

**FORMAT FOR SUBMISSION OF PROGRESS REPORT
STATE/INSTITUTIONAL LEVEL BIOTECH HUBS
(Format for biotech hubs sanctioned during 2010-11 and 2013-14)**

Period under report **2016 - 2017**

1. Name & address of the institution: **Lady Keane College, Shillong**
2. Name & designation of the Coordinator: **Mr. G.G. Syngai, Assistant Professor & Head,
Department of Biochemistry,
Lady Keane College, Shillong**
3. Telephone, Mobile, Fax and Email of the Coordinator: **+919856007518 (M)
ggsyngai@gmail.com**
4. Level of the Biotech Hub: **Institutional**
5. Year of sanction with DBT's sanction no.: **BT/04/NE/2009 dated September 21, 2010**
6. A brief write up about your organization/institution (not exceeding 10 lines):

Lady Keane College which was established in 1935 is one of the premiere institutes for women's education in North East India. With an aim at providing excellent all round education; it strives to empower women for becoming future leaders of tomorrow and who will help shape society. Our commitment to quality found its stamp of approval from the National Accreditation and Assessment Council (NAAC), Bangalore when this apex autonomous agency reaccredited our institution and awarded 'A' Grade with our quality profile standing at 3.09 (CGPA) on a 4 point scale. The motto "**Excellence with Integrity**" is the driving force behind each endeavour of every single member – past and present- of this college, to impact the life of every young woman who wisely chooses to be nurtured and educated by it.

7. Total funding received so far (Rupees in lakhs):

Financial year	2010-11 (1 st year)	2011-12 (2 nd year)	2012-13 (3 rd year)	2013-14 (4 th year)	2014-15 (5 th year)	2015-16 (6 th year)	2016-17 (7 th year)	Total	Balance on 31/03/2017
Amount Received	19.00	10.03	5.21	3.67	2.47	4.52	-	44.90	0.57269

8. Infrastructure created:

(a) List of equipment procured: (Pl. list all the equipments procured under the biotech hub since its inception)

Sl. No	Name of the equipment	Model No & Brand Name	Cost in Indian Rupees (in Lacs)	Date of Purchase	No. of researchers/ students utilized Equipments
1	Refrigerated Centrifuge (17,500rpm) 1.5/2.0 ml micro tubes	5430 R Eppendorf	4.7	19/01/2011	16
2	UV/ Vis Spectrophotometer	UV –1800 Shimadzu	5.025	20/04/2011	86
3	Digital Trinocular Microscope	Lx 400 Labomed	0.78	20/04/2011	16
4	Vertical Slab Gel Electrophoresis	02 -00142 TechnoSource	0.14	29/03/2011	2
5	Submarine Electrophoresis Unit	08 -00105 TechnoSource	0.16	3/05/2011	2
6	Electrophoresis Power Supply	PAGE-100 TechnoSource	0.45	29/03/2011	2
7	Western Blot System	MX – 246 – 01 Medox	0.13	3/05/2011	
8	Computer (1 No.)	p6338in HP Pavilion	0.4559	21/01/2011	7
9	Laser Printer	LBP 2900B Canon	0.0659	21/01/2011	7
10	Gel Rocker	MX – 1290 -02 Medox	0.18	29/03/2011	2
11	Electronic Balance	JA -310 Shinko	0.35	29/03/2011	4
12	Refrigerator (175 Litres)	185RP3 LG	0.099	20/04/2011	4
13	Micropipettes	Proline-var. 0.1 – 3 µl BioLit	0.105	29/03/2011	7
14	Micropipettes	Proline-var. 2 – 20 µl BioLit	0.05	29/03/2011	7
15	Micropipettes	Proline-var. 10 – 100 µl BioLit	0.05	29/03/2011	7
16	Micropipettes	Proline-var. 20 – 200 µl BioLit	0.05	29/03/2011	7
17	Micropipettes	Proline-var. 100 – 1000 µl BioLit	0.05	29/03/2011	7
18	Micropipettes	Proline-var. 1000 – 5000 µl BioLit	0.05	29/03/2011	7
19	pH meter	CL 110 Chemiline	0.07	29/03/2011	7
20	Hot Air Oven	143(OUA–2) NSW	0.2019	20/04/2011	7
21	Serological Water Bath	125(SBS-1) NSW	0.1298	20/04/2011	3

Contd.....

