

REPORT OF THE ENVIRONMENTAL/GREEN AUDIT OF LADY BRABOURNE COLLEGE, KOLKATA



2019-20

30/03/2021

To
The Principal
LADY BRABOURNE COLLEGE
P-1/2, SUHRAWARDY AVENUE
KOLKATA - 17
West Bengal

Madam,

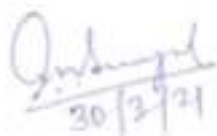
After physical verification and necessary assessment of the report of “Green Audit” prepared by your College, here we are submitting this Audit Report of “Green Audit” of your College for the year 2019 - '20 for your kind perusal in the attached sheet.

Please acknowledge the same and oblige.

Yours,



Dr Apurba Ratan Ghosh
Professor, Environmental Science
The University of Burdwan
Purba Bardhaman



Dr Asok Kanti Sanyal
Chairman
WB Biodiversity Board
Kolkata



Dr Shorosimohan Dan
Vice Chancellor
Dakshina Bharat Hindi Prachar
Sabha, Chennai

30/03/2021

To
The Principal
LADY BRABOURNE COLLEGE
P-1/2, SUHRAWARDY AVENUE
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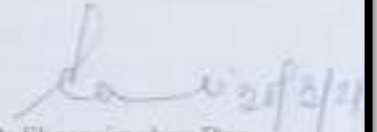
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Dr Apurba Ratan Ghosh
Professor, Environmental Science
The University of Burdwan
Purba Bardhaman


30/3/21

Dr Asok Kanti Sanyal
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Sabha, Chennai



PHONE : 2289 7720
E-mail : prl@ladybrabourne.com

Government of West Bengal

LADY BRABOURNE COLLEGE

P-1/2, SUHRAWARDY AVENUE ♦ KOLKATA - 17

No. 1144/6A/CU/21

Dated.....3.3.2021

From : The Principal, Lady Brabourne College, Kolkata.

To :

To
The Registrar
University of Calcutta

Date : 03.03.2021

Subject : Permission for 'Green Audit' or 'Environmental Assessment and Audit' of College and Hostel Campus of Lady Brabourne College, Kolkata

Respected Sir,

In view of the forthcoming NAAC in our college, a 'Green Audit' or 'Environmental Assessment and Audit' of college and hostel campus, is required. This process of assessment will be undertaken by Professionals. This will serve to achieve compliance standards and establish a report with regulatory bodies. Our college has worked on several facets of Green Campus, including, Water Conservation, Tree Plantation, Waste Management and Establishment of Alternate Energy Source.

In view of the above, we need your kind permission to put forward our proposal to the Auditors.

Waiting for a positive response from your end. The names of the Auditors are given overleaf for your perusal and approval.

With warm regards.

SS arkan
Principal 3.3.2021

Lady Brabourne College
Principal
Lady Brabourne College
Kolkata

Approved
[Signature]
03/03/21

REGISTRAR
UNIVERSITY OF CALCUTTA



PHONE : 2289 7720
E-mail : pri@ladybrabourne.com

Government of West Bengal
LADY BRABOURNE COLLEGE

P-1/2, SUHRAWARDY AVENUE ❖ KOLKATA - 17

No.

Dated.....

From : The Principal, Lady Brabourne College, Kolkata.

To :

List of Green Auditors:

1. Dr. Apurba Ratan Ghosh
Professor
Dept. of Environmental Science &
Ex-Director, IQAC &
Ex-Director, UGC-Academic Staff College, BU
University of Burdwan
Burdwan-713104
West Bengal, India.
Office Contact No.: 0342-2659255
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2. Dr. Asok Kanti Sanyal
Chairman, West Bengal Biodiversity Board
Pranisampad Bhawan, 5th Floor, LB-2
Sector III, Salt Lake City, Kolkata
West Bengal-700106
Mobile: +91-9432599095
E-mail: chairman.wbbb@nic.in/asokzsi@yahoo.co.in
3. Dr. Shorosimohan Dan
Vice Chancellor
Dakshina Bharat Hindi Prachar Sabha, Chennai
An Institution of National importance
(Declared by an Act of Parliament, 1964)
Former Vice Chancellor and Pro Vice Chancellor
University of Burdwan, West Bengal
Mobile : +91-9476483956
E-mail : dan.shorosimohan@gmail.com

SS ankar
3.3.2021
Principal
Lady Brabourne College
Kolkata

Report of Green Audit

1.0 Introduction

Green Audit can be defined as systematic identification, quantification, recording, reporting and analysis of components of environmental diversity. The 'Green Audit' aims to analyze environmental practices within and outside the College campus, which have an impact on the eco-friendly ambience as well as stakeholders. It was initiated with the motive of inspecting the work conducted within the organizations whose activities can cause risk to the health of inhabitants and the environment. Green audit is a requirement of NAAC, National Assessment and Accreditation Council which is a self-governing organization of India, which declares the Institutional Grade.

1.1 About the College

Lady Brabourne College is situated in the heart of Kolkata Metropolitan City, in the midst of the State Capital Kolkata of West Bengal, surrounded by densely populated residential complexes. It was established by the then Government of Bengal in 1939. The College has a lush green garden containing some very rare plants sprawling over a vast expanse of land maintained by the Alumni Association. The Vision of the College is to 'facilitate emancipation and empowerment of women, especially of the minority community, by providing them opportunities for higher education'. During the course of time, the institutional vision has widened and developed to establish the goals of progress and empowerment of women coming from all socio-economic and religious backgrounds. Now, irrespective of caste, creed or religion, the institute has aimed towards inclusion of all from all socio-economic spheres. College celebrates *Banamahatsab* during the month of June each year, after the onset of monsoon. College has developed a unique method of collection and reuses of water that condensate from air conditioner machines. This stored water from time to time for watering of plants in the garden. The canopy of the trees provides carbon neutrality also hosts a wide variety of birds, small mammals like bats and squirrels and different types of butterflies and insects. A butterfly garden in the Hostel campus sponsored by UGC-Major Research Project [vide Ref. No. F.No. 41-56/2012 (SR) dt. 13.7.12] is established and maintained.

The College is recognized as Potential for Excellence (CPE) by UGC in 2010 as well as recognized for the DBT-STAR College Program in 2012 by the Department of Biotechnology (DBT). They have also received *Rashtriya Uchhatara Shiksha Abhiyan* (RUSA) grant in 2015. It has got a National Ranking of 94 in NIRF.

College has started their teaching programmes by commencing UG Pass course programmes in 8 core disciplines, viz., English, Bengali, Persian, Urdu, History, Philosophy, Mathematics, and Economics, since 1939 with a student's strength of 35. In courses from time to time College has opened new courses time to time, like Sanskrit, Geography, Botany, Physics, Chemistry, Political Sc., Microbiology, Statistics, Women's studies, etc at UG level. During the academic session 2003 and onwards, College started PG course in Geography, subsequently Microbiology, Mathematics, Physics, English, Bengali. In 2016, College has got permission to run 4 new PG courses in Political Science, Botany, Chemistry and Zoology. Presently, there are 10 PG departments with an actual intake of 299 students in the academic year 2019-20. Some of these departments like English,

Bengali, Physics, Microbiology, Botany, Zoology, Sanskrit and Geography are running full-time Ph.D. programmes, in accordance with UGC guidelines". MPhil Course is not taken. So far 28 students have been admitted to PhD degree under the supervision of this College teaches and around 40 are registered for Ph.D. degree.

2.0 Executive Summary

In accordance with the Format of Green Audit and Evaluation Plan of Lady Brabourne College, Govt. of West Bengal, Kolkata, West Bengal for the year 2018-'19 this Audit was conducted in the month of March 2021.

The rapid urbanization and economic development along with population explosion with high density at Kolkata and adjacent areas have led to several environmental and ecological crises. On this background it has become essential to adopt the system of the Green Campus in and around the Colleg leading to sustainable development. Lady Brabourne College, Kolkata, is seriously concerned and believes that there is an urgent need to address these local problems and redress the conditions. Being an age old institution of higher learning, the College has initiated 'The Green Campus' program few years back. The purpose of the audit is to ensure that the practices followed in the Campus are in accordance with the Environmental Policy adopted by the College. With this in mind, the specific objectives of the audit is to evaluate the adequacy of the management control framework of Environment Sustainability as well as the degree to which the different departments are in compliance with the applicable regulations, policies and standards.

3.0 Significant Observations

1. College has prepared Green Environmental policy and has taken efforts for sustainable development on the College campus.
2. College has formed the team of faculty and student as members of Environmental Committee which work to maintain biodiversity on the campus and also participate in preventing pollution in and around the campus.
3. Some of the best practices such as campus cleaning, maintaining tree plantation, introducing plastic free zone, No Horn area, *etc.*, are followed in the campus.
4. College has installed the solar panels in collaboration with WBREDA and with major financial assistance under UGC, CPE Phase II, and getting 6% of total power requirement of the College from this renewable source of energy.
5. College is maintaining the disposal of all sorts of wastes, e-wastes and hazardous chemicals wastes through Kolkata Municipal Corporation.
6. College has conducted Environmental Awareness programmes and workshop for faculty and students, and involved the students in maintaining the cleanliness of the campus.
7. All teaching and non-teaching staff members, students are advised to use recyclable materials for storing their food, water *etc.*, to reduce the wastes.
8. Students are getting exposure to maintain the People's Biodiversity Register through training, workshop *etc.*, every year.
9. College has developed a system for vermicomposting of leaf litters, organic wastes *etc.*

However, after detailed paper examinations and physical verification it is noted that, some of the practices are required to be followed by the College in implementing the Green Policy of the institution and

the applicable standards. In addition, certain processes could benefit from further review in order to improve their efficiency, fairness and consistency.

4.0 Statement of Assurance

In our professional judgement, as far as possible and appropriate audit procedures were completed and evidence gathered to support the accuracy of the conclusions reached and contained in this report. The conclusions are based on a comparison of the situations as they existed at the time of the audit with the established criteria.

GREEN AUDIT WORKING FORMAT

5.0 Audit Framework and detailed findings

The following audit framework is used for conducting Green Audit in Year 2018-'19. The framework also lists the findings and observations for every criterion.

Control objectives	Control(s)	Audit Observations
Maximize the proportion of waste that is recycled & minimize the quantity of non-recyclable refuse	Reduce the absolute amount of waste that it produces from the Institute & Staff offices.	The College has been using some methods to reduce the absolute amount of waste that it produces from the departments, staff offices <i>etc.</i>
	Make full use of all recycling facilities provided by City Municipality and private suppliers, including glass, cans, white, coloured and brown paper, plastic bottles, batteries, print cartridges, cardboard and furniture.	College is taking the advantages of waste management provided by Kolkata Municipal Corporation.
	Compost, or cause to be composted, all organic waste, green waste and un-recycled cardboard produced in or collected from kitchens, gardens, offices and rooms.	The College uses different colour bins for disposal of differently segregated wastes including Black Bin for collecting chemical wastes. Food-wastes from Canteens and Hostel kitchen and the fallen dead leaves from the garden are managed by composting at campus. Un-recycled cardboard produced in or collected from departments, gardens, offices and class rooms are disposed as solid wastes.
	Recycle or safely dispose of white goods, computers and electrical appliances.	Some safe disposal methods are adopted for electrical wastes, printer cartridges <i>etc.</i>
	Use reusable resources and containers and avoid unnecessary packaging where possible	No, the College has not so far used reusable resources and containers.
	Provide sufficient, accessible and well-publicized collection points for recyclable waste, with responsibility for recycling clearly allocated	The College has scope of accessible and well-publicized collection points for recyclable waste.
Maximize the proportion of waste that is recycled & minimize the quantity of non-recyclable	Make specific arrangements for events, such as cultural Events, internal and external seminars and conferences, where significant recyclable waste is likely to be	The College practices some specific arrangements for events, such as Cultural Events, International and National seminars and Conferences, where

refuse	produced, in order to both minimize the waste produced and maximize what is recycled/reused	significant recyclable wastes are likely to be produced, in order to both minimize the waste produced and maximize what is recycled/reused.
	Promote reuse of items and waste recycling among staff, students and conference guests through training, posters and incentives	The College has limited scope of reuse of items and waste recycling among staff, students and conference guests through training, posters and incentives.
	Dispose all waste, whether solid or otherwise, in a scientific manner and ensure that it is not released directly to the environment	Yes, the College disposes all wastes, whether solid or otherwise, through Kolkata Municipal Corporation and ensures that it is not released directly to the environment.
Reduce energy consumption, especially of energy derived from fossil fuels	Support renewable and carbon-neutral electricity options on any energy-purchasing consortium, with the aim of supplying all college properties with electricity that can be attributed to renewable and carbon-neutral sources.	College uses approx. 6% of total power requirement from their own Solar electricity maintaining carbon-neutral electricity options. For maintaining all other properties College is dependent on energy-purchasing consortium
	Appreciate that it is preferable to purchase electricity from a company that invests in new sources of renewable and carbon-neutral electricity	The College has no choice other than CESC.
	Look into the possibility of on-site micro-generation of renewable electricity.	The College has been able to install 17.5 kWp SOLAR PANELS in collaboration with WBREDA and with major financial assistance from UGC, CPE Phase II..
	Give preference to the most energy efficient and environmentally sound appliances available, this includes only using energy-saving light bulbs	The College is using LED (90%) as much as practicable.
Reduce energy consumption, especially of energy derived from fossil fuels	Encourage staff, students and conference guests to save energy through visible reminders, incentives and information to increase awareness. This particularly concerns turning off electrical appliances when not in use in both communal and residential rooms	Misuse of electricity is controlled by turning off the appliances when not required. All the stakeholders are aware and doing their best and practices 'switch off drill' to save electricity.
	Ensures that all electronic and electrical equipment's, such as computers, are switched off when not	Students and all the members used to follow this practice.

	in use, and is generally configured in power saving mode when such option is available	
	If there are equipment's running on standby mode, reduce the energy consumption on standby mode or minimize the running of equipment's on standby mode	Some of the equipment's are running on standby mode.
	Purchase efficient and environmentally sound appliances in order to fulfill the commitments in section 2, and consider replacing old stock with 'greener', more efficient alternatives.	College is positive about increasing greenery by planting in front of the campus and maintaining plants as much as possible; cleanliness is maintained by the students. Tree plantation programmes are followed in different occasions on regular basis.
Minimize the use of unsustainable transport	Make available information about bicycle and pedestrian routes, public transport services and car share schemes to staff and students.	The College is located at the centre of the city and well connected through bus services, so most of the avail public transport.
Minimize the use of unsustainable transport	Reduce the proportion of travel on the University/Institute business carried out in private transport and eliminate unnecessary and inefficient use of the University/Institute vehicles	College does not have any common bus services to all stakeholders. 80% of the students are habituated to use public transport as a means of transport; 20% of the faculty members use private car.
	Promote car sharing / car pool among the students and faculty members	No, the College does not promote car sharing/car pool among the students and faculty members.
Minimize consumption of water.	Repair sources of water leakage, such as dripping taps and showers as quickly as possible.	Regular checking and maintenance of pipelines are done to control the water wastage. Misuse and wastage of water from sources are taken care of. College follows the mechanism of recycling and reuse of water from AC condensate.
	Install appliances which reduce water consumption	Practised as much as possible.
	Encourage a decrease in water usage among staff, students and conference guests	College has taken some steps to encourage a decrease in water usage among staff, students and conference guests.

