>	<b>7</b>	<b>3</b>	<b>256</b>	<b>121</b>	<b>50</b>	<b>36</b>	<b>31</b>	<b>15</b>	<b>94</b>	<b>29</b>	<b>110</b>	<b>10</b>

**RESULT ANNOUNCEMENT**

- 1) Result approved on : 21-08-2022  
 2) Declaration on notice boards : 21-08-2022  
 3) Result given in NERIST website : 22-08-2022

**Candidates selected (state and module wise): 2022**

Name of state & category	MODULE				Total
	NEE-I	NEE-II		NEE-III	
		Technology	Forestry		
PRC	18	6	2	6	32
Physical Handicapped	2	1	1	1	5
Arunachal Pradesh	20	7	3	6	36
Assam	20	7	3	7	37
Manipur	20	7	3	4	34
Meghalaya	20	7	3	6	36
Mizoram	7	2	2	4	15
Nagaland	20	7	3	6	36
Sikkim	1	1	2	3	7
Tripura	20	7	2	6	35
All India	18	6	3	6	33
EWS	20	7	3	5	35
Floating				2	2
<b>Total</b>	<b>186</b>	<b>65</b>	<b>30</b>	<b>62</b>	<b>343</b>



Candidates wait-listed (State & module-wise) 2022

Name of state & category	MODULE				
	NEE-I	NEE-II		NEE-III	Total
		Technology	Forestry		
PRC	40	14	6	14	74
Physical Handicapped					
Arunachal Pradesh	40+20	14+7	6+3	10+4	104
Assam	40	14	6	10	70
Manipur	40	14	6	8	68
Meghalaya	40	14	6	12	72
Mizoram	3			3	6
Nagaland	40	14	6	5	65
Sikkim		1	1	1	3
Tripura	40	10	4	7	61
All India	30	12	4	6	52
EWS	7	14		8	29
Floating				4	4
<b>Total</b>	<b>340</b>	<b>128</b>	<b>48</b>	<b>92</b>	<b>608</b>

COUNSELLING SCHEDULE OF NEE-2022

1.	01.09.2022	Selected & Waiting List of NEE-III
2.	02.09.2022 & 03.09.2022	Selected & Waiting List of NEE –II
3.	05.09.2022 & 06.09.2022	Selected & Waiting List of NEE – I





## ANNEXURE – XII

DEPARTMENT WISE LIST OF FACULTY AS ON 31<sup>ST</sup> MARCH, 2023

Sl.No	Name of Faculty Members	Designation
<b>DEPARTMENT OF FORESTRY</b>		
1.	Dr. Binay Singh	Professor
2.	Dr. C. L. Sharma	Professor
3.	Dr.(Mrs) M. Sharma	Professor
4.	Dr. (Mrs.) K. Shrivastava	Professor
5.	Dr. Awadhesh Kumar	Professor
6.	Dr. P. R. Gajurel	Professor
7.	Dr. O. P. Tripathi	Associate Professor
8.	Dr. L. B. Singha	Associate Professor
9.	Dr. Gobinda Pangging	Associate Professor
10.	Dr. Ashish Paul	Assistant Professor
11.	Dr. (Ms) Madhu Kamle	Assistant Professor
12.	Dr. Pradeep Kumar	Assistant Professor
<b>DEPARTMENT OF AGRICULTURAL ENGINEERING</b>		
1.	Dr. P.P. Dabral	Professor
2.	Dr. K. N. Dewangan	Professor
3.	Dr. S. K. Shrivastava	Professor
4.	Dr. (Ms) Aditi Bhadra	Professor
5.	Dr. Arnab Bandyopadhyay	Professor
6.	Dr. P. K. Pranav	Assistant Professor
7.	Dr. Pankaj Kumar Pandey	Associate Professor
8.	Dr. Thaneswar Patel	Associate Professor
9.	Shri Ukil Singh	Assistant Professor
10.	Shri Arun Kumar Choudhary	Assistant Professor
11.	Shri Anubhab Pal	Assistant Professor
12.	Shri Tage Tapang	Assistant Professor
13.	Mrs. Vanita Pandey	Assistant Professor
<b>DEPARTMENT OF CIVIL ENGINEERING</b>		
1.	Dr. R. K. Prasad	Professor
2.	Dr. S. Baishya	Professor
3.	Dr. S. Mishra	Professor
4.	Shri S. K. Sahu	Associate Professor
5.	Dr. Ajay Bharti	Associate Professor
6.	Dr. (Ms.) Dipika Devi	Associate Professor
7.	Dr. (Ms) Mudo Puming	Associate Professor
8.	Mrs. Y. Bidyalaxmi Devi	Assistant Professor
9.	Dr. (Ms). Yamem Tamut	Assistant Professor
10.	Shri Neero Gumsar Sorum	Assistant Professor
11.	Shri K. James Singh	Assistant Professor
12.	Dr. (Ms) Ajanta Kalita	Associate Professor
13.	Dr. Dibyendu Pal	Associate Professor