Sl. No	Name of the equipment	Model No & Brand Name	Cost in Indian Rupees (in Lacs)	Date of Purchase	No. of researchers/ students utilized Equipments
22	Autoclave	229 NSW	0.0979	20/04/2011	25
23	UPS	FPS 600 Foxin	0.02	21/01/2011	
24	Online UPS with 16 Nos. Batteries	IntelliQ Series SUKAM	3.95	26/03/2014	
25	Inverter with 8 Nos. Batteries	IntelliQ Series SUKAM	1.95	27/03/2014	
Total cost =			19, 31, 045		

9. Detail of hands on training programmes/workshops organized during the period of report:

(a) Hands on trainings conducted:

Serial No.	Topic	Duration and Date	No. of participants	Level of participants
1.	A Fifteen-Day Training Programme for Biotechnology students of St. Edmund's College, Shillong on "Biological Techniques"	Fifteen days 20 th April - 4 th May, 2016	5	B.Sc. 3 rd year (Honours)
2.	A Three-Day Training Programme for the B.Sc. 4 th Semester Life Science students of Lady Keane College, Shillong on "Plant Tissue Culture"	Three days 28 th -30 th November, 2016	24	B.Sc. 4 th Semester Life Science students

(b) Overall score of the training programmes according to participants as per feedback taken in the prescribed format:

Total No. of participants	No. & percentage of participants assigning score of				
	5	4	3	2	1
29	12 (41.38%)	12 (41.38%)	5 (17.24%)	-	-

*Mention percentages in parenthesis

(c) Workshop/seminars/awareness programmes conducted:

Sl. No.	Topic	Duration and Date	No. of participants
1.	<i>“Cancer and its prevalence in Meghalaya – An Overview”</i> Talk cum Awareness Programme for the BSc 4 th Semester Students of Lady Keane College, Shillong.	One hour 28 th February, 2017	64
2.	Hands-on Activity on <i>“Basic Biological Experiments”</i> for Class IX students of Jyoti Sroat School, Shillong (An inclusive school for children with special needs)**	One day 15 th March, 2017	25

****Jyoti Sroat School, Shillong** run by the Bethany Society was established in 1993 as a special school for the visually impaired and it was in 2006 that the concept of **inclusive education** was introduced in the school so as to cover all children including the differently-abled, disadvantaged, marginalized and those coming from difficult circumstances. Padmashree Ms. Bertha Gyndykes Dkhar, former headmistress of the school is also a recipient of the National Award for Child Welfare from the Government of India.

(d) No. of students doing project works using biotech hub facility:

UG: PG: Ph.D.: **1 (One) Undergoing**

(e) Courses/Study programmes supported (by biotech hub infrastructure & facilities):

Sl. No.	Level (UG/PG/PhD)	Name of the Course/Study programme	Nature of support
1.	UG	Biochemistry (Honours), Botany (Honours), Zoology (Honours)	Provided equipments for conducting the practicals
2.	Ph.D	Ph.D programme	Provided equipments, chemicals and other miscellaneous requirements

(f) Outreach programmes conducted:

Serial No.	Topic	Name of the institution where conducted	Duration and Date	Level of participants
1.	<i>“Biotechnology - An application of Technology in Biological Sciences”</i>	St Margaret’s Higher Secondary School, Shillong	Two hours 28 th July, 2016	Class XI and XII Science students
				Contd....