	Use an efficient and hygienic water storage mechanism is to minimize the loss of water during storage	College has a hygienic water storage mechanism to minimize the loss of water during storage.
	Minimize wastage of water and use of electricity during water filtration process, if used, such as RO filtration process and ensure that the equipment's used for such usage, are regularly serviced, and the wastage of water is not below the industry average for such equipment's used in similar capacity	All the departments have Water filter with Aqua guards at the strategic locations in the campus for the students. All are with AMC.
	Install Water recycling mechanism, such as rain water harvesting system	No, this is not yet installed. College has an effective rainwater harvesting system.
	Ensure that all cleaning products used by the University/Institute staff have a minimal detrimental impact on the environment, i.e., are biodegradable and non-toxic, even where this exceeds the Control of Substances Hazardous to Health (COSHH) regulations	Negligible amount of cleaning/washing liquids are used in the College and all the toilet cleaners are Eco-friendly.
	Minimize the use of fertilizers and pesticides in the University/Institutional gardens, opting for the use of compost produced on site wherever possible	Negligible amount of fertilizers and pesticides are used in the campus for maintenance of tree etc.
	Dispose the chemical waste generated from the laboratories in a scientific manner	Proper disposal system of toxic and hazardous chemicals is followed.
	Reduce the practice of burning plastic and other materials that emit the harmful gas on burning is prevented in the campus.	No such burning.
	Establish a Garden in the campus	College has already started to prepare a garden in front of the Campus. College has a medicinal plants' garden maintained by Botany Department. It is unique that the College has a Butterfly Garden Students are trained to handle People's Biodiversity Register which is being done at wards of Kolkata Municipality
	Encourage the faculties and students to plant trees in the garden.	College conducts tree plantation programmes through students

		and staff members on regular basis and in different occasions. Choice-plantation, fruit-plantation like palm, dates <i>etc.</i> , may be encouraged depending on the suitability of the region.
	Reviews periodically the list of trees planted in the garden periodically	Periodical maintenance is followed.
Ensure that environmental awareness is created	Conduct environmental awareness workshops as a part of the program.	Environmental awareness programmes are organised on regular basis for conservation of nature and natural resources, wildlife, and biodiversity. College celebrates World Environment Day, World Wetland Day, etc.
Ensure that environmental awareness is created	Create awareness of environmental sustainability and takes actions to ensure environmental sustainability.	College conducts seminars and awareness programmes involving students to ensure environmental sustainability,
	Reduce the rate at which the University/Institute contributes to the depletion and degradation of natural resources	College is not directly or indirectly participating in depletion and degradation of natural resources.
	Promote environmental awareness as a part of course work in various curricular areas, independent research projects, and community service	Compulsory ENVS paper of 50 marks (4 credits) in the syllabus as per University guidelines for all the students of all streams to develop Environmental Awareness. College has decided to set up a weather Station by the Department of Geography.
Ensure that the buildings conform to green standards.	Review architecture of existing buildings and reviews ways, in consultation with experts, to reduce usage of energy for such buildings, offering greatest efficiency for energy and water usage, and reducing carbon emission	New constructions are in compliance with green standard.
Ensure that the Environmental Policy is enacted, enforced and reviewed	Establish the University/Institute Environmental Committee that will hold responsibility for the enactment, enforcement and review of the Environmental Policy. The Environmental Committee shall be the source of advice and guidance to staff and students on how to implement	College has an Environmental Committee and conducted so far three (3) meetings. College may take initiative to form Bio-circle or Eco-circle organization for better environmental management.

	this Policy	
	Ensure that on the Nature Club/Environmental Committee there will be appropriate representatives of the relevant university departments and authorities – such as catering, gardening, maintenance, cleaning and finance	Environmental Committee is constituted by the representative from all such sections to maintain the campus. Staff members are trained to handle Fire Safety Apparatus.
Ensure that the Environmental Policy is enacted, enforced and reviewed	Ensure that on the Environmental Committee there will be the Green Officer from an external agency who is engaged in the profession of providing guidance on environmental impact	College has one Green Officer in the Environmental Committee.
	Ensure that the Environmental Committee will review the Environmental Policy on an annual basis, and will monitor progress and set measurable targets wherever possible	Environmental Committee has taken the responsibility to follow the environmental policy. Hostel Campus is declared as 'Plastic Free Zone'. College campus is declared as 'No Horn Zone'. College decided to follow 'No Vehicles Day' once in every week.
	Ensure that the Environmental Policy is enforced regardless of whether its requirements exceed the mandate of the law	Initiative has been taken to adopt the Green policy.
	Require that every staff and student member recognizes their responsibility to ensure that the commitments in the Environmental Policy are properly put into practice	Members of the Environmental Committee are following the practices.
	Ensure that an audit is conducted annually and action is taken on the basis of audit report, recommendation and findings	First 'Green Audit' is conducted for the year 2019-2020.

6.0 Recommendations

Following the audit, several recommendations were made to the management.

Criteria	Recommendations
Maximize the proportion of waste that is recycled & minimize the quantity of non-recyclable refuse	<ol style="list-style-type: none">1. The College should go for ISO 9001:2015 Certification.2. The College should develop mechanism for Effluents Treatment.3. Advanced Composting system may be developed for bio-wastes.4. College may go for partnership with Kolkata Municipal Corporation in monitoring of disposal of solid wastes through providing outreach program.5. Disposal of chemical wastes, e-wastes through licensed agents6. Vermicomposts may be used in the College garden itself along with other manures.
Reduce energy consumption, especially of energy derived from fossil fuels,	<ol style="list-style-type: none">1. Use energy efficient lighting fully in and around the campus; outdoor lighting be managed and followed in the order of eco-friendly system.2. Enhancement of percentage of power requirement by contributing more solar electricity power from solar panels into the electrical grids.3. More number of Energy and flow meters to be installed for monitoring of energy and water consumption building wise/department wise.
Maintenance of Campus and biodiversity	<ol style="list-style-type: none">1. PUC (Pollution under control) certificate for the vehicles entering the campus to be checked randomly by security personnel.2. Continuation of maintenance of PBR year wise for different locations.3. Choice-plantation, fruit-plantation, artificial nesting, etc., be followed to attract birds and other animals within the campus.4. Printed documents on Campus Biodiversity to be prepared as an awareness resource material.5. To establish one Nature Interpretation Centre involving all the departments.
Proper cleaning of water storage Tanks	<ol style="list-style-type: none">1. Proper initiative for cleaning the water tanks on regular basis considering the health & hygiene of the all stakeholders.2. Wastage of water be managed carefully.
Project-based learning on Environment related subjects	<ol style="list-style-type: none">1. Creation of opportunity to start with technical, skill-oriented and hands-on-training programmes for environmental monitoring.

7.0 Objectives and Scope

The purpose of this audit was to ensure that the Green Policy is followed and implemented in the campus, across all departments, administrative bodies and students.

8.0 Methodology

The methodology includes - preparation and filling up of questionnaire, screening of the report, physical interaction with the members in presence of Principal and the Members of the College Environmental Committee as well as Members of IQAC, record checking and review of the submitted documentations,

interviewing key persons and data analysis, measurements and recommendations. It works on the several aspects of 'Green Audit' including Water Conservation, Tree Plantation, Waste Management, Paperless Work, Alternative Energy and Mapping of Biodiversity.

a. In order to meet these objectives, this audit was based on report submitted by the College authority and reviewing of relevant documents as far as possible and interviews with authority, Coordinator and staff members physically.

b. Review of the Documentations

c. For the purpose of this audit the Green Policy of the institute was reviewed. Other relevant standards, Green audit framework etc., was also considered.

Interviews

Interviews were conducted with the Principal, IQAC Coordinator, Coordinator of College Environmental Committee and also members of the Committee.

Physical Inspection

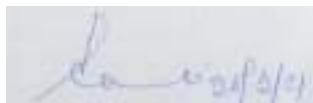
Physical inspection was made on 30th of March 2021 and report was prepared based on the physical verification and validation and interaction with the members of the College.

9.0 Declaration

I agree with all the recommendation and observations mentioned in this report.

Date: 30/03/2021

Place: Lady Brabourne College



[Apurba Ratan Ghosh]	[Asok Kanti Sanyal]	[Shorosimohan Dan]	Signed by College Principal with Seal
Experts			



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30/3/21
30/3/21
30.3.2021

[Apurba Ratan Ghosh] [Asok Kanti Sanyal] [Shorasimohan Dan]

Experts

Signed by
College Principal with Seal

Principal
Lady Brabourne College
Kolkata
Govt. of West Bengal

C .E. R. FORMAT OF GREEN AUDIT: QUESTIONNAIRE

Environmental audit or Green audit is a general term that can reflect various types of evaluations intended to identify environmental compliance and management system implementation gaps, along with related corrective actions. In this way they perform an analogous (similar) function to financial audits. The term “Green” means eco-friendly or not damaging the environment. This is also known as “Global Readiness in Ensuring Ecological Neutrality” (GREEN). “Green Auditing”, an umbrella term, is known by another name “Environmental Auditing”.

There are generally two different types of environmental audits: compliance audits and management systems audits. Compliance audits tend to be the primary type in the US or within US-based multinationals.

The term "protocol" in environmental audit means the checklist used by environmental auditors as the guide for conducting the audit activities. Current technology supports many versions of computer-based protocols that attempt to simplify the audit process by converting regulatory requirements into questions with "yes", "no" and "not applicable" check boxes.

Green Audit can be defined as systematic identification, quantification, recording, reporting and analysis of components of environmental diversity. The ‘Green Audit’ aims to analyze environmental practices within and outside the College campus, which will have an impact on the eco-friendly ambience. It is based on exercises that can help to measure the risk to the health of inhabitants and the environment. Through Green Audit, one gets a direction as how to improve the condition of environment and there are various factors that have determined the growth of carrying out Green Audit.

This includes the plants, greenery and sustainability of the campus to ensure that the buildings conform to green standards. This also helps to monitor the Environmental Policy is enacted, enforced and reviewed using various environmental awareness programmes.

The purpose of the audit was to ensure that the practices followed in the campus are in accordance with the Green Policy adopted by the institution. The methodology include: preparation and filling up of questionnaire, physical inspection of the campus, observation and review of the documentation, interviewing key persons and data analysis, measurements and recommendations. It works on the several facets of ‘Green Campus’ including Water Conservation, Tree Plantation, Waste Management, Paperless Work, Alternative Energy and Mapping of Biodiversity.

‘Green Audit’ aims to analyze the environmental practices within and outside the college campus, which will have an impact on the eco-friendly ambience. Green audit is assigned to the criteria 7 of NAAC.

There are main three pillars i.e., zero environmental foot print, positive impact on occupant health and performance and 100% graduates demonstrating environmental literacy. The goal is to reduce CO₂ emission, energy and water use, while creating an atmosphere where students can learn and be healthy. The college has to work on the several facets of ‘Green Campus’ including Water Conservation, Tree Plantation, Waste Management, Paperless Work, Alternative Energy and Mapping of Biodiversity.

METHODOLOGY

In order to perform green audit, the methodology included different tools such as preparation of questionnaire, physical inspection of the campus, observation and review of the documentation, interviewing key persons and data analysis, measurements and recommendations. The study covered the following areas to summarize the present status of environment management in the campus:

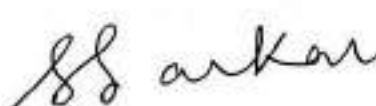
- Water management
- Energy Conservation
- Waste management
- E-waste management
- Green area management

A water audit is an on-site survey and assessment to determine the water use and hence improving the efficiency of its use and method(s) of conservation. Water is used for drinking purpose, canteen, toilets, laboratory and gardening. Loss of water must be checked, neither by any leakages, nor by over flow of water from overhead tanks. The green audit practically involves use of renewable sources, conservation of the energy, rain water harvesting program, and efforts of carbon neutrality, plantation of trees, E-waste management and hazardous waste management.

QUESTIONNAIRE FORMAT

1. GENERAL INFORMATION

1.1 Year of Establishment of College:	1939
1.2 History behind the establishment of the College:	Lady Brabourne College was established by the Government of West Bengal in 1939. The vision is to facilitate emancipation and empowerment of women, especially of the minority community, by providing them opportunities for higher education. Over the years, the institutional vision has widened and grown to include the progress and empowerment of women from all socioeconomic and religious backgrounds as its goal. To include the excluded, from all socio-economic spheres, irrespective of caste, creed or religion has thus been its aim and objective.
1.3 Total campus area:	25, 623.43 sq mt
1.4 Total built up area:	13,212.43 sq mt
1.5 Total open space area:	4997 sq mt
1.6 Total green area:	7414 sq mt
1.7 Whether the College is implementing the Green Policy for the first time:	FIRST MEETING: 22.5.2019

1.8 Whether green audit is followed annually, if so, please produce the year-wise recommendations of the auditor along with report (as Annexure):	Green audit being conducted for first time although Green Policy was implemented in 2019
1.9 Whether College has constituted the "College Environmental Committee", "yes", "no" and "not applicable" (if so, give the details of it):	Yes
1.9.1 Name of the Committee members:	
<p style="text-align: center;">Members of the Environmental Committee 2020- 2021</p> <div style="border: 1px solid black; padding: 10px; margin: 10px auto; width: 80%;"> <p>Chairman. Prof Siuli Sarkar, Principal IQAC Convener. Dr Indrani Choudhuri Dutt Conveners (Teaching staff) Dr Aparna Sen Dr Suchita Sinha Dr Manasi De Dr Paulami Maiti Members Dr Rinku Saha Dr Suparna Pal Durba Bhattacharya Samapti Garai Malini Siddhanta Debjani Mitra Lhamu Bhutia Sanhita Ghosh Dr Soma Pal Saha</p> <div style="text-align: right; margin-top: 20px;">  Principal Lady Brabourne College Govt. of West Bengal Kolkata </div> </div>	
1.9.2 Number of meetings conducted so far:	3

MINUTES OF THE MEETINGS OF THE ENVIRONMENTAL COMMITTEE

1. Meeting on 22.5.2019

MINUTES OF NAAC MEETING HELD ON 22.5.2019

CRITERION 7

There was a brief discussion on strategies for developing a Green Campus

- The College campus to be made a Plastic Free Zone
- Dr. Suchita Sinha was given the responsibility of conducting a Green Audit in consultation with Dr. Arindam Dutta, Assistant Professor and Coordinator of Energy Management Department, Indian Institute of Social welfare and Business Management. The recommendation will be based on a Questionnaire sent by them.
- Dr. Paulami Maiti was given the responsibility of waste management. Colour coded dustbins would be put up in the College Campus – Green bin for biodegradable wastes, Blue bin for plastic and metal wastes and Black bin for hazardous e-wastes. Plastic wastes will be collected and disposed off by some agency.
- There will be no burning of wastes within the College Campus.
- For reducing Carbon foot print, LED bulbs will replace ordinary bulbs. Students to be engaged in switch off drills. Fans and lights to be switched off prior to leaving classrooms, both by teachers and students.
- Initiatives to be taken up for vermicomposting of biodegradable wastes and use of compost as manure for garden.
- Geography department will take the initiative of setting up a weather station and Awareness campaign under the auspices of their Advanced Research Centre.
- A 'No Horn Zone' to be created. Application to be given to Beniapur Police Station in this regard.

An Environment Committee to be formed:

- Green Officer: Dr. Manasi De
- Members; Dr. Suchita Sinha & Dr. Paulami Maiti

NOTICE

In view of preparation of Criteria 7 of the upcoming NAAC Visit, an Environment Committee has been formed with the following members.

Conveners

Suchita Sinha
Paulami Maiti

Members

Rinku Saha, Manisha Mukherjee, Peu Ghosh, Durba Bhattacharya, Sanghita Ghosh, Madhulika Gupta, Satabdi Roy.

