

FORMAT FOR SUBMISSION OF PROGRESS REPORT OF STATE/INSTITUTIONAL LEVEL BIOTECH HUBS

(Sanctioned during 2010-11 and 2011-12)

Period under report – 2014 - 2015

- 1. Name & address of the institution:** Lady Keane College, Shillong
- 2. Name & designation of the Coordinator:** Mr. G.G. Syngai, HOD, Biochemistry Department,
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, the first women's college in North Eastern India was established in 1935, in the heart of Shillong city, the capital of Meghalaya. The tribal students of the North Eastern region make up for 80% of the present student's strength. Students from all parts of India are also admitted and this brings about an integration of traditions and cultures of the region. This is in keeping with the objectives set by the founders: "To do whatever necessary and legitimate for the spread of liberal education in all branches among women irrespective of religion, caste, creed or nationality". Re-accredited with an 'A' grade by NAAC in 2014 with a CGPA of 3.09 on a four point scale, the college is dedicated towards providing quality and all-round education to women and is striving hard in establishing itself as one of the premiere and distinguished institutions in the country.

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

Financial year	2010-11 (1st year)	2011-12 (2nd year)	2012-13 (3rd year)	2013-14 (4 th year)	2014-15 (5 th year)	Total (Rs. In lakhs)
Amount Received	19.00	10.03	5.21	3.67	-	37.91

8. Infrastructure created:**(a) List of equipment procured:**

Sl. No	EQUIPMENTS	Brand Name	Model No	Rupees (in Lacs)
1	Refrigerated Centrifuge (17,500rpm) 1.5/2.0 ml micro tubes	Eppendorf	5430 R	4.7
2	UV/ Vis Spectrophotometer	Shimadzu	UV –1800	5.025
3	Digital Trinocular Microscope	Labomed	Lx 400	0.78
4	Vertical Slab Gel Electrophoresis	TechnoSource	02 -00142	0.14
5	Submarine Electrophoresis Unit	TechnoSource	08 -00105	0.16
6	Electrophoresis Power Supply	TechnoSource	PAGE-100	0.45
7	Western Blot System	Medox	MX – 246 – 01	0.13
8	Computer (1 No.)	HP Pavilion	p6338in	0.4559
9	Laser Printer	Canon	LBP 2900B	0.0659
10	Gel Rocker	Medox	MX – 1290 -02	0.18
11	Electronic Balance	Shinko	JA -310	0.35
12	Refrigerator (175 Litres)	LG	185RP3	0.099
13	Micropipettes	BioLit	Proline-var.	0.105
14	Micropipettes	BioLit	Proline-var.	0.05
15	Micropipettes	BioLit	Proline-var.	0.05
16	Micropipettes	BioLit	Proline-var.	0.05
17	Micropipettes	BioLit	Proline-var. 100 – 1000 µl	0.05
18	Micropipettes	BioLit	Proline-var. 1000 – 5000 µl	0.05
19	pH meter	Chemiline	CL 110	0.07
20	Hot Air Oven	NSW	143(OUA–2)	0.2019
21	Serological Water Bath	NSW	125(SBS-1)	0.1298
22	Autoclave	NSW	229	0.0979
23	UPS	Foxin	FPS 600	0.02
24	Online UPS with 16 Nos. Batteries	SUKAM	IntelliQ Series	3.95
25	Inverter with 8 Nos. Batteries	SUKAM	IntelliQ Series	1.95

9. Teaching/training activities taken up during the period of report:**(a). Trainings conducted:**

Serial No.	Topic	Duration and Date	No. of participants
1.	Outreach Training programme for class X-students of MeECL Secondary School, Sumer on the theme “Immune system - A biological defence mechanism against infective agents”	Two days 12 th – 13 th June 2014	20
2.	Three-Day Training Programme for the BSc III year (Honours) students on “Chromatography techniques in the separation of bio-molecules”	Three days 1 st – 3 rd December, 2014	21
3.	Three-Day Training Programme for School teachers on “Plant tissue culture techniques”	Three days 8 th – 10 th December, 2014	10

**1. Outreach Training programme for class X-students
of MeECL Secondary School, Sumer on the theme,
“Immune system - A biological defence mechanism against infective agents”**