2.	“Biotechnology In Food Industry”	Brookside Adventist Higher Secondary School, Shillong	One Hour 7 th September,2016	Class XI and XII Science students
3.	“Biotechnology- Its Relevance In Today’s Time”	Seven Set Higher Secondary School, Shillong	One Hour 17 th November,2016	Class XII Science students
4.	“Biotechnology And Its Role In Agricultural Development”	Army Public School, Shillong	One Hour 24 th November,2016	Class XI Science students

(g) Invited lectures/hands-on trainings offered at other institutions:

Sl. No.	Name of the resource person	Topic	Organised by	Duration & Date

10. Research activities (please provide details of only those research activities being carried out at biotech hub):

(a) Type of work carried out:

Sl. No.	Title of the research	Persons involved	Status (Ongoing/completed)
1.	“Acute toxicity of aqueous extract of <i>Zingiber officinale</i> rhizomes on common carp (<i>Cyprinus carpio carpio</i> L., 1758)”	G.G.Syngai S.Dey R. Bharali	Ongoing
2.	“Acute toxicity of aqueous extract of <i>Allium sativum</i> on juvenile common carp (<i>Cyprinus carpio</i> L., 1758)”	G.G.Syngai S.Dey R. Bharali	Completed
3.	“Study on the effect of automobile pollution on the abundance of soil arthropods and a simultaneous analysis of the chlorophyll content, catalase activity and heavy metal accumulation in <i>Oxalis corniculata</i>”	Dr.D.G.Marbaniang, Dr. P.Law, Dr.S.Dohling, Dr.D.Nongbri, Mr.R.Decruse, Mr.L.Pyngrope, Mrs.W.Lyngdoh, Mr.G.G.Syngai, Mr.B.Sohkhlet	Completed

(b) No. of papers published/presented with impact factor **(please mention only those arising out of biotech hub support):**

(Provide a list on a separate sheet, if necessary. Papers with due acknowledgements to the Biotech Hub should only be listed.)

- **Syngai, G.G., Kharwanlang, B., Sohkhlet, B., Laloo, A.M., Nongbri, D., Challam, M., Mawroh, H. (2016) Effect of automobile pollution on the chlorophyll content of *Oxalis corniculata* L. leaves. *Poll. Res.* 35(4): 739-747.**
H Index – 18 Scopus – 0.14

(c) Collaboration with other departments/institutions:

Sl. No.	Dept./Institution collaborated	Nature of collaboration	Duration
1.	Department of Biochemistry, Lady Keane College, Shillong	Training programme on: “Biological Techniques”	7(seven) days
2.	Department of Botany, Lady Keane College, Shillong	Training programmes on: “Biological Techniques” & “Plant Tissue Culture”	3(three) + 3(three) days
3.	Department of Zoology, Lady Keane College, Shillong	Training programme on: “Biological Techniques”	2(two) days
4.	Department of Chemistry, Lady Keane College, Shillong	Training programme on: “Biological Techniques”	1(one) day
5.	Department of Biochemistry, St. Edmund’s College, Shillong	Research Publication	1(one) year

11. Major achievements of the Biotech Hub during the year:

- **Outreach Awareness Programmes** were conducted for the **Class XI & XII Science** students in **4 different schools** in the city with the participation of **316 students**.
- **Training Programmes** conducted were **2** in all and with a total number of **29 students** who could be trained.
- An **in-house Awareness Programme** was organized for **64 BSc student participants** from the college.
- A **One-Day Workshop** was conducted for **25 Class IX students of an inclusive school**; with the students’ observation being that they have come to know about certain experiments which were new to them.
- **Two Minor Research Projects** were completed.
- A **Research Paper** was published in a **peer reviewed journal**.
- We came up with the **2nd Issue** of the **Keanean Bio Connect Newsletter**.
- **National Science Day -2017** was observed in the College by organizing an awareness programme with Dr. (Mrs) Judita Syiemlieh, MD, Department of Radiation Oncology, Civil Hospital, Shillong as the Resource Person.
- Provided **infrastructural support** to the **Undergraduate Life Science Programmes**.