Green Officer

Manasi De

S. Saha

Attendance of the teachers present at the meeting

Date: 22.5.2019		Meeting time: 11:30 AM	
Venue: NAAC Meeting Hall		Date: 22.5.2019	
Organized by: Sanghita Ghosh (P.H.)			
Participants Present:			
Sr. No.	Name	Department	Signature
1			
2			
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2. Meeting on 24.6.2019

MINUTES OF THE NAAC MEETING ON CRITERION – 7 ON 24.6.2019

1. It was decided that 5th June i.e. World Environment Day will be included in the Academic Calendar and the day will be celebrated with some programs.
2. For Waste Management, Colour-coded dustbins prescribed by the pollution board will be purchased and installed, 3 sets in the College Campus and one set in the hostel. Each set will include:
 - Green – for biodegradable waste
 - Black – for e-waste
 - Blue – for plastic and metal wasteThe funding for the purchase of the dustbins would come from Other 50 charges.
3. A week long awareness Program will be organized by the Environment Committee with the students of all departments to make them aware of the safe disposal of wastes, use of the different dustbins, saving electricity, facilities like rain water harvesting, solar panels etc. in the college.
4. Scientific pits for waste management by vermicomposting would be dug in the college garden as well as hostel where biodegradable wastes would be disposed for degradation and the compost would be used as manure for the garden. A letter would be written to the PWD to construct the pits with net covering.
5. As part of the Environment Friendly campus, a drive would be made to save electricity. For this a switch off-on drill will be started among the students and other staff of the College, so that no fans, lights or Air Conditioners are kept switched on in empty classrooms, staff rooms or Office. Daily inspection will be made by the teachers as well as Security Guards who will report in a register kept in the Principal's chamber and based on this assessment an annual award will be given to the best department as "Environment Friendly Department" on the Annual Prize Distribution. A proposal was given to change all the Electric bulbs into LED lamps. The

switch off on and should also include the solar corrections. It should be ensured that the solar switches are kept off during the day and at night only the solar lamp should be illuminating the Campus.

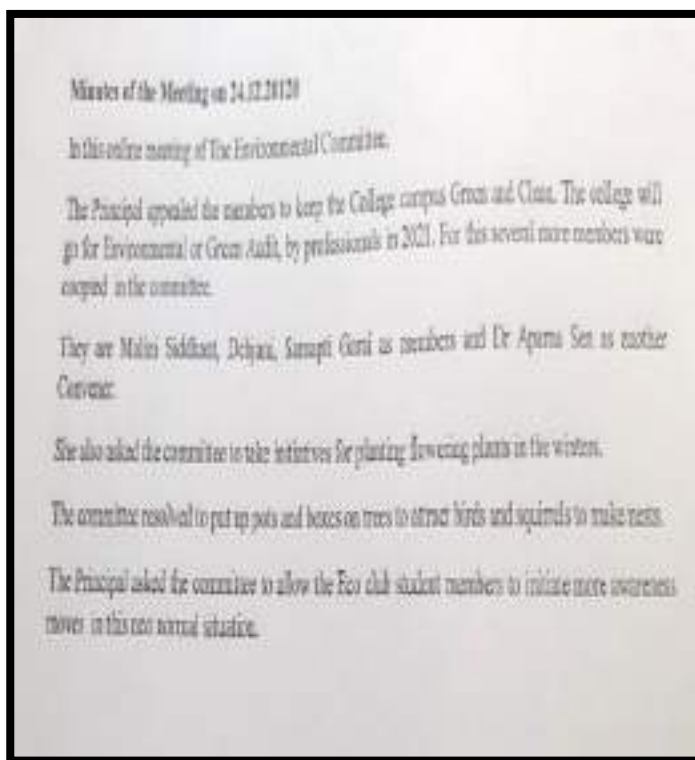
6. A Weather Station would be set up by the Indian Meteorological Department. For this a Computerized laboratory and a data manager will be required to take the data twice a day. The Department of Geography will provide the necessary laboratory and data manager. A MOU will be signed with the IMD who would install and maintain the machine required for the Weather station.
7. The Departments were requested to adopt ways to recycle the water from Air-conditioners or Water distillation plants by installing small tanks and utilize this water for watering of garden plants.
8. The College Canteen was informed not to use any plastic cups or plates or packets for the food or packaging. Instead plates made of soil leaves, mud cups and paper packets are to be used.
9. The Forest Department will be requested for afforestation of more trees in the College Campus.

Attendance of the teachers present at the meeting

Date of Birth: 1/1
 Date: 10-11-2014
 Name: ASAC - DASH - 111
 Address: Loyale Hotel (Old)
 Address: 111

Sl. No.	Name	RELATIONSHIP	REMARKS
1	Dr. Harendra Kulkarni	Surgeon	10-11-2014
2	Dr. Harendra Kulkarni	Surgeon	10-11-2014
3	Dr. Harendra Kulkarni	Surgeon	10-11-2014
4	Dr. Harendra Kulkarni	Surgeon	10-11-2014
5	Dr. Harendra Kulkarni	Surgeon	10-11-2014
6	Dr. Harendra Kulkarni	Surgeon	10-11-2014
7	Dr. Harendra Kulkarni	Surgeon	10-11-2014
8	Dr. Harendra Kulkarni	Surgeon	10-11-2014
9	Dr. Harendra Kulkarni	Surgeon	10-11-2014
10	Dr. Harendra Kulkarni	Surgeon	10-11-2014
11	Dr. Harendra Kulkarni	Surgeon	10-11-2014
12	Dr. Harendra Kulkarni	Surgeon	10-11-2014
13	Dr. Harendra Kulkarni	Surgeon	10-11-2014
14	Dr. Harendra Kulkarni	Surgeon	10-11-2014
15	Dr. Harendra Kulkarni	Surgeon	10-11-2014
16	Dr. Harendra Kulkarni	Surgeon	10-11-2014
17	Dr. Harendra Kulkarni	Surgeon	10-11-2014
18	Dr. Harendra Kulkarni	Surgeon	10-11-2014
19	Dr. Harendra Kulkarni	Surgeon	10-11-2014
20	Dr. Harendra Kulkarni	Surgeon	10-11-2014
21	Dr. Harendra Kulkarni	Surgeon	10-11-2014
22	Dr. Harendra Kulkarni	Surgeon	10-11-2014
23	Dr. Harendra Kulkarni	Surgeon	10-11-2014
24	Dr. Harendra Kulkarni	Surgeon	10-11-2014
25	Dr. Harendra Kulkarni	Surgeon	10-11-2014
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27	Dr. Harendra Kulkarni	Surgeon	10-11-2014
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41	Dr. Harendra Kulkarni	Surgeon	10-11-2014
42	Dr. Harendra Kulkarni	Surgeon	10-11-2014
43	Dr. Harendra Kulkarni	Surgeon	10-11-2014
44	Dr. Harendra Kulkarni	Surgeon	10-11-2014
45	Dr. Harendra Kulkarni	Surgeon	10-11-2014
46	Dr. Harendra Kulkarni	Surgeon	10-11-2014
47	Dr. Harendra Kulkarni	Surgeon	10-11-2014
48	Dr. Harendra Kulkarni	Surgeon	10-11-2014
49	Dr. Harendra Kulkarni	Surgeon	10-11-2014
50	Dr. Harendra Kulkarni	Surgeon	10-11-2014

3. Meeting on 24.12.2020 (Online)



Name of Committee: <u>ENVIRONMENTAL COMMITTEE</u>			
Conveners: <u>Aparna Sen, Debjani Saha, Malini Garai, Samapti Garai</u>			
Date: <u>24.12.2020</u>			
Members Present:			
S. No.	Name	Department	Signature
1	Dr. Aparna Sen	Botany	[Signature]
2	Dr. Debjani Saha	Botany	[Signature]
3	Dr. Malini Garai	Botany	[Signature]
4	Dr. Samapti Garai	Botany	[Signature]
5	Dr. Lhamu Bhutia	Botany	[Signature]
6	Dr. Soma Pal Saha	Botany	[Signature]
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Attendance of the teachers present at the meeting

- Dr. Aparna Sen and Dr. Manasi De, have been co-opted as Convenors and the new members include, Dr. Debjani, Dr. Malini Siddhanta, Dr. Samapti Garai, Lhamu Bhutia and Dr. Soma Pal Saha.
- Resolution has been taken to form a new Budget head to meet with the expenses incurred for the Green Campus. It may be named as '**Green Budget.**'

1.9.3 Resolution of the meetings:

RESOLUTION OF THE MEETINGS

A. The minutes of the meeting held on 22.5.2019

Proposal was made for implementing Green Strategy, these include

- Segregation of degradable and non-degradable waste generated in the College campus.
- Installation of coloured bins (blue for non-degradable waste, green for degradable waste) for collection of segregated waste generated in the College.
- Excavation of pits in the backward for vermicomposting.
- Put a ban on burning of fallen leaves and other litters within the College and Hostel campus.
- LED bulbs to replace the ordinary bulbs of the College and Hostel campus.
- Application to the Beniapur Police Station to create, No horn Zone, in front of the main gate of the College.
- Department of Geography is to set up a weather station in the College campus.

B. The minutes of the Meeting held on 24.6.2019

- Proposal for celebration of a week-long awareness programme by the Environmental Committee.
- Practicing 'Switch off drill' to aware the students and staffs to switch off fans, lights other electrical appliances.

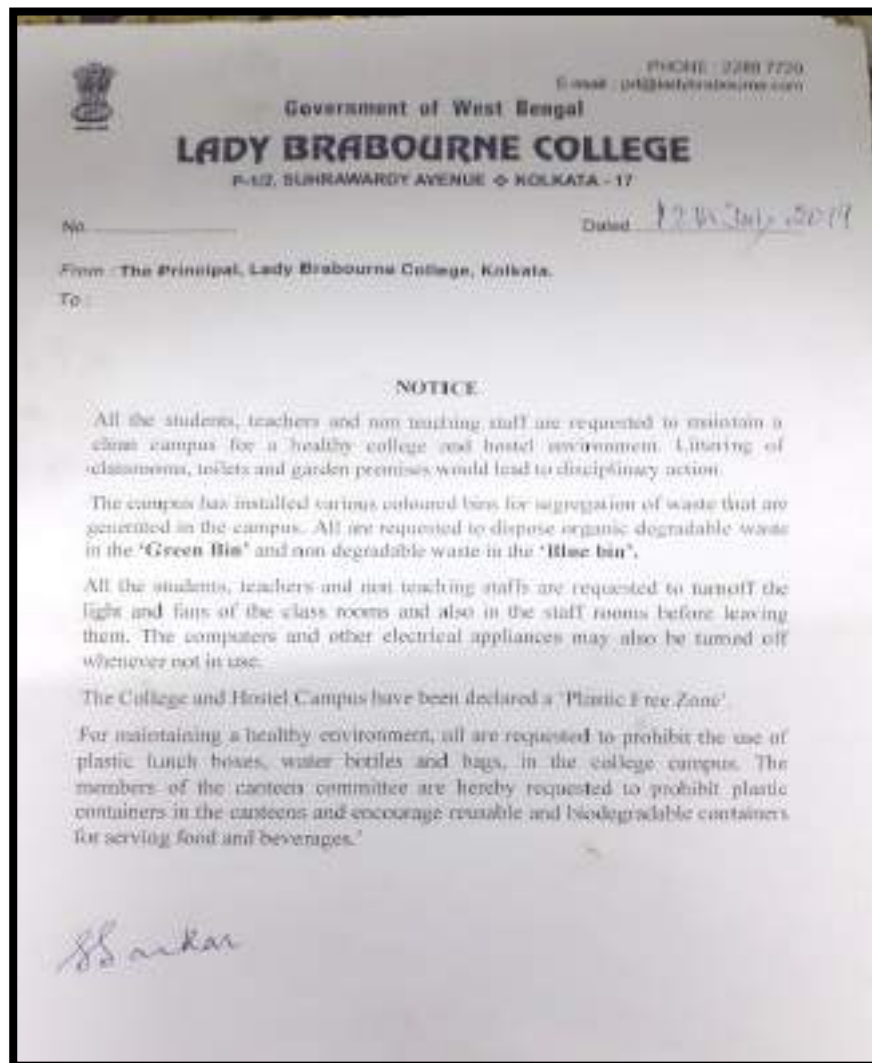
C. The minutes of the Meeting held on 24.6.2019

- The committee decided to follow the GREEN AUDIT by professionals.
- New committee was formed for the year, 2021, co-opting more members.

1.9.4 Action taken by the Committee.

ACTION TAKEN BY THE COMMITTEE

- All the students, teachers and non-teaching staffs are requested to maintain a clean campus for a healthy College and Hostel environment. Littering of classrooms, toilets and garden premise would lead to disciplinary action.
- The campus has installed various coloured bins for segregation of waste, generated in the campus. All are requested to dispose organic degradable waste in the '**Green Bin**' and non-degradable waste in the '**Blue bin**'. Department of Microbiology may dispose the biomedical waste in the '**Red Bin**'.
- All the students, teachers and non-teaching staffs are requested to switch off the lights and fans of the class rooms and also in the staff rooms before leaving. The computers, AC and other electrical appliances may also be turned off whenever not in use.
- The College and Hostel Campus have been declared a '**PLASTIC FREE ZONE**'.
- For maintaining a healthy environment all are requested to prohibit the use of plastic items such as lunch boxes, water bottles and bags, in the college campus. The members of the canteen committee have been requested to prohibit plastic containers in the canteens and encourage reusable and biodegradable containers for serving food and beverages.



Work done as per the recommendation of Environmental committee

- Segregation of waste generated in the College.
- Installation of coloured bins (blue for non-degradable waste, green for degradable waste, red for biomedical waste) for collection of segregated waste generated in the college.
- Excavation of pits in the backward for vermi-composting from organic waste .
- Ban on burning of fallen leaves of plants and other litters within the College and hostel campus.
- LED bulbs to replace the ordinary bulbs of the College and hostel campus.
- Application to the Beniapukur Police Station to create, 'No Horn Zone', in front of the College campus.

Work yet to be done

- Department of Geography is to set up a weather station in the College campus.

RESOLUTION TAKEN BY THE COMMITTEE

- Lady Brabourne College campus is now a **PLASTIC FREE ZONE**.
- Strict vigilance is kept on the waste dumping in assorted bins. The volunteers ensure that the sorted waste is dumped in the respected bins.
- Strict vigilance is also kept on the class rooms, staff rooms and office rooms where the all the electric appliances and switches for fans, lights and air conditioners are switched off leaving the rooms.
- The Garden is maintained with care. The College has a Garden Committee, the members of which look after the cleanliness and also ensures the plants and trees are properly maintained.
- Members of the committee have taken up Plantation programmes during the Bonomahatsab during the monsoon seasons and flowering plants during the onset of winter. Plantation is also carried in the Spring by the Alumni Association.
- Casual laborers and Gardeners have been employed to water the plants, apply organic fertilizers and take care of the plants.
- They maintain the plants, prune them and keep them in proper shape.

1.9.5 Future programmes of the Committee.

FUTURE PROGRAMME OF THE COMMITTEE

To improve campus sustainability, and setting up a better learning environment can help to foster a Green and Clean Campus

The students and faculty members are required to go Green at the College campus, with a number of environmental sustainability programmes. The volunteers, parents, teachers, students contribute to sustainability programmes that create a lasting impact. These include implementation of new green practices and management of the practices already implemented in the campus.

A. Management of Practices already implemented in the campus.

- Keeping strict vigilance on each class rooms to check whether all appliances are switched off when not in use or after they leave their rooms.
- Track energy and water use in college buildings involves monitoring, recording, reviewing and analyzing bills and data on a regular basis to reduce further costs and consumption.
- Promote the use of reusable lunch boxes and water bottles for daily use.
- Organize field trips to conservation parks/sites to inspire students to develop love for wildlife, at least once a year.
- Encourage students and staffs to use recycled products and buy green environmental friendly goods.
- Spread the idea of REFUSE, REDUCE, REUSE, RE-PURPOSE and RECYCLE.
- Regular checking of pipe lines of water, overhead tanks and avoids water wastage in the campus.
- Keeping the campus green, clean and litter free.

B. New practices to be implemented in the campus.

- Measures have to be taken to set up OUTDOOR CLASSROOMS.
- Implementing some commonly known practices, for maintaining a “Green” lifestyle.
- Organizing ‘Environmental Awareness programmes for students, office staffs and faculty members.
- Reducing the use of paper and ‘Go digital’
- Introduce carpool for students or inspiring them to use bicycle.
- Use of compost fertilizer in the campus for plants produced from vermicompost.
- Wise and sustainable use of water. Avoid wasting water in the College and Hostel premise. Training students on watershed and the local environment.
- Celebration of a ‘**NO VEHICLES DAY**’ in the campus, at least once a month.
- Encouraging students to setup organic vegetable gardens at home, and to buy organic foods and eco-friendly commodities.
- Maintaining a Garden Journal.
- Implement the use of green (organic) cleaning products in the College and Hostel campus.
- Formation of New Budget Head for meeting expenses related to the Green expenditure.