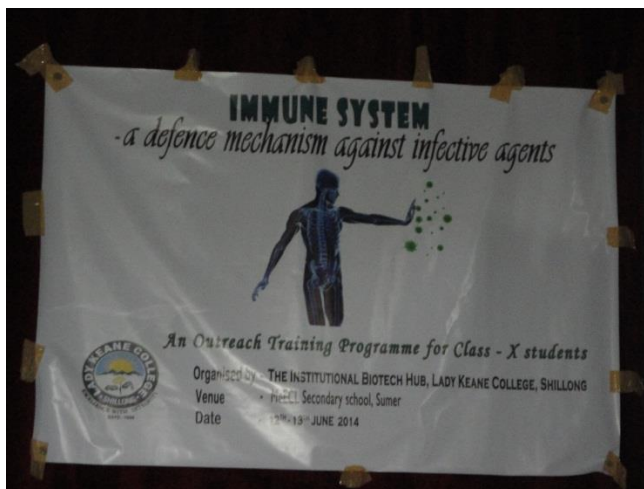


Fig1: Students during the lecture on, “Immune system - A biological defence mechanism against infective agents”



Fig2: Students perform different experiments on, “Immune system - A biological defence mechanism against infective agents”

2. Three-Day Training Programme for the BSc III year (Honours) students on: “Chromatography techniques in the separation of bio-molecules”



Fig.3: Students during the lecture on, Chromatography as a separation Technique.



Fig.4: Students performing Paper Chromatography Technique.

3. Three-Day Training Programme for School teachers on: “Plant tissue culture techniques”



Fig.5: Participants during the lecture on Plant Tissue Culture Techniques.



Fig.6: Participants performing Plant Tissue Culture Techniques.

(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
51	24{47.1%}	19{37.2%}	6{11.8%}	-	-

(c).Workshop/seminars/awareness programmes conducted:

Sl. No.	Topic	Duration and Date	No. of participants
1.	Lecture Sessions for the Class- XII science students of Lady Keane Girls' HSS on: "An Overview of DNA as the Genetic Material"	One day 25 th September 2014	31
2.	Panel Discussion for the BSc III year students on "Medicinal Plants & Their Various Uses"	Two hours 16 th October 2014	56
3.	Practical Demonstrations for Class IX/X students on the "Use Of Basic Scientific Instrumentation"	One day 11 th November 2014	14

1. Lecture Sessions for the Class- XII science students of Lady Keane Girls' HSS on: **"An Overview of DNA as the Genetic Material"**

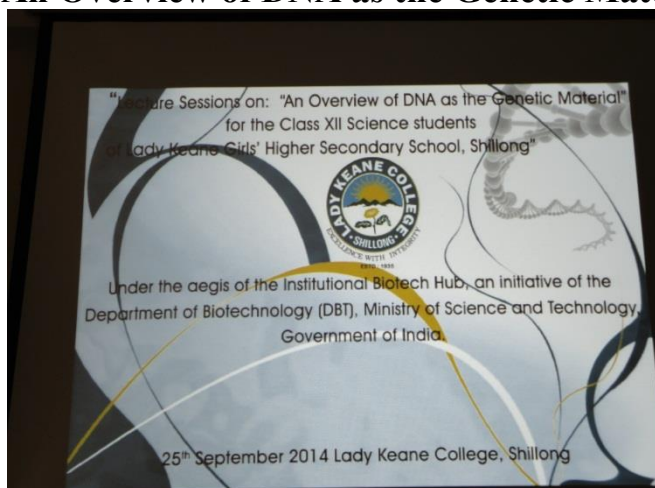


Fig.7: Students during a lecture on: "An Overview of DNA as the Genetic Material".

2. Panel Discussion for the BSc III year students on “Medicinal Plants & Their Various Uses”



**Fig.8: Students and Teachers during the Panel Discussion on
“Medicinal Plants & Their Various Uses”**

3. Practical Demonstrations for Class IX/X students on: “The Use of Basic Scientific Instrumentation”



Fig.9: Students performing in the use of different basic Scientific Instrumentation.