- **Standard Operating Protocols** for the experiments conducted during the training programmes have been compiled in the form of manuals.
- **Standard Operating Procedures (SOPs)** of the high-end equipment's continues to be maintained in the Institutional Biotech Hub Laboratory.

12. Manpower Recruitment Details:

Sl. No.	Name	Designation	Specialization	Period of engagement
1.	Mr. Badaplang Sohkhlet	SRF	Biochemistry	From 16 th May 2011 till 9 th July 2014
2.	Ms. Abigail Majaw Laloo	JRF	Biochemistry	From 16 th October 2014 till 31 st December 2015
3	Ms. Melarihun Shisha Lyngkhoi	JRF	Biotechnology	From 6 th April 2016 till 12 th April 2017
4	Mr. Banmanbha Tymthai	Laboratory Attendant	-	On a monthly basis

13. Service provided:

(a) No. of students/workers utilizing the facilities:

Students – 50

Faculty – 4(Botany), 1(Zoology) and 3(Biochemistry)

(Must have documentary evidence)

Institutional Biotech Hub, Lady Kean College, Shillong SHIMAZU UV-VIS SPECTROPHOTOMETER (UV-1800) LOG REGISTER					
DATE	TIME	USER	SIGNATURE	REMARK	
	FROM TO				
4/5/16	2:00 3:30	S. Dohling	<i>[Signature]</i>	Good	
6/6/16	11:00 01:40	S. Dohling	<i>[Signature]</i>	Good	
7/6/16	12:00 5:00	S. Dohling	<i>[Signature]</i>	Good	
14/5/16	1:30 2:00	S. Dohling	<i>[Signature]</i>	Good	
14/5/16	3:00 3:30	K. Pala (Bot Dep)	<i>[Signature]</i>	Good	
6-6-16	1:15 1:50	BSc (In) Hons (Bot)	<i>[Signature]</i>	V. Good	
7-6-16	12:15 1:00	BSc II Year (Bot)	<i>[Signature]</i>	V. Good	
9-6-16	9:45 9:45	BSc III Year (Zoo)	<i>[Signature]</i>	V. Good	
9-6-16	9:45 9:45	K. Pala (Bot)	<i>[Signature]</i>	V. Good	
32-6-16	10:45 10:45	K. Pala (Gen Bot)	<i>[Signature]</i>	V. Good	
24-6-16	01:15 5:00pm	S. Dohling (Bot)	<i>[Signature]</i>	V. Good	
5-7-16	10:40 11:05am	K. Pala (Bot)	<i>[Signature]</i>	V. Good	
20-7-16	1:00 2:00	BSc 1 st Sem (Bio)	<i>[Signature]</i>	V. Good	
05-7-16	1:00 3:10	BSc 1 st Sem (Bio)	<i>[Signature]</i>	V. Good	
5-8-16	2:30 2:50	BSc 1 st Sem (Bio)	<i>[Signature]</i>	V. Good	
5-8-16	4:00 5:00	S. Dohling	<i>[Signature]</i>	V. Good	
10-8-16	2:30pm 3:30pm	K. Pala	<i>[Signature]</i>	V. Good	
31-8-16	2:15pm 2:25pm	BSc III Year (Bio)	<i>[Signature]</i>	V. Good	
8-9-16	1:58pm 2:10pm	K. Pala	<i>[Signature]</i>	V. Good	
7/9/16	1:50pm 2:04	BSc 1 st SEM	<i>[Signature]</i>	V. Good	
9/9/16	2:10pm 2:24	BSc 1 st Sem	<i>[Signature]</i>	V. Good	
12/9/16	3:30pm 4:00pm	K. Pala	<i>[Signature]</i>	V. Good	
14/9/16	2:30pm 3:00pm	K. Pala	<i>[Signature]</i>	V. Good	
16/9/16	4:10pm 4:30pm	K. Makholi	<i>[Signature]</i>	V. Good	
19/9/16	2:30 3:30	K. Pala	<i>[Signature]</i>	V. Good	
21/9/16	3:00 3:30	K. Makholi	<i>[Signature]</i>	V. Good	
21/9/16	5:30 6:00	S. Nangkhom	<i>[Signature]</i>	V. Good	
21/9/16	11:00 3:00	S. Nangkhom	<i>[Signature]</i>	V. Good	
24/9/16	12:15 1:30	G. G. Sengmai	<i>[Signature]</i>	Good	