1.9.6 Policy enforcement strategies.**POLICY ENFORCEMENT STRATEGIES**

The Principal, members of Environmental Committee and student volunteers are extremely alert about the Green Policies adapted by the College. Anyone violating the rules is penalized.

1.10 Whether College has conducted any awareness/responsibility programme among the staff members: "yes", "no" and "not applicable"

AWARENESS PROGRAMME FOR STUDENTS

Orientation Programme for Ist Year Students on 02.08.2019

1.11 Whether all the departments/teachers/non-teaching members/students are aware about the need of the environmental protection and audit:

Yes

1.12 Whether College has involved the students as volunteers in greening programmes:	Yes
1.13 Whether construction/demolition/repairing are in compliances with green standard:	Yes
1.14 Whether College has conducted any workshop/seminar/lecture on environmental awareness programme inside and/or outside the campus:	Yes

SEMINARS, LECTURES, WORKSHOPS ON ENVIRONMENT & BIODIVERSITY

DATE	PROGRAMME	DEPARTMENT	TOPIC	SPEAKER	PARTICIPANTS
05.06.2015	Celebration World Environment Day.	Advanced Research Centre, Department of Microbiology,	Exploitation of Arctic Microorganisms	Dr. Pranab Roy, Haldia Institute of Technology, West Bengal	College Students *400
28.1.2017	Seminar	Advanced Research Centre, Department of Microbiology,	Exploration and Research of Southern Ocean Micro-organisms near Antarctica Region	Dr. Rajib Bandyopadhyay, Faculty, Department of Botany, Burdwan University	PG 2 nd and 4 th semester students *90
14.9.2018	Seminar	Zoology	'Biodiversity conservation and role of WWF'	Dr. Kuladeep Roy, Assistant Manager, WWF– West Bengal State Office	UG and PG students of the department of Zoology *103
25.9.2018	Workshop	Chemistry	Water quality Analysis	Faculty members of the Department of Chemistry	UG Students *90
5.10.2018	Seminar	Physics	Working of a Solar Panel and its characteristics	Ms. Arpita Adak, Ex-student, Post Graduate Department of Physics	Students of department of Physics *90
30.03.2019	Departmental Seminar	Botany	Biodiversity of medicinal plants in India	Dr. Prabir Ranjan Sur Retired Scientist, Botanical Survey of India	UG and PG students of the department of Botany *84
18.4.2019.	Monthly Seminar	Advanced Research Centre, Department of Microbiology	'Effect of Climate Change on Biodiversity'	Shri Debal Ray, IFS, Chief Project Director, West Bengal Forest and Biodiversity Conservation Project, Govt. of West Bengal	Students of department of Microbiology *90
13.9.2019	College Level Seminar, "Man and Animal Conflict – a Global Scenario"	IQAC and Department of Zoology	Human Wildlife Conflict and its mitigation in West Bengal	Mr. Subhankar Sengupta, Field Director, Tiger Project, Government of India	Students of Lady Brrabourne College *350
			Wildlife Crime Scenario in India – Special Emphasis on Eastern India	Mr. Agni Mitra, Regional Deputy Director, Eastern Region Wild Crime Control Bureau,	

				Government of India	
			Value of Biodiversity and Human induced Depletion	Dr. Paulami Maiti, Associate Professor, Department of Zoology, Lady Brabourne College	
23.9.2019	Outreach programme on Environmental Studies	Department of Zoology	Biodiversity and Ecosystem Service	Prof. Parthiba Basu, (Smithsonian Fellow, Ecole Normale Supérieure) Professor, Department of Zoology, University of Calcutta	Faculties and students from different colleges from the Department of Zoology, * 70
16.11.19	Departmental Seminar cum workshop	Department of Zoology	'Use of GPS to map plants and animals'.	Prof. Amal Kumar Mondal, Department of Botany and Forestry, Vidyasagar University, Midnapore, West Bengal Ayan Naskar, Research Scholar, Department of Botany and Forestry, Vidyasagar University, Midnapore, West Bengal	PG Students of Department of Zoology *22
25.04 2019.	Celebration of World DNA Day,	Advanced Research Centre, Department of Microbiology	Microbial Life in an Estuarine Mangrove Ecosystem'	Dr. Anwesha Ghosh, Integrative Taxonomy & Microbial Ecology Research Group, IISER, Kolkata	Students of department of Microbiology *90
07.12.2019	State Level Symposium on 'Environment: Issues and Impact'	Advanced Research Centre, Department of Microbiology	The inaugural Speech The Keynote Address Speakers	Prof. Siuli Sarkar, Principal, Lady Brabourne College. Sri Debasish Kumar, MMIC, Parks & Gardens and Urban Forestry, Kolkata Municipal Corporation Dr. Snehamanju Basu, Registrar, Jadavpur University Sri Sandipan Mukherjee, Retd IFS, Additional Principal Chief Conservator of Forests and Nodal Officer, CAMPA Md. Abdul Gani, Special Secretary to Govt. of West Bengal, Department of Sundarban Affairs	Students of department of Microbiology *84
4.1.2020,	Departmental	Department of Zoology	Vermi-	Dr. Annesa	Laboratory

	Seminar		composting	Choudhury	Assistant of Department of Zoology *3
4.2.2020	Celebration of World Wetland day. College level Seminar	Science departments	Wetland Ecosystem for Human Welfare and Wellbeing"	Chief Guest: Dr. Somnath Bhattacharyya, Senior Environmental Consultant, SICOM, Ministry of Environment, Forests & CC Government of India.	Students of the college *350
11.6. 2020	First Webinar organized by the Advanced Research Centre	Department of Microbiology	Beyond the Ice: Story of Existence	Dr. Paulami Maiti, Associate Professor, Dept. of Zoology, Lady Brabourne College	Students of Lady Brabourne College *400
3rd-4th March, 2020	International Conference	Department of Geography and Department of Statistics, Lady Brabourne College, in collaboration with Oceanographic Study, Jadavpur University	Sustainable Development and Inclusive Growth	Several Speakers	*400
6.2.2020	Workshop		Estimation of DO, BOD in water samples	Faculty members of the Department	Students of Department of Zoology *19

*Number of Beneficiaries

SOME GLIMPSES OF THE SEMINARS & OTHER ACTIVITIES

Seminar topic	Date	Speaker
Botany		
Antarctica: A unique natural biodiversity reserve in one end of the globe.	17 th December, 2012	Professor Samir Kumar Bera, Birbal Sahani Institute of Paleobotany, Lucknow-226007





Seminar topic	Date	Speaker
Zoology		
Biodiversity	17 th December, 2012	Dr. Ashish Ghosh Ex. Director, ZSI Centre of Environment & Development



Zoology	'Biodiversity conservation and role of WWF' on 14.9.2018	Dr. Kuladeep Roy, Assistant Manager, WWF– West Bengal State Office
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Zoology	<p>“Man and Animal Conflict – a Global Scenario” on 13.9. 2019</p>	<ol style="list-style-type: none"> 1. Mr. Subhankar Sengupta, Field Director, Tiger Project, Government of India Topic: Human Wildlife Conflict and its mitigation in West Bengal 2. Mr. Agni Mitra, Regional Deputy Director, Eastern Region Wild Crime Control Bureau, Government of India Topic: Wildlife Crime Scenario in India – Special Emphasis on Eastern India 3. Dr. Paulami Maiti, Associate Professor, Department of Zoology, Lady Brabourne College Topic: Value of Biodiversity and its Human induced depletion
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Dr. Subhankar Sengupta



Mr. Agni Mitra



Dr. Paulami Maiti

<p>Inter-disciplinary</p>	<p>Interdisciplinary Seminar on World Wetland Day on 04.02.2020</p> <p>A poster competition was organized on the theme of World Wetland Day and groups of students prepared very informative, innovative and colourful posters on the issue.</p>	<p>Chief Guest:</p> <p>Dr. Somenath Bhattacharyya, Senior Environmental Consultant, SICOM, Ministry of Environment, Forests & CC Government of India.</p> <p>Dr. Paulami Maiti, Associate Professor, Dept. of Zoology, Lady Brabourne College on “Wetland Ecosystem for Human Welfare and Well being”</p>
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Zoology	Use of GPS to map plants and animals on 16.11.19	<ul style="list-style-type: none"> • Prof. Amal Kumar Mondal, Department of Botany and Forestry, Vidyasagar University, Midnapore, West Bengal • Ayan Naskar, Research Scholar, Department of Botany and Forestry, Vidyasagar University, Midnapore, West Bengal
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Zoology	Biodiversity and Ecosystem Service on 23rd September, 2019 attended by Faculties and students from different colleges	Prof. Parthiba Basu, (Smithsonian Fellow, Ecole Normale Supérieure) Professor, Department of Zoology, University of Calcutta
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**DEPARTMENTAL
WORKSHOP
DEPT. OF ZOOLOGY**

Date: 25.9.2018

Resource Person:

Faculty members of the
Department

Topic:

Water Quality Analysis



1.15 Whether the institute has department of Law/Environmental Science/3-Year degree Course/Course curriculum, "yes", "no" and "not applicable" (if so, how does it takes part in greening programmes)

No

Environment Science is taught as one of the AECC papers under the CBCS syllabus at the Undergraduate level where all students (both UG Science & UG Arts) do project work

1.16 Whether College provides any community services, if so, give details (as Annexure): "yes", "no" and "not applicable"

Yes

EXTENSION ACTIVITIES (COMMUNITY SERVICES)

OUTREACH PROGRAM FOR SCHOOL STUDENTS (UNDER DBT-STAR PROGRAM)

The College encourages students to participate in various programmes with the aim of making future generations sensitize towards those who are deprived of basic needs. With this aim, the departments of **Botany, Chemistry, Microbiology, Physics and Zoology**, participated in an outreach program for School Students under the DBT-STAR outreach programme, 2019. The faculty members along with some students visited **Nayachak Jadunath High School**, a school in the remote outskirts of **Howrah on 25th of September, 2019**. Special permission was taken from the District Inspector of Schools, Secondary Education, Howrah, Govt. of West Bengal for organizing the Outreach Program. The School was selected by the said authority.

The poor quality and exclusive nature of the learning environment in schools in remote areas is leading to a large number of drop outs.

Thus the aim of this program was to:

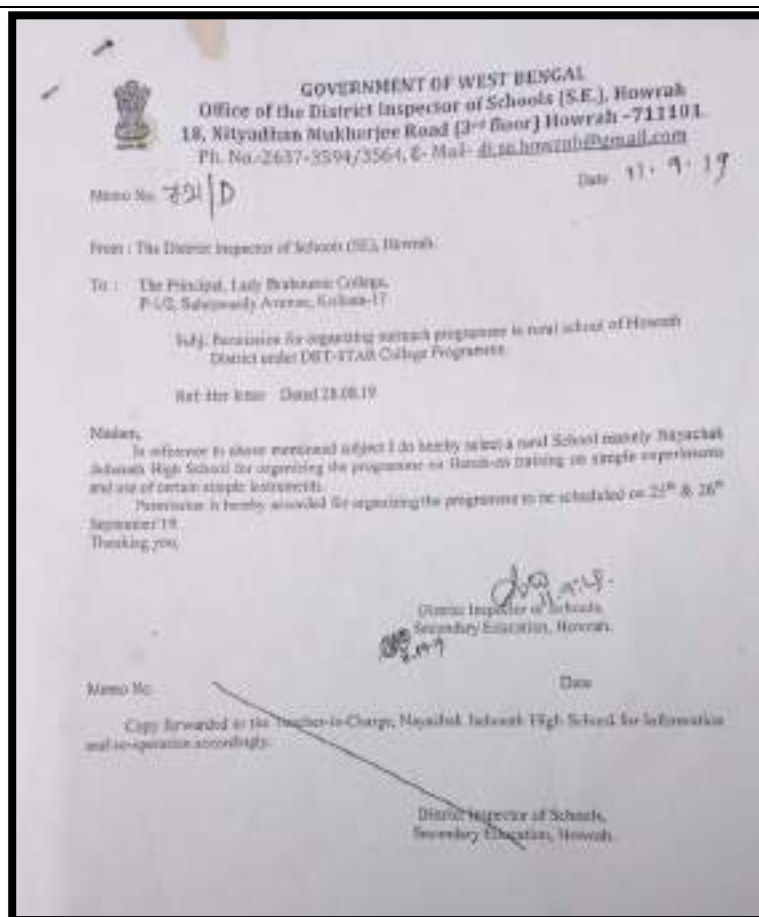
- Make the students aware of their local Biodiversity.
- Help children witness experiments that they read only in their books and do not get the opportunity for any practical experience due to lack of equipments and infrastructure.
- Encourage children, especially girls who are living in the suburbs/ remote/ under-privileged areas have the guidance and motivation they need to go to school and take up science as their subject of study.
- Encourage students to perform some of the experiments on their own. These interventions may encourage these students to apply new and innovative models to overcome their critical challenge.

Engaging our students in community service projects is a wonderful way of encouraging the students to be principled, caring and open minded. Learning outside the classroom and helping others encourages empathy and understanding in our students.

Equipments and other study material along with charts and specimens were carried to the school from the college for the demonstration of experiments prescribed in the theory of their syllabus. Students of class VIII, IX, X, XI and XII attended the program in separate groups.

Visit to **Nayachak Jadunath High School, a school in the remote outskirts of Howrah on 25.9.2019**

Botany	1. Algal Life Forms 2. Experiment on Plasmolysis 3. Experiment to Demonstrate Anaerobic Respiration	Faculty members and Undergraduate students of the Department
Microbiology	Microbes in Daily Life	Faculty members and Undergraduate students of the Department
Zoology	1. Study of different stages of mitosis using onion root tip 2. Study of pH of water using a pH meter	Faculty members and Undergraduate students of the Department



Permission letter from the District Inspector of Schools, Secondary Education, Howrah, Govt. of West Bengal for organizing the Outreach Program

DEPT. OF BOTANY

Hands-on-Training on:

- Algal Life Forms
- Experiment on Plasmolysis
- Experiment to Demonstrate Anaerobic Respiration



Students of Botany demonstrating their experiments

DEPT. OF MICROBIOLOGY

Hands-on-Training on:

- Microbes in daily life



Students of Microbiology demonstrating their experiments

DEPT. OF ZOOLOGY

Hands-on-Training on:

- Study of different stages of mitosis using onion root tip
- Study of pH of water using a pH meter



Students of Zoology demonstrating their experiments

DBT-STAR sponsored Outreach Programme for College Teachers & Students

A special training program for teachers and students from different Colleges was organized by the Departments of Zoology of Lady Brabourne College as an Outreach Program under the DBT-STAR College Program.