(d). No. of students doing project works under biotech hubs facility:

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

(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	Provided equipments for conducting the practicals

(f). Outreach programmes conducted:

Sl. No.	Topic	Name of the institution where conducted	Duration and Date	Level of participants
1.	Outreach Training programme for class X-students on the theme: “Immune system - A biological defence mechanism against infective agents”	MeECL Secondary School, Sumer	Two days 12 th – 13 th June 2014	Class X students

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

Sl. No.	Name of the resource person	Topic	Organized 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 ethanolic extract of <i>Zingiber officinale</i> rhizomes on common carp (<i>Cyprinus carpio carpio</i> L., 1758)”	Mr. G.G.Syngai	Ongoing

(b) No. of papers published/presented with impact factor (please mention only those have been arising out of biotech hub support): *(Provide a list on a separate sheet, if necessary. Papers with due acknowledgement to the Biotech Hub should only be listed.)*

(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: “Chromatography techniques in the separation of bio-molecules”	3 (three) days
2.	Department of Botany, Lady Keane College, Shillong	Training programme on: “Plant tissue culture techniques”	3 (three) days

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

- Through the various training and awareness programmes, the Biotech Hub has succeeded in inspiring and encouraging students to join the science stream after their schooling, as well as in generating a genuine interest and awareness amongst the participants about how science and scientific technologies play an important role in day to day issues related to health care, food production, new discoveries and so forth.
- Standard Operating Protocols of the experiments conducted during the training programmes are available in the form of manuals.
- Standard Operating Procedures (SOPs) of the equipments available in the Biotech Hub has been prepared.
- The Biotech Hub was duly acknowledged by the respected Principal of the college for its contribution in the college being awarded an ‘A’ grade by NAAC.

12. Manpower Recruitment Details:

Sl. No.	Name	Designation	Specialization	Period of engagement
1.	Mr. Badaplang Sohkhet	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 date
3.	Mr. Banmanbha Tymthai	Lab. Assistant	_____	On a need basis

13. Service provided:

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

Students – 40

Faculty – 5

(Documentary evidences attached)

[illegible][illegible]

Institutional Biotech Hub, Lady Keane College, Shillong LABORED Electronic Microscope with (DIGIEYE Camera) Funded by DBT, Govt. of India						
DATE	TIME		USER	EXPERIMENT	SIGNATURE	REMARK
	FROM	TO				
24 th 08-2014	10:15AM	12:00P.	CLASS - 2 STUDENTS TRAINING	MITOCH. & BACILLUS E.C. TIPS.	<i>[Signature]</i>	Good.
28 th 04-2015	11:15AM	12:00P.	CLASS - 2 WATERBURY & OTHER ANATOMY	ORALIZATION OF POLYMERIZATION OF CHITOSAN & BACILLUS	<i>[Signature]</i>	Good.
27 th 04-2014	10:00AM	4:45PM	R.C. BIRCHAM 2 nd YEAR.	MITOTIC & VITAC ORIGIN REACT TIPS.	<i>[Signature]</i>	Good
28 th 04-2014	8:00AM	4:45PM	R.C. BIRCHAM 2 nd YEAR.	RBC COUNT.	<i>[Signature]</i>	Good.
08-2014	5:00 PM.		WATERBURY	RBC COUNT	<i>[Signature]</i>	Good.
2-08-2014	10:30AM	11:00AM	R.C. 2 nd Y.	RBC COUNT	<i>[Signature]</i>	Good.
8-08-2014	2:12PM	2:30PM	BSC 2 nd Y.	RBC count	<i>[Signature]</i>	Good.
9-08-2014	11:00AM	11:40AM	BSC 2 nd Y.	RBC count	<i>[Signature]</i>	Good
20-08-2014	12:00PM	12:30PM	BSC 2 nd Y.	RBC COUNT	<i>[Signature]</i>	Good
1-9-2014	12:50 PM	2:10 PM	BSC 2 nd Y.	WBC count	<i>[Signature]</i>	Good.
3-9-2014	12:55 PM	2:10 PM	BSC 2 nd Y.	WBC count	<i>[Signature]</i>	Good
3-9-2014	1:50 PM	2:15 PM	BSC 2 nd Y.	WBC count	<i>[Signature]</i>	Good
24/11/2014	2:30pm	3:30pm	BSC 2 nd year	Memori	<i>[Signature]</i>	Good
3/12/2014	2:30pm	3:00pm	"	Microbi	<i>[Signature]</i>	Good
25/04/2015	12:00	12:45pm	"	WBC Count	<i>[Signature]</i>	Good.

[illegible]

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

14. Future activities and proposed action plan:

The Institutional Biotech Hub, Lady Keane College, Shillong further plans to continue with the work of:

- (i) Organizing Training and Awareness programmes.
- (ii) Organizing Outreach Programmes.
- (iii) Extending support to other Biotech Hubs, institutions, and also other departments and faculty of the college.

15. Additional Details

- (i). **Name of the Co-coordinator:** Mrs. W. Lyngdoh

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

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