Institutional Biotech Hub, Lady Kean College, Shillong SHIMAZU UV-VIS SPECTROPHOTOMETER (UV-1800) LOG REGISTER					
DATE	TIME	USER	SIGNATURE	REMARK	
	FROM TO				
24/10/16	1:00 PM 5:00 PM	K. Pala, S. Dohling, K. Makholi	<i>[Signature]</i>	Good	
14/12/16	1:30 PM 5:00 PM	K. Pala, S. Dohling, K. Makholi, P. Laloo	<i>[Signature]</i>	V. Good	
17/12/16	1:00 PM 6:00 PM	- DO -	<i>[Signature]</i>	V. Good	
19/12/16	8:00 PM 4:30 PM	- DO -	<i>[Signature]</i>	V. Good	
8/2/17	3:00 PM 3:30 PM	- DO -	<i>[Signature]</i>	V. Good	
9/2/17	11:55 AM 12:30	- DO -	<i>[Signature]</i>	V. Good	
10/2/17	3:30 PM 4:30 PM	- DO -	<i>[Signature]</i>	V. Good	
21/2/17	2:00 PM 3:00 PM	- DO -	<i>[Signature]</i>	V. Good	
23/2/17	12:00 3:10 PM	- DO -	<i>[Signature]</i>	V. Good	
28/2/17	11:00 AM 11:55 PM	- DO -	<i>[Signature]</i>	V. Good	
31/3/17	3:25 PM 3:55 PM	BSc II Sem (Bio)	<i>[Signature]</i>	V. Good	
1/4/17	10:00 AM 2:45 PM	K. Pala, S. Dohling	<i>[Signature]</i>	V. Good	
3/5/17	2:30 PM 5:30 PM	K. Makholi	<i>[Signature]</i>	V. Good	
9/5/17	11:30 AM 12:00 PM	P. Mogyi	<i>[Signature]</i>	V. Good	

(b) Services provided to other Biotech Hubs/Sr secondary schools:
(Please specify the nature of service)

- Organized a Fifteen-Day Training Programme On “Biological Techniques “for the B.Sc. 3rd year Biotechnology students of St. Edmund’s College, Shillong.

14. Future activities and proposed action plan:

- Training Programmes will be conducted for enhancing the practical skills of the students.
- Outreach and Awareness Programmes will be organized for familiarizing students with the fields Biotechnology and Biological Sciences.
- Publication of Research Papers.
- Publication of the 3rd Issue of the Keanean Bio Connect Newsletter.
- Invited Lectures by Scientists/Academicians.

15. Additional Details

(i). Name of the Co-coordinator: **Mrs. W. Lyngdoh, Assistant Professor**
Address: **Dept. of Zoology, Lady Keane College, Shillong – 793001, Meghalaya**
Mobile no.: **09436102535 (M)**
Email: **lyngdohwanda@rediffmail.com**

(ii). Name of the Co-coordinator: **Dr. S. Dohling, Assistant Professor**
Address: **Dept. of Botany, Lady Keane College, Shillong – 793001, Meghalaya**
Mobile no.: **09863085923 (M)**
Email: **staddohling@yahoo.co.in**

Mr. G.G. Syngai
Co-ordinator
Institutional Biotech Hub
Lady Keane College