DEPT. OF ZOOLOGY

Date: 23.9.2019

Resource persons:

Prof. Parthiba Basu, Smithsonian Fellow, Ecole Normale Supérieure Professor

Department of Zoology, University of Calcutta

Participants: Teachers & Students from different colleges (10 teachers and 60 students)

Topic: Biodiversity and Ecosystem Service



**ATTENDANCE SHEET OF PARTICIPANTS OF THE DBT-STAR COLLEGE
OUTREACH PROGRAM ON 27.9.19**

S.No.	Name of Teacher	Designation	Name of College
1.	Dr. Indira Prasad Singh (Bsc)	Associate Professor	Bangabasi College
2.	Dr. Sudipta Mandal	Asst. Prof.	"
3.	Dr. Suman Bhattacharya	Teacher	"
4.	Dr. Mausumi Bhattacharya	Associate Prof.	Dinabandhu Andrews College
5.	DR. DEEP CHANDAN CHAKRABORTY	Assistant Professor	AGTOSH COLLEGE
6.	Arup Kumar Ghosh	Asst. Professor	Dinabandhu Andrews College
7.	Ruchita Nair	Asst. Prof.	Dinabandhu Andrews College, Guwahati
8.	Sujata Dhar (Datta)	Asst. Prof.	Lady Bradbourne College
9.	Dr. Pankaj Kumar	Associate Prof.	Lady Bradbourne College, Kolkata
10.	Dr. Sanjib Kumar Mandal	Associate Prof.	Lady Bradbourne College

Attendance sheet of teachers

**ATTENDANCE SHEET OF PARTICIPANTS OF THE DBT-STAR COLLEGE
OUTREACH PROGRAM ON 27.9.19**

S.No.	Name of Student	Name of College
1.	Arpana Choudhury	Bangabasi College
2.	Arpana Choudhury	Bangabasi College
3.	Arpana Choudhury	Bangabasi College
4.	Arpana Choudhury	Bangabasi College
5.	Arpana Choudhury	Bangabasi College
6.	Arpana Choudhury	Bangabasi College
7.	Arpana Choudhury	Bangabasi College
8.	Arpana Choudhury	Bangabasi College
9.	Arpana Choudhury	Bangabasi College
10.	Arpana Choudhury	Bangabasi College
11.	Arpana Choudhury	Bangabasi College
12.	Arpana Choudhury	Bangabasi College
13.	Arpana Choudhury	Bangabasi College
14.	Arpana Choudhury	Bangabasi College
15.	Arpana Choudhury	Bangabasi College
16.	Arpana Choudhury	Bangabasi College
17.	Arpana Choudhury	Bangabasi College
18.	Arpana Choudhury	Bangabasi College
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53.	Arpana Choudhury	Bangabasi College
54.	Arpana Choudhury	Bangabasi College
55.	Arpana Choudhury	Bangabasi College
56.	Arpana Choudhury	Bangabasi College

Attendance sheet of students

**ATTENDANCE SHEET OF PARTICIPANTS OF THE DBT-STAR COLLEGE
OUTREACH PROGRAM ON 27.9.19**

S.No.	Name of Student	Name of College
29.	Nabanita Banerjee	Lady Bradbourne College
30.	Nabanita Banerjee	Lady Bradbourne College
31.	Nabanita Banerjee	Lady Bradbourne College
32.	Nabanita Banerjee	Lady Bradbourne College
33.	Nabanita Banerjee	Lady Bradbourne College
34.	Nabanita Banerjee	Lady Bradbourne College
35.	Nabanita Banerjee	Lady Bradbourne College
36.	Nabanita Banerjee	Lady Bradbourne College
37.	Nabanita Banerjee	Lady Bradbourne College
38.	Nabanita Banerjee	Lady Bradbourne College
39.	Nabanita Banerjee	Lady Bradbourne College
40.	Nabanita Banerjee	Lady Bradbourne College
41.	Nabanita Banerjee	Lady Bradbourne College
42.	Nabanita Banerjee	Lady Bradbourne College
43.	Nabanita Banerjee	Lady Bradbourne College
44.	Nabanita Banerjee	Lady Bradbourne College
45.	Nabanita Banerjee	Lady Bradbourne College
46.	Nabanita Banerjee	Lady Bradbourne College
47.	Nabanita Banerjee	Lady Bradbourne College
48.	Nabanita Banerjee	Lady Bradbourne College
49.	Nabanita Banerjee	Lady Bradbourne College
50.	Nabanita Banerjee	Lady Bradbourne College
51.	Nabanita Banerjee	Lady Bradbourne College
52.	Nabanita Banerjee	Lady Bradbourne College
53.	Nabanita Banerjee	Lady Bradbourne College
54.	Nabanita Banerjee	Lady Bradbourne College
55.	Nabanita Banerjee	Lady Bradbourne College
56.	Nabanita Banerjee	Lady Bradbourne College

**ATTENDANCE SHEET OF PARTICIPANTS OF THE DBT-STAR COLLEGE
OUTREACH PROGRAM ON 27.9.19**

S.No.	Name of Student	Name of College
39.	Nabanita Banerjee	Lady Bradbourne College
40.	Nabanita Banerjee	Lady Bradbourne College
41.	Nabanita Banerjee	Lady Bradbourne College
42.	Nabanita Banerjee	Lady Bradbourne College
43.	Nabanita Banerjee	Lady Bradbourne College
44.	Nabanita Banerjee	Lady Bradbourne College
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52.	Nabanita Banerjee	Lady Bradbourne College
53.	Nabanita Banerjee	Lady Bradbourne College
54.	Nabanita Banerjee	Lady Bradbourne College
55.	Nabanita Banerjee	Lady Bradbourne College
56.	Nabanita Banerjee	Lady Bradbourne College

Attendance sheet of students

Commendable volunteers for WWF

TIASHA DUTTA of B.Sc. Zoology Honours (Batch: 2015-18) participated as a commendable volunteer for Plastic Cleaning Campaign from May, 2018 - Aug, 2018 for WWF, India.



PRIYANKA GHOSH of B.Sc. Zoology Honours (Batch: 2015-18) did internship with the Environment Education Division, WWF-India from 16.4.2018 to 16.7.2018. She also participated in the events organized on the occasion of Endangered Species Day & International Biodiversity Day by WWF-India on 19.5.2018. She is a registered working volunteer of WWF-India WBSO.





KAMALIKA GHOSH of B.Sc. Zoology Honours (Batch: 2016-19) participated as a commendable volunteer from July-September, 2018 in the different programs organized by WWF-India.



People's Biodiversity Register (PBR) of Kolkata: A Case Study of Ward No. 60 of Kolkata Municipal Corporation Area

Biodiversity Register is a documentation that contains comprehensive information on Biotic resources available in a landscape, its demographic set up, as well as the perception of the local people regarding the local biotic resources. Biodiversity is measured in terms of the number and types of species available in an area in a certain period of time. For the existence of human society biodiversity plays a leading role. Principal component of the biosphere is plants.

National Biological Diversity Act of India (2002) mandates that local knowledge of biodiversity be registered in a national database, called the People's Biodiversity Register (PBR). So, one of the mandates of the Biodiversity Board is to prepare Biodiversity Registers not only by local people but also by school/college teachers and students. Preparation of Biodiversity Register is an attempt to realize the biodiversity at each local level. Identification of biological resources and documentation is one of the prerequisites for the Register preparation which can lead to new discoveries and development of new commercial products, patenting of such products, equitable distribution of benefits, if any, and through this, paving the way for a new economic order in the country through biodiversity conservation.

Kolkata Municipal Corporation and West Bengal Biodiversity Board has started to prepare **Peoples Biodiversity Register of Kolkata**. Both the organizations have invited the Lady Brabourne College and other academic institutions to take part in this programme. This is a Collaborative work with the College, West Bengal Biodiversity Board and Kolkata Municipal Corporation.

On behalf of the College Post Graduate Departments of Geography, Botany, Zoology and Microbiology have conducted sample survey of biotic resources thriving in Ward No. 60 & 64, located in the Kolkata Corporation area. Thirteen students of M.Sc. Semester II and IV of **the Department of Geography, of Lady Brabourne College** have done primary survey of Ward No. 60 since **1st week of March, 2020** to prepare a PBR of the mentioned ward. Entire work has been done under the special **supervision of Dr. Manasi De**, Associate Professor & Head of the Department of Geography, Lady Brabourne College and the other teachers of the Departments of Botany, Zoology and Microbiology.

The aim of the study was to:

- Document, monitor and provide information of local flora and fauna for sustainable management of local biodiversity resources.
- To assess the impact of human intervention into the biotic resources of the area.
- To develop exhaustive database of plants species for the conservation of the biotic communities of this part of Kolkata.

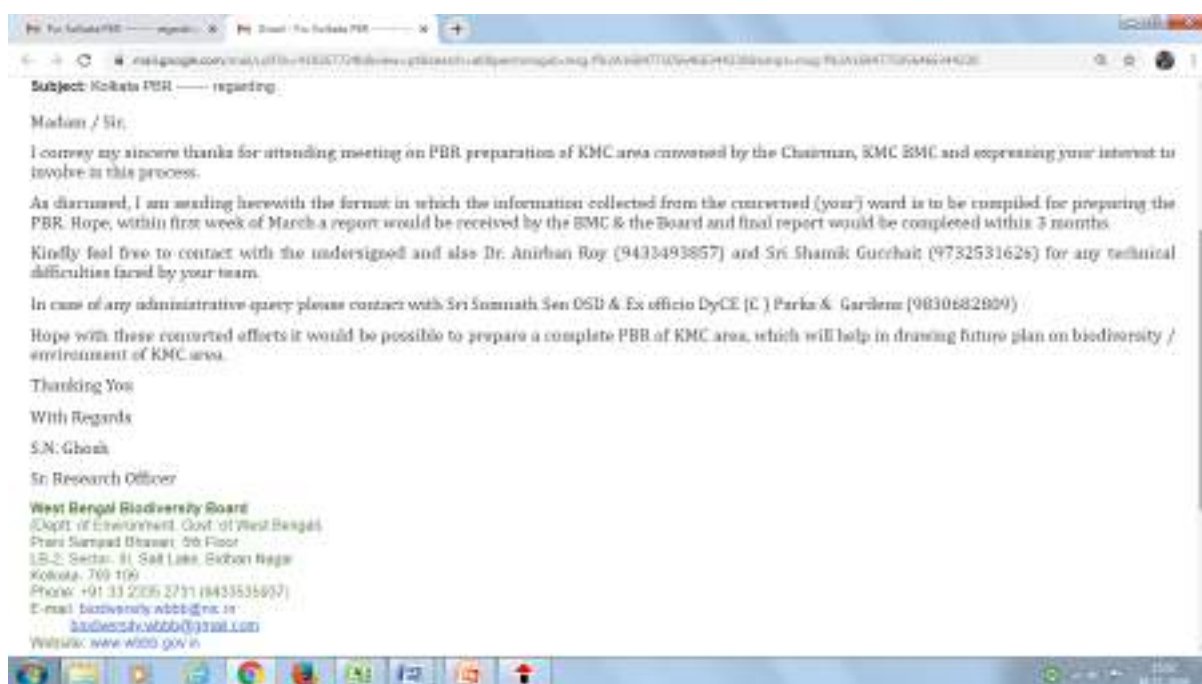
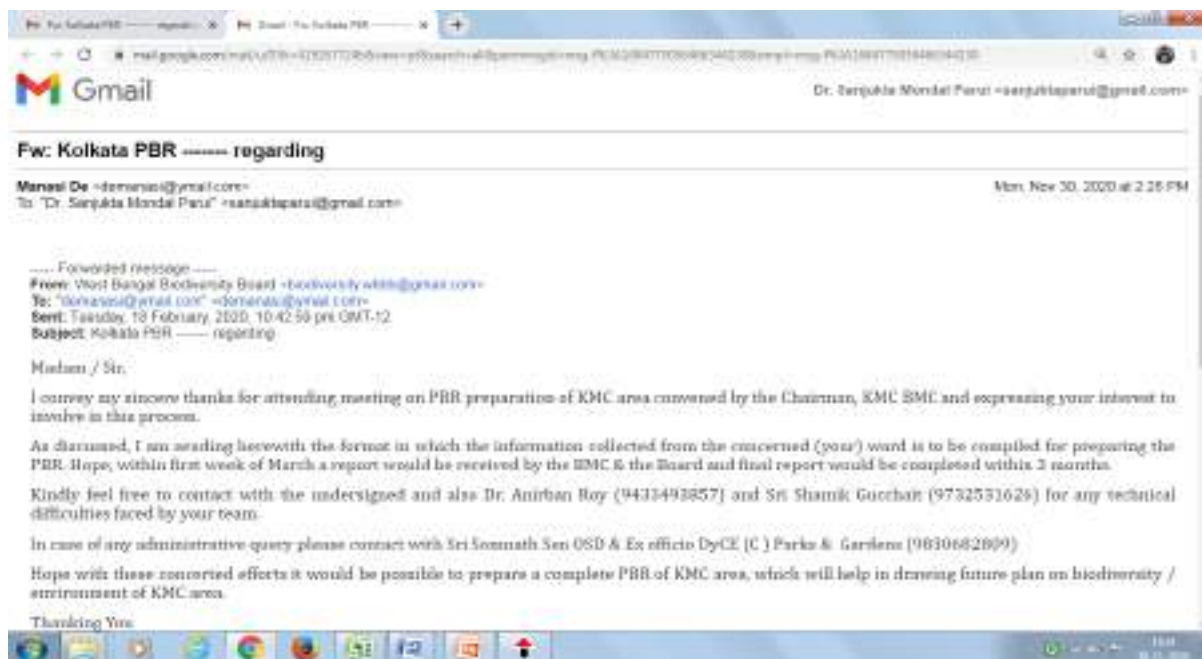
Primary survey was conducted for the identification of the trees, canopy measurements, height measurements, GPS survey, and also Questionnaire survey with the local people to understand the level of perception on the importance of biodiversity, their involvement in the biodiversity conservation measures, rearing of animals and so on. Park Circus market was also surveyed to identify the natural sources of biotic commodities sold every day.

A survey of birds in the locality of Park Circus area was also conducted by 15 UG Sem III students of Department of Microbiology, Lady Brabourne College, under the supervision of Dr. Mahuya Mukhopadhyay, Faculty, Dept of Microbiology. The areas chosen were the College ground and adjoining Park Circus Maidan in Ward No. 60.

A preliminary Report on PBR has already been submitted to the West Bengal Biodiversity Board.

Students of M.Sc. (Sem 2&4) Geography participating in the PBR studies:

1	Purbi De	8	Tamanna Khan
2	Sahina Khatoon	9	Amrita Naskar
3	Madhumita Mondal	10	Paromita Halder
4	Manami Maitra	11	Rinkita Das
5	Papiya Kundu	12	Sreyashee Sil
6	Unsa Iqbal	13	Najira Khatun
7	Moumita Gaj		



Survey of Birds

Area: Lady Brabourne College and Park Circus Maidan

Project: KMC and West Bengal Biodiversity Board

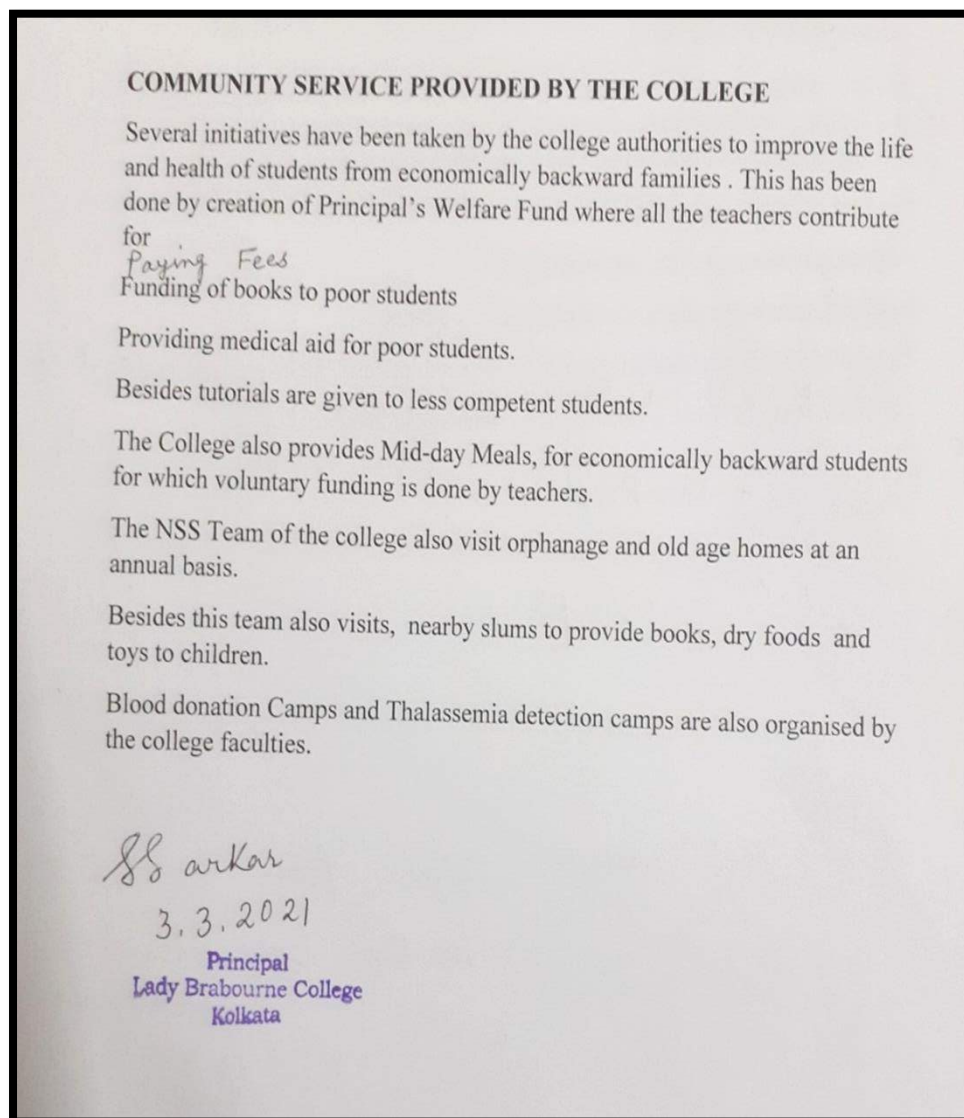
Date: 29.02.2020

Participants: Dr. Mahuya Mukhopadhyay and 15 students of B.Sc. Second Semester, Department of Microbiology



15 UG Sem III students of Department of Microbiology, Lady Brabourne College, under the supervision of Dr. Mahuya Mukhopadhyay, Faculty, Dept of Microbiology participated.