<b>DEPARTMENT OF COMPUTER SCIENCE &amp; ENGINEERING</b>		
1.	Dr. (Ms.) N. Marchang	Professor
2.	Ms. Margaret Kathing	Associate Professor
3.	Dr. S. J. Borah	Associate Professor
4.	Shri K. Leogh	Associate Professor
5.	Dr. M. Marjit Singh	Associate Professor
6.	Shri Ashwini Kumar Patra	Assistant Professor
7.	Dr. Manjul Saikiia	Associate Professor
8.	Dr. Amar Taggu	Assistant Professor
9.	Dr. Ajit Kumar Singh Yadav	Assistant Professor
10.	Shri Yogendra Mohan	Assistant Professor
11.	Shri Pradeep Kamboj	Assistant Professor
<b>DEPARTMENT OF ELECTRICAL ENGINEERING</b>		
1.	Dr. R. K. Mehta	Professor
2.	Dr. O. P. Roy	Professor
3.	Dr. Sarsing Gao	Professor
4.	Dr. S. K. Bhagat	Professor
5.	Dr. A. K. Singh	Professor
6.	Shri R. Blange	Associate Professor
7.	Shri T.V.P. Singh	Associate Professor
8.	Dr. Adikanta Parida	Associate Professor
9.	Dr. M. Deban Singh	Associate Professor
10.	Dr. Anu Kumar Das	Associate Professor
11.	Dr. N. L. Meitei	Assistant Professor
12.	Ms. Somila Hashunao	Assistant Professor
13.	Dr. Akhilesh Sharma	Assistant Professor
14.	Dr. Piyali Das	Assistant Professor
15.	Dr. P. Devachandra Singh	Assistant Professor
<b>DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING</b>		
1.	Dr. Md. Anwar Hussain	Professor
2.	Dr. Rajesh Kumar	Professor
3.	Dr. Tripurari Sharan	Professor
4.	Dr. (Mrs) Joyatri (Bora) Hazarika	Professor
5.	Dr. Madhusudan Mishra	Associate Professor
6.	Dr. Pranab Kumar Dutta	Associate Professor
7.	Dr. Ashok Kumar Ray	Associate Professor
8.	Shri Rusni Kima Mangang	Assistant Professor
9.	Shri Akho John Richa	Assistant Professor
10.	Shri Anil Kumar Gautam	Assistant Professor
11.	Shri M. Edison Singh	Assistant Professor
<b>DEPARTMENT OF MECHANICAL ENGINEERING</b>		
1.	Dr. M. Muralidhar	Professor
2.	Dr. Asis Giri	Professor
3.	Dr. Pradip Lingfa	Professor
4.	Dr. M. Chandrasekaran	Professor
5.	Dr. S. Mahto	Professor



6.	Dr. S. Samanta	Professor
7.	Dr. Satyam Shivam Gautam	Professor
8.	Dr. Sandeep Singh	Associate Professor
9.	Dr. K. K. Mondal	Associate Professor
10.	Dr. Narendra Kumar Rana	Associate Professor
11.	Dr Maryom Dabi	Associate Professor
12.	Dr. M. P. Thaddues	Assistant Professor
13.	Shri Nabam Teyi	Assistant Professor
14.	Dr. Santosh Kumar Tamang	Assistant Professor
15.	Md. S. Mujaheed Khan	Assistant Professor
16.	Dr. Yadaiah Nirsanmetla	Assistant Professor
<b>DEPARTMENT OF CHEMISTRY</b>		
1.	Dr. H.S. Yadav	Professor
2.	Dr. P.K. Tripathy	Professor
3.	Dr. M.F. Hussain	Professor
4.	Dr. N. Deb	Professor
5.	Dr. A. K. Gupta	Professor
6.	Dr. N. Ghanashyam Singh	Assistant Professor
7.	Dr. Shahi Lata Bharati	Assistant Professor
8.	Dr. (Ms) Meera Yadav	Assistant Professor
9.	Dr. Jagannath Bhuyan	Assistant Professor
10.	Dr. A. Murugan	Assistant Professor
11.	Dr. Nagendra Nath Yadav	Assistant Professor
<b>DEPARTMENT OF HUMANITIES AND SOCIAL SCIENCES</b>		
1.	Dr. P. Parida	Professor
2.	Dr. Raju Barthakur	Professor
3.	Shri R. Prasad	Associate Professor
<b>DEPARTMENT OF MATHEMATICS</b>		
1.	Dr. B.K. Singh	Professor
2.	Dr. M. M. Dixit	Professor
3.	Dr. Mohammad Hassan	Assistant Professor
4.	Dr. Chandra Prakash Pandey	Assistant Professor
<b>DEPARTMENT OF PHYSICS</b>		
1.	Dr. P. R. Alapati	Professor
2.	Dr. Tado Karlo	Professor
3.	Dr. Mukesh Upadhyay	Associate Professor
4.	Dr. Rajesh Kumar Yadav	Associate Professor
5.	Dr. Kamal Saharia	Associate Professor
6.	Dr. (Ms.) Akbari Jahan	Assistant Professor
7.	Dr. Kunal Borah	Assistant Professor
<b>CENTRE FOR MANAGEMENT STUDIES</b>		
1.	Dr. R. M. Pant	Professor
2.	Dr. Shibabrata Choudhary	Associate Professor
3.	Dr. (Mrs) Bijoylaxmi Sarmah	Associate Professor
4.	Dr. Manhoman Mall	Assistant Professor
<b>Total : 120</b>		