Rohini Bose	Debopriya Ballabh
Sohini Dey	Aysha Mahmood
Reetapa Biswas	Pahil Sen
Tamalika Das	Sohini Rana
Somdatta Chatterjee	Sayantika Das
Avantika Agarwal	Rishika Jaiswal
Senjuti Kunda Das	Shweta Majumder
Swastika Dasgupta	



1.17 Whether the students are aware about the use of medicinal plants (any lecture/seminar/conference organized on it): "yes", "no" and "not applicable."

The Department of Botany organizes seminars and lectures on Medicinal Plants, as an Awareness Programme for students.

1.18 Comments on the following:	
1.18.1 Plantation program:	Yes
1.18.2 Formation of Natural club/Eco club:	Yes

ECO CLUB, LADY BRABOURNE COLLEGE

- Lady Brabourne college, Eco Club, consists of the Principal, Prof Siuli Sarkar, Dr Indrani Chaudhuri, IQAC Convenor, members of the Environmental Committee and interested students from all the departments of the College.
- Student volunteers of this Club ensure that all the electric switches and appliances are switched off after the class.
- They monitor whether the students' litter around the college premise.
- They ensure the College Campus is Clean and Green.
- They ensure the College is a PLASTIC FREE ZONE.
- They also take care of the campus plants.
- They also help the teaching faculties in organizing awareness programmes.

STUDENT MEMBERS OF THE ECO CLUB

STUDENT MEMBERS OF THE ECO CLUB	
Department	Name of Student
Botany	Rittwicka Mukhopadhyay
	Sohini Chottopadhyay
	Anwesha De
	Shrishti Bose
Bengali	Sampurna Dutta
	Dishani Ghosh
	Dipika Chandra
	Pulokita Bose
	Dipanjali Das
Chemistry	Srijita Roy
	Sreetoma Ghosh
	Sunova Saha
	Sanjida Yeasmin
	Dipanwita Mondal
	Anuska Ghosh
	Suryakshi Bhuniya
	Sreyasi Moulik
	Atisha Kundu
	Purba Samanta
	Kankana Mondal
	Ritaja Roy
	Ritacheta Sen
	Sampurna Mitra
Economics	Amisha Acharyya
	Parna Rudra
	Anamika Das
	Kankana Mondal
Geography	Rickta Roy
	Liza Ghosh
	Madhumita Mondal
	Debopriya Dutta
	Mamata Paik
	Pousali DA
	Mallika Sardar

SS ankar

	Sauromi Ghosal
	Bidisha Mondal
	Sayani Biswas
Sanskrit	Arundhuti Bhattacharya
Sociology	Sromona Chakraborty
	Tanisha Majumder
	Neha Bhattacharya
	Sudeshna Bandopadhyay
Statistics	Rochona Das
	Bhavya Sharma
	Sanghita Dutta
	Pampa Pal
	Rochona Das
	Ananya Ghosh
	Rochona Das
English	Ananya Mitra
	Arunima Mondal
	Sneha Mondal
	Monideepa Raichoudhuri
	Mimzi S Ali
Zoology	Ipsita Mukherjee
	Rishita Biswas
	Manjari Sherpa
	Disha Das
	Rajmouli Ghosh
	Tinni Saha
	Mandira Ghosh
	Madhurima Mondal
	Nabanita Banerjee
	Ayushi Goswami
	Ankita Saha
	Ruma Som
	Oindrila Chakraborty
	Trina Saha
	Meghamala Sengupta
	Shingini Ghosh
	Srijata Bhattacharya
	SuranjanaMookherjee
	Nisani bhattacharya
	Disha Ghosh
	Rajeshwari Dutta
	Dhriti Roychoudhuri
	Prachuriya Dutta

SS ankar

1.18.3 Management of natural resources, wildlife, conservation of species:

Yes

1.18.4 Any project sponsored by national funding agency/NGO, independent project related to environmental issues:

Yes

INDEPENDENT PROJECT RELATED TO ENVIRONMENTAL ISSUES

UGC Sponsored MAJOR RESEARCH PROJECT, 2012

Dr Anuradha Chaudhuri, Department of Zoology for setting up of BUTTERFLY GARDEN, at the Hostel premise.

Butterfly Garden

Objectives: Habitat degradation is a multivariate issue. Butterfly habitats have been lost to human activities like construction of buildings and roads, use of pesticides and herbicides and even woody encroachment, and non-native plants. Creating new habitat at urban pockets improves population size of these extremely important or key stone species.

A butterfly garden creates, improve, and maintain habitat of the butterflies, in the urban setup. It helps to

increase the number and diversity of butterflies in our immediate surroundings which in turn creates a healthy ecosystem.

The Context: The Department of Zoology has developed and maintained a butterfly garden in the hostel campus as part of a UGC-Major Research Project [Ref. No. F.No. 41-56/2012 (SR) dt. 13.7.12] under Dr. Anuradha Chaudhuri, with a large number of flowering plants which serve as hosts to different species of butterflies.

UNIVERSITY GRANTS COMMISSION
BAHADURSHAH ZAFAR MARG
NEW DELHI-110 002

F. No. 41-56/2012 (SR)

The Under Secretary (FD-III)
University Grants Commission
New Delhi-110002

Sub- UGC support for the Major Research Project in Physical Sciences, Bio-Sciences, Maths, Medical, Agricultural Sciences and Engineering & Chemistry to University/College Teachers - Project entitled, "Relevance of pollinating insects in propagation of lowering plants in Calcutta and its surrounding areas including college campus in Park Circus"

Sir,

I am to refer to your letter forwarding the application of Dr. Anuradha Chaudhuri of your institution for financial assistance under the above scheme and to convey the Commission's approval & sanction an on account grant of Rs. 5,68,800/- (Rupees: five lakh sixty eight thousand eight hundred only) to the Principal, Lady Beabourne College, Kolkata-700017, WB in r/o Major Research Project of Dr. Anuradha Chaudhuri, Department of Zoology for the period of 3 years w.e.f. 1.7.2012 as detailed below:-

S.No	ITEMS	AMOUNT APPROVED	GRANT RELEASED AS 1st INSTALMENT	Category
A.	Non - Recurring		1,50,000/-	GEN
1.	Books & Journals	nil		
2.	Equipment (as per proposal)	1,50,000/-		
B.	Recurring		4,18,800/-	
1.	Honorarium to Retd. Teacher @ Rs. 12,000/- p.m.	nil		
2.	Project Fellow @14,000/- p.m. for initial 2 years and Rs. 16,000/- p.m. from the third year onwards.	5,28,000/-		
3.	Chemical/ Glassware / Consumable	60,000/-		
4.	Hiring Services	nil		
5.	Contingency	60,000/-		
6.	Travel/Field Work	60,000/-		
7.	Special Need	nil		
8.	Overhead Charges @ Rs. 10% approved recurring Grant (Except Travel & Field Work)	64,800/-		
	Total (A + B)	9,22,800/-	5,68,800/-	

The acceptance Certificate in prescribed format (Annexure-I available on the UGC web-site) may be sent to the undersigned within one month from the issue of the award letter failing which the project may be treated as cancelled.

If the terms & conditions are acceptable, as per guideline which are available on UGC web-site www.ugc.ac.in the Demand Draft/ Cheque being sent may be retained. Otherwise the same may be returned in original to the UGC by Registered Post in variably with in 15 days from the receipt of the Demand Draft/Cheque in favour of Secretary, UGC, New Delhi.

Principal Investigators should ensure that the statement of expenditure & utilization Certificate to the effect that the grant has been utilized for the purpose for which it has been sanctioned shall be furnished to the University Grants Commission in time.

The first instalment of the grant shall comprise of 100% of the Non -Recurring including Over Head Charges, and 50% of the total Recurring grant.

Sanction Letter of UGC Funded Major Research Project

1.18.4 Is there any incidence of burning of plastics containing garbage within the campus for necessary reduction:

No

1.18.5 Celebration of 5th June, Ozone day, Earth Day etc.:

1. Celebration of World Environment Day 05.06.2015

Advanced Research Centre, Department of Microbiology, had organized a lecture delivered by Dr. Pranab Roy, Haldia Institute of Technology, West Bengal, on 'Exploitation of Arctic Microorganisms'.

2. Celebration of World Environment Day on 05.06.2017



3. Celebration of World Environment Day, 5th June, 2018

Inter-disciplinary Departmental Programme,

Poster competition was organized on the theme of World Wetland Day and groups of students prepared very informative, innovative and colourful posters on Wetlands.

4. Celebration of World Wetland Day, 4th February, 2019

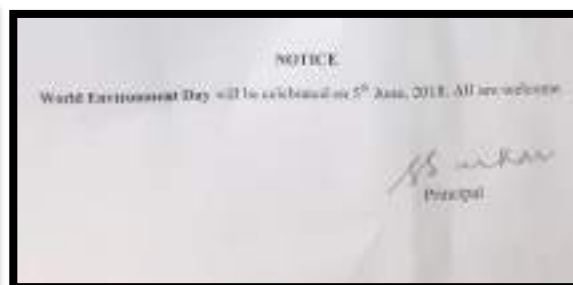
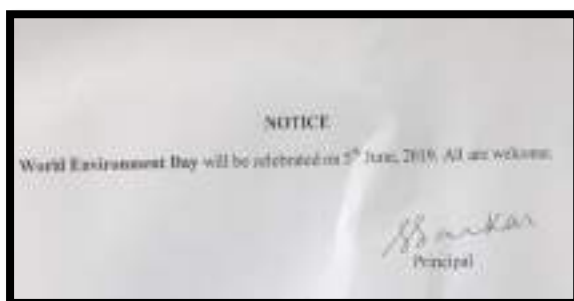
Inter-disciplinary Programme

Poster competition was organized on the theme of World Wetland Day and groups of students prepared very informative, innovative and colourful posters on the issue



A poster competition was organized on the theme of World Wetland Day and groups of students prepared very informative, innovative and colourful posters on the issue.

5. Celebration of World Environment Day on 4.2.2019



1.18.6 Number of field visits/survey records:

Each year field surveys involving the study of Ecosystem is organized for the UG and PG students of the Departments of Zoology and Botany as part of their syllabus. Annually about 8 surveys are organized.

FIELD VISITS/SURVEYS

Place of Visit: Manas National Park, Assam

Date: 26.2.2019 to 3.3.2019

Purpose: To study forest ecosystem & wildlife as part of UG Zoology Honours syllabus (Calcutta University syllabus, 2016)

Participants: 21 Zoology Honours 2nd year students

Government of West Bengal
Education Directorate
Bikash Bhavan, Salt Lake, Kolkata – 700 091

Memo No. _____ Date _____

Smt. Sujata Dhar (Dutta), Assistant Professor, Dr. Antara Kar, Assistant Professor accompanied by Sri Asish Majumder, Laboratory Assistant are permitted to undertake an educational excursion / field training in Zoology of 22 (Twenty Two) students of the 2nd year Zoology Hons. department of the Lady Brabourne College and visit Manas National Park and Guwahati in Assam and its / their adjacent areas. The party will leave / left Headquarters on 26/02/2019 and will return / returned to Headquarters on 03/03/2019.

As the prolonged half, exceeding 10 days for the excursion / field training in question, will be / was necessary in the interest of Public Service, the aforesaid staff are exempted from the operation of Rule 73 of the W.B.S.R. Part – II and are permitted to draw travelling allowances as admissible under the Rules and daily allowance for a continuous half of more than 10 days at full rates. The aforesaid staff accompanying the excursion party will draw Travelling Allowances and other allowances as admissible under the Rules.

Travelling Allowances and Daily Allowances @ Rs.(as admissible) each in favour of Smt. Sujata Dhar (Dutta), Dr. Antara Kar and Sri Asish Majumder may be drawn as per Rules subject to future adjustment.

The expenditure will be met from the Current Year's allotment under the Head 'TRAVELLING ALLOWANCES' placed at the disposal of the Principal / Officer-in-Charge, Lady Brabourne College.

The Accountant General (A&E), West Bengal and the Pay & Accounts Officer, Kolkata Pay & Accounts Office – I has been informed.

Sd/- J. Ray Chaudhuri
 Director of Public Instruction, West Bengal

No. 1840 /1(4)-A Date 20 /12/2018

Copy forwarded for information and necessary action to:

1. The Accountant General (A&E), West Bengal, Treasury Buildings, Kolkata – 700 001.
2. The Pay & Accounts Officer, Kolkata Pay & Accounts Office – I, 81/2/2, Phears Lane, Kolkata – 700 012.
3. The Principal / Officer-in-Charge, Lady Brabourne College, P-1/2, Suhrawardy Avenue, Kolkata – 700 017 with reference to his / her Memo No. 572/1/Govt./College/18 dated 04/12/18
4. The Head Assistant, Accounts Section, Education Directorate, West Bengal, Bikash Bhavan, Salt Lake, Kolkata – 700 091.

Sujata
 for Director of Public Instruction, West Bengal

Somira
 20.12.18

Permission Letter





Students at Manas National Park, Assam



Students doing the quadrat study

Place of Visit: Chintamani Kar Bird Sanctuary, Kolkata

Date: 16.8.2019

Purpose: To study birds in their natural ecosystem as part of PG syllabus Semester 3 Ecology Elective Paper (Calcutta University pre CBCS syllabus)

Participants: 6 M.Sc. Semester 3 Ecology Elective Paper students



Students at Chintamani Kar Bird Sanctuary, Kolkata

Place of Visit: Chamoli, Gopeswa, Garsan bugiyal, Chopta (Uttarakhand)

Date: 27.09.2018 to 06.10.2018

Purpose: To study ecosystem & flora as part of UG Botany Honours syllabus (Calcutta University syllabus, 2010, Paper4B)

Participants: Students –twenty one (21) Botany Honours 2nd year



Government of West Bengal
Education Directorate
Dikash Bhawan, Salt Lake, Kolkata - 700 091

Memo No. _____ Date _____

Dr. Pankaj Saha, Assistant Professor, Dr. Sudipto Das, Assistant Professor, accompanied by Sri. Shambhu Das are permitted to undertake an educational visitation / field training in favour of 21-University Grant Commission of the 2nd year B.Ed. (Hons.) students of the Lady Holwell's College and Lady Wood College, Calcutta University, Calcutta (Bachchan, Chitra, Chanchal and 4) - their absence from 10/10/2018 to 10/10/2018.

As the prolonged sick-leave exceeding 10 days for the duration - field training in question, will be a non-necessity in the interest of Public Service, the absence shall be exempted from the operation of Rule 71 of the B.S.R. Part - II and are permitted to draw travelling allowance as admissible under the Rules and staff allowance for a continuous half of more than 10 days in full rate. The absence shall not entitle the concerned party to draw travelling allowance and other allowances as admissible under the Rules.

Travelling Allowance and Daily Allowance in Rules will neither be a charge of Dr. Pankaj Saha, Dr. Sudipto Das and Sri Shambhu Das. They may be shown as per Rules subject to recuperation.

The expenditure will be met from the Current Year's allotment under the Head "TRAVELLING ALLOWANCE" placed at the disposal of the Principal / Officer-in-Charge, Lady Holwell's College.

The Government General R&D, West Bengal and the P. & Accounts Officer, Kolkata P. & Accounts Office, are hereby informed.

This is issued in pursuance of this office order Memo No. 1354/18-A dated 27.07.2018

Sd/- L. Raj Choudhary
Director of Public Instruction, West Bengal

No. 1354 /18-A Date: 26 /07/18

Copy forwarded for information and necessary action to:

1. The Accountant General (A&T), West Bengal, Treasury Buildings, Kolkata - 700 001.
2. The P. & Accounts Officer, Kolkata P. & Accounts Office, 2/1/22, Puri Lane, Kolkata - 700 012.
3. The Principal / Officer-in-Charge, Lady Holwell's College, P. & A. Accounts, Kolkata - 700 012 with reference to its / her Memo No. 139 /Office/College/18 dated 10.08.2018.
4. The Head Assistant, Accounts Section, Education Directorate, West Bengal, Dikash Bhawan, Salt Lake, Kolkata - 700 091.

Sd/- 05/9/18
The Director of Public Instruction, West Bengal

Sd/- 05/9/18

Permission Letter

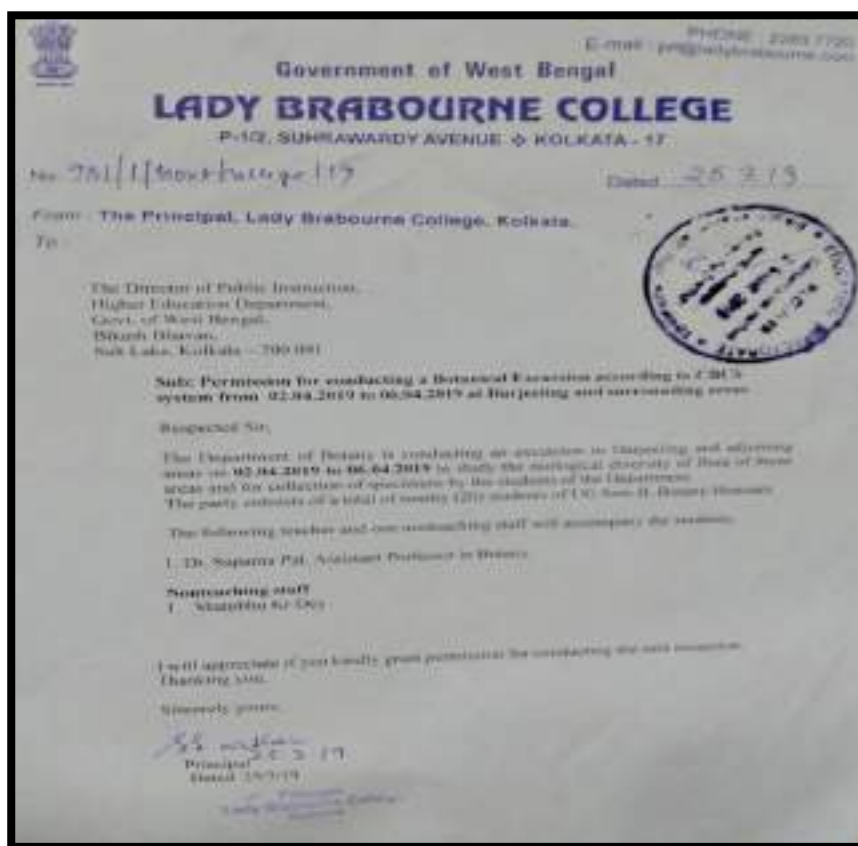
Place of Visit: Darjeeling

Date: 02.04.2019 to 06.04.2019

Purpose: To study Gymnosperms, Pteridophytes in natural habitats as part of UG Botany Honours syllabus (Calcutta University syllabus, 2018, Paper CC)

Participants: Students –twenty (20) Botany Honours Sem -2





Permission Letter

Place of Visit: Darjeeling

Date: 02.04.2019 to 06.04.2019

Purpose: To study ecosystem & flora as part of PG Botany syllabus (Calcutta University syllabus, 2017)

Participants: students – Nine (9) M.Sc. Botany semester 2



1.18.7 Campus Biodiversity Register

PEOPLE'S BIODIVERSITY REGISTER OF LADY BRABOURNE COLLEGE CAMPUS

People's Biodiversity Register (PBR) is a register that records the names of the species and their distribution in a given area. It is a comprehensive data base, that records people's traditional knowledge and insight of the status, uses, history, ongoing changes and the various forces driving these changes on the biological diversity and natural resources of their own localities. **PBR** is an innovative decentralized approach to know, use and safeguard our biodiversity and traditional knowledge from being destroyed

Biodiversity Registers are being prepared with the help of the local people and hence referred as People's Biodiversity Register.

National Biological Diversity Act of India (2002), mandates that local knowledge of biodiversity be registered in a national database, called the People's Biodiversity Register (PBR).

So one of the mandates of the Biodiversity Board is to prepare Biodiversity Registers not only by local people but also by school / college teachers and students .

Importance of PBR

Local knowledge that is being registered includes utilitarian uses of biodiversity such as for food, fodder, firewood, medicines used in the Ayurveda traditional medicinal system of India, as well as knowledge of traditional conservation practices such as sacred groves and sacred water bodies.

- Document, monitor and provide information for sustainable management of local biodiversity resources
- Promote biodiversity-friendly development in the emerging process of decentralized management of natural resources
- Establish claims of individuals and local communities over knowledge of uses of biodiversity resources, and ensure equitable benefit sharing from the use of such knowledge and resources
- Provide lessons on Environment.
- Perpetuate and promote the development of practical ecological knowledge of local communities and of traditional sciences such as Ayurveda and Unani medicine.
- The registers form a baseline data for future management strategies required for the sustainable utilization of biodiversity in a decentralized manner.
- It helps in equitable sharing of benefits arising out of commercial utilization of biodiversity resources and knowledge on their uses.

Methodology

A. People's Biodiversity Register (PBR) of Lady Brabourne College

The PBR of the College Campus includes documentation and identification of the focal species that forms the indicators of biodiversity of any region. These include local birds, butterflies, small mammals, soil insects and soil biota, present in the campus besides the various trees and flowering plants.

- Recording and documentation of butterflies, birds and mammals of the college campus throughout the year.
- Collection of soil biota.
- Quadrant study of garden soil samples of the College campus were made for molluscs and insects

collected were preserved in 70% alcohol or formalin

B. People's Biodiversity Register (PBR) of Kolkata: A Case Study of Ward No 60.

Kolkata Municipal Corporation and West Bengal Biodiversity Board have started to prepare Peoples Biodiversity Register of Kolkata. Both the organizations have invited the Lady Brabourne College and other academic institutions to take part in this programme. This is a Collaborative work with the College, West Bengal Biodiversity Board and Kolkata Municipal Corporation.

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On behalf of the College Post Graduate Departments of Geography, Botany, Zoology and Microbiology have conducted sample survey of biotic resources thriving in Ward No. 60 & 64, located in the Kolkata Corporation area. Thirteen students of M.Sc. Semester II and IV of the Department of Geography, of Lady Brabourne College have done primary survey of Ward No. 60 since 1st week of March, 2020 to prepare a PBR of the mentioned ward. Entire work has been done under the special supervision of Dr. Manasi De, Associate Professor & Head of the Department of Geography, Lady Brabourne College and the other teachers of the Departments of Botany, Zoology and Microbiology.

The Practice: Park Circus area is located within ward No 60, which is densely populated area of Kolkata. More than 38% of the total population is economically backward. Though it is thickly populated area, importance of this ward is high as it is furnished with different educational and health care institutions like National Medical College and Hospital, Aliah University and Lady Brabourne College.

Primary survey was done at Lady Brabourne College Campus, Hostel Campus of the College, Aliah University Campus and adjoining Park Circus Maidan covering an area of 26,999 sq m. of ward no 60 and 39,539 sq m. area of ward no 64.

Primary survey was conducted for the identification of the trees, canopy measurements, height measurements, GPS survey, and also Questionnaire survey with the local people to understand the level of perception on the importance of biodiversity, their involvement in the biodiversity conservation measures, rearing of animals, bird survey, etc. Park Circus market was also surveyed to identify the nature and sources of biotic commodities (Living/ nonliving) sold every day in the markets.

General aspects (express in statements)

1.19.1 Campus cleanliness

CAMPUS CLEANLINESS

The essential daily campus cleaning includes, sweeping and mopping all surfaces of rooms and buildings throughout campus leaning is important for the health and safety. Besides, the open space and garden premise is also cleaned regularly. The College has appointed both permanent and casual staffs for the purpose.

Besides, our NSS team often takes up cleaning programmes that includes both students and teaching staffs. Maintaining a clean college environment sets a good example to students, as cleanliness is godliness. It encourages learners to take pride in their institutions, which makes them less likely to drop litter, and

maintain a pollution free environment. Further, cleanliness is important for prevention of water borne and air borne disease causing germs. In cleaner campus, staff and students are able to enjoy a comfortable and healthy learning environment, with improved hygiene level.



Students of NSS cleaning the Campus

1.19.2 Rainwater harvesting

RAIN WATER HARVESTING UNIT

Lady Brabourne College not only provides a clean and green environment to the students but also tries to sensitize them towards the need for a pollution free environment. The College has undertaken a project for Rain Water Harvesting in collaboration with 'State Water Investigation Directorate, West Bengal'. With the initiative of the Department of Botany, the Project of Rs. 43 lakh in collaboration with State Water Investigation Directorate, Govt. of West Bengal has been successfully completed.

This project involves a roof-top rain water harvesting scheme for artificial recharge of ground water in the College campus. The main objective of this project is to increase the ground water reserve and reduce arsenic and salinity in the ground water through dilution. Rain water is collected from the rooftop of the College and Hostel buildings with the help of gutters and downspouts. These downspouts are channelized to lead the collected rain water up to a filter bed. The rain water is filtered and recharged to the nearest aquifer thereafter through a newly constructed bore well.

Rainwater harvesting and artificial recharge is the most suitable alternative to combat water scarcity.

- This has enabled the capturing, diverting, and storing of rainwater for later use.
- It has reduced demand on existing water supply, and has reduced run-off, erosion, and contamination of surface water.
- The harvested rainwater can be used for nearly any purpose that requires water like gardening, etc.



The Rain Water Harvesting Unit



The Foundation stone of the Unit

1.19.3 Solar street lamps

SOLAR ENERGY HARVESTING SYSTEM TO MAKE THE COLLEGE CAMPUS ECOFRIENDLY

Solar Power Project Implementation in Collaboration with WBREDA (West Bengal Renewable Energy Development Agency, Govt. of West Bengal) is a Green energy Initiative of the College

- Lady Brabourne College has taken up a project to make a humble beginning in utilizing nature's gift of solar energy in meeting ever increasing demand of electricity to some extent. Under this project, in February, 2016, solar panels of 1kWp capacity had been installed on the roof top of the main building at the college campus. The solar energy thus produced is used for outdoor lighting of our campus as well as to run various electrical and electronics laboratories.

The Impact: Lady Brabourne College has taken up this project to make a humble beginning in utilizing nature's gift of solar energy in meeting ever increasing demand of electricity to some extent. The advantages of solar power have been as follows:

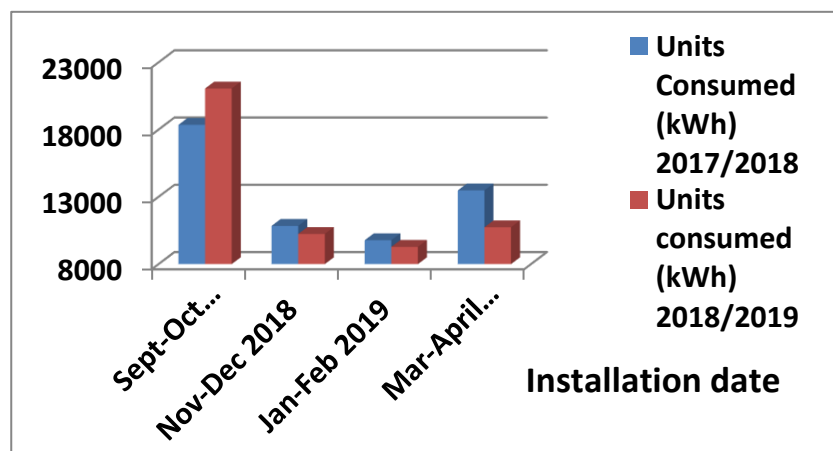
- ✓ Renewable energy source
 - ✓ Reduced Electricity bills
 - ✓ Diverse applications
 - ✓ Low maintenance cost
 - ✓ Technology Development
 - ✓ Energy production during peak hours
 - ✓ Applicable everywhere
 - ✓ Improves grid security
- In October, 2018, a Grid Connected Rooftop Solar Photovoltaic system (GRTSPV) having capacity 17.5 kWp was installed using the fund received under CPE phase II scheme. This project has been implemented in the college under the active supervision of Department of Physics. The Grid Connected Rooftop Solar Photovoltaic System with capacity 17.5 kWp has been connected to an existing electricity line having maximum power consumption in the college.

Impact: The system is running successfully for the last ten months and the electricity bill for that particular meter has been reduced significantly compared to that of the corresponding time period in the previous year. In this context it may also be pointed out that so far our Renewable Energy Source i.e. Solar Photovoltaic system has met 6% of the total power requirement of our College.

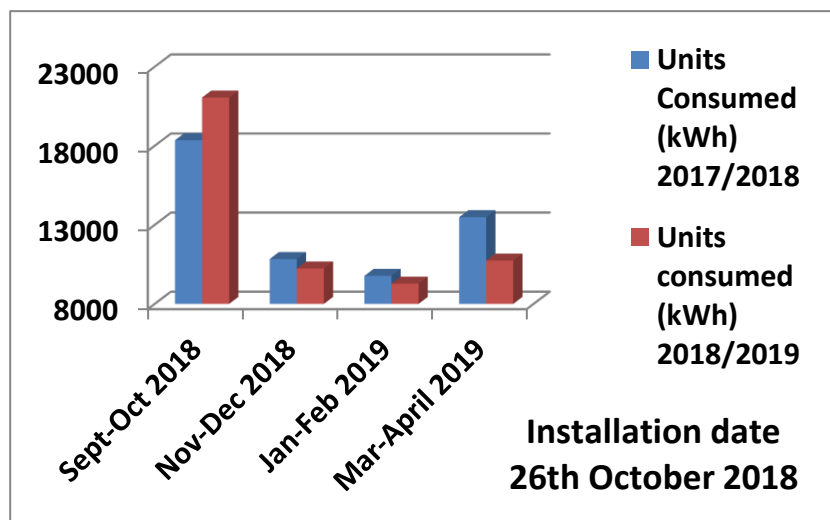


The Solar Panels on the Roof Top of the College Building

SIGNIFICANT FALL IN UNITS CONSUMED (in KWH) AS PER CESC BILL



SIGNIFICANT FALL IN UNITS CONSUMED (in KWH) AS PER CESC BILL



Environmental Consciousness and Sustainability

Alternate Energy initiatives such as: Solar Power: Period of Study: September 2018 to May 2019
Percentage of annual power requirement of the Institution met by the renewable energy sources

Power requirement met by renewable energy sources	Total power requirement	Renewable energy source	Renewable energy generated and used	Energy supplied to the grid
10,195 kWh	1,71,123 kWh	Solar Panel of 17.5 kWp	10,195 kWh	NIL

- Total Power Requirement during the Period September 2018 to May 2019: **1,71,123 kWh**
- Power Requirement met by Renewable Energy Sources (Solar Panel of 17.5 kWp): **10195 kWh**
- Percentage of Power Requirement of the Institution met by the Renewable Energy Sources: **5.96%**

1.19.4 Carbon dioxide neutrality on the campus by developing greenery

DEVELOPING GREENERY IN THE COLLEGE CAMPUS

Green Initiative: As the College and Hostel premises are spread over a large open space, it has been traditionally endowed with commendable number of trees including fruit trees, flowering plants and also bushy shrubs.

Trees mitigate urban environmental pressures. Plants release oxygen, absorb carbon dioxide, improve health, offer shade and also add beauty to the landscape. Most importantly these provide natural habitat, for plants and animals hence increase biodiversity of an area. Thus, trees provide a number of ecosystem goods and services. Green spaces reduce pollution and are recluse for relaxation. Maintaining greenery keeps the environment cool, maintains microclimate of this part and increase the aesthetic values of the campus. Planting trees is thus ethically justified. The integration of buildings into vegetation has become a necessity in the metropolitan areas.

- Afforestation programmes are undertaken by the College authorities to increase greenery annually.
- The alumni association maintains a part of the garden area for flowering plants.
- Besides, the College organizes several events such as Bonomahatsab during the onset of monsoon and World Environmental Day, on 5th June every year as plantation programme.
- Moreover, several NGOS and organizations such as SBI, Kolkata Police and Pollution Control Board have participated in plantation programmes, several times in the campus.

1. CELEBRATION OF BAN MAHOTSAV AT THE LADY BRABOURNE COLLEGE CAMPUS

Ban Mahotsav or Forest Festival, is an annual one week tree planting festival in India which is celebrated during the monsoon. It was started in the year 1950 by Kanaiyalal Maneklal Munshi by planting a tree at Rajghat, Delhi. By developing love towards plants and trees among the children, he was hopeful of having a green future. Besides, this is to encourage the general mass to support afforestation and increase forest cover in India.

Lady Brabourne College has a long history of celebrating Banamahatsab during the month of June each year, after the onset of monsoon.

The Principal of the institution, generally plant trees and saplings assisted by the Teachers Council Secretary, members of the Garden Committee and the event usually includes the participation of teachers, students and even office staffs. During the plantation programme, the students usually sing from Tagore's composition who has popularized this concept in Bengal. The songs are "Eso Shyamal sundar and 'Moru bijayer ketanorao'. Other cultural programmes also follow. Trees which were planted in the past have now grown to full bloom.

PLANTATION PROGRAMMES FROM 2016 -2019
BONOMAHATSAB CELEBRATED IN LADY BRABOURNE COLLEGE



BONOMAHATSAB ON 21.6.2016



BONOMAHATSAB ON 29.6.2017



BONOMAHATSAB ON 20.6.2018



BONOMAHATSAB ON 24.6.2019

2. PLANTATION PROGRAMME DURING ANNUAL FUNCTION



FLOWERING PLANTS PLANTED DURING ANNUAL FUNCTIONS ON 16.12.2016



FLOWERING PLANTS PLANTED DURING ANNUAL FUNCTIONS ON 15.12.2017



FLOWERING PLANTS PLANTED DURING ANNUAL FUNCTIONS ON 20.12.2018



FLOWERING PLANTS PLANTED DURING ANNUAL FUNCTIONS ON 23.12.2019

1.19.7 Man-made nest to attract some birds to maintain ecological balance

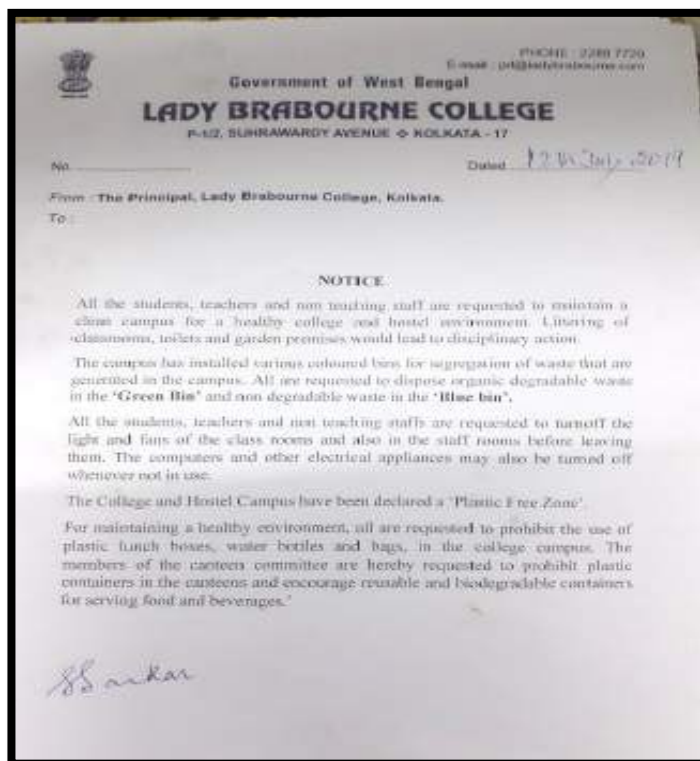
EARTHEN POTS AND BOXES HAVE BEEN HUNG ON TREE BRANCHES WITHIN CLUSTER OF LEAVES AS NESTING SITES.



1.19.8 Restriction in use of plastic and plastic products

The College and Hostel Campus have been declared a '**PLASTIC FREE ZONE**'.

For maintaining a healthy environment all are requested to prohibit the use of plastic items such as lunch boxes, water bottles and bags, in the College campus. The members of the canteen committee have been requested to prohibit plastic containers in the canteens and encourage reusable and biodegradable containers for serving food and beverages.



Placards have been put up at several places in the College Campus

1.19.9. Culture of some ducks, swans etc., for scenic beauty in pond or any water body resources (if available).

NA

1.19.10. Green monitoring by green committee/volunteers/team.

GREEN MONITORING

- Student volunteers of the Eco Club ensure that all the electric switches and appliances are switched off after the class.
- They monitor whether the students' litter around the college premise.
- They ensure the College Campus is Clean and Green.
- They ensure the College is a PLASTIC FREE ZONE.
- They also take care of the campus plants.
- They also help the teaching faculties in organizing awareness programmes.

1.19.11 Training on vermicomposting

TRAINING PROGRAM ON VERMICOMPOSTING

Date: 4.1.2020

Resource persons: Dr. Anwesa Chaudhuri, Assistant Professor, Dept. of Zoology, Lady Brabourne College

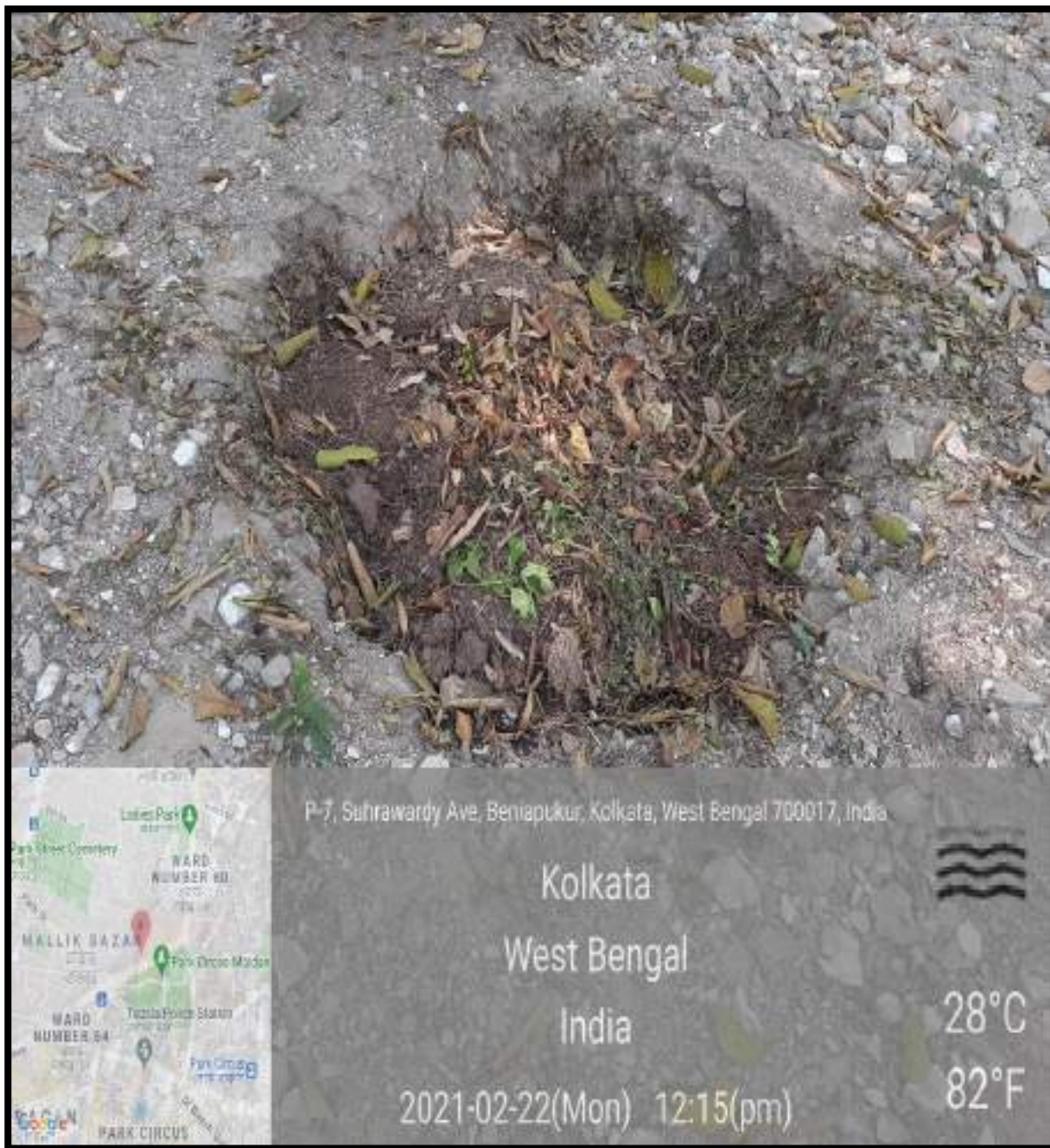
Topic: Vermicomposting

A training program was organized for the Laboratory Assistant of Department of Zoology on vermicomposting which has been incorporated as part of M.Sc. syllabus. Mr. Asish Majumdar and Subhas Das attended the training program as part of the DBT-STAR program.



Dr. Anwesa Chaudhuri training the non-teaching staff

Vermicompost Pit have been excavated at the backward of the Hostel premise. Fallen leaves of College Garden trees and kichen waste are dumped and used for vermicomposting.

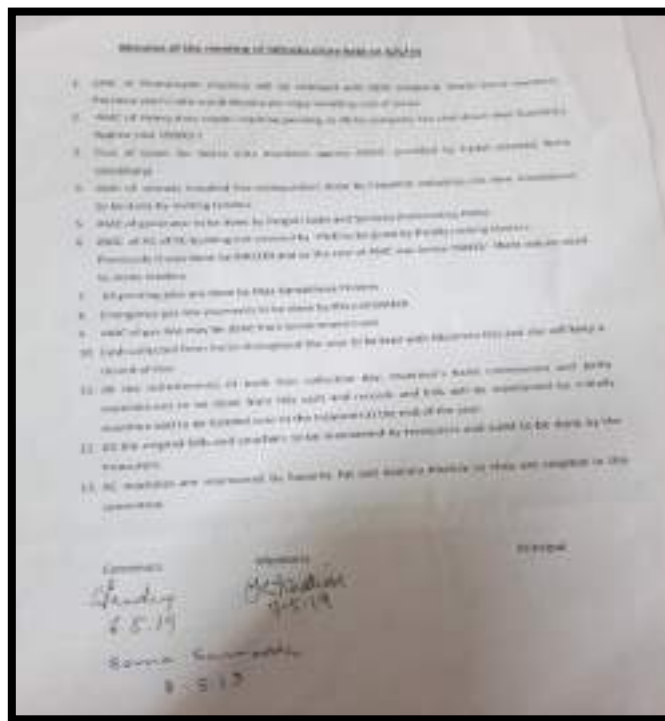
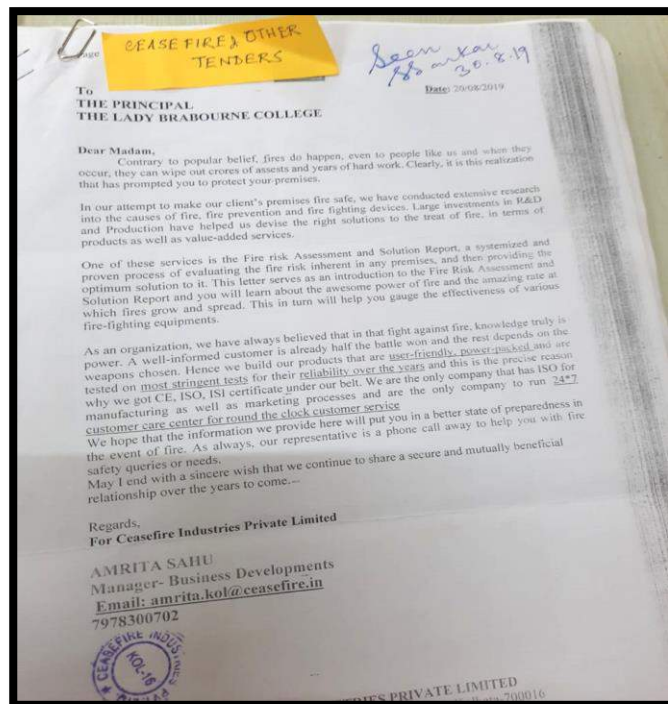


Vermicomposting Pit in the Hostel Campus

1.19.12 Celebration of 'No vehicle Day' on a particular day	To be implemented (as per resolution)
1.19.13. Dams inside the campus to meet the demand for water	NA

Fire extinguishers have been installed in different parts of the College building and Hostel on all floors

DOCUMENTS RELATED TO PURCHASE AND MAINTANCE OF FIRE SAFETY APPARATUS



STRA	LOCATION	MOIST	GR	WR	STRE	SURF
1	Gravel Near Auditorium Lobby	AC 10000	49	1	36	10-11
2	Gravel Near Auditorium Lobby	AC 10000	71	1	37	10-12
3	Gravel Near Auditorium Lobby	AC 10000	49	1	34	10-13
4	Gravel Near Auditorium Lobby	AC 10000	49	1	35	10-14
5	Gravel Near Auditorium Lobby	AC 10000	49	1	36	10-15
6	Gravel Near Auditorium Lobby	AC 10000	49	1	37	10-16
7	Gravel Near Auditorium Lobby	AC 10000	49	1	38	10-17
8	Gravel Near Auditorium Lobby	AC 10000	49	1	39	10-18
9	Gravel Near Auditorium Lobby	AC 10000	49	1	40	10-19
10	Gravel Near Auditorium Lobby	AC 10000	49	1	41	10-20
11	Gravel Near Auditorium Lobby	AC 10000	49	1	42	10-21
12	Gravel Near Auditorium Lobby	AC 10000	49	1	43	10-22
13	Gravel Near Auditorium Lobby	AC 10000	49	1	44	10-23
14	Gravel Near Auditorium Lobby	AC 10000	49	1	45	10-24
15	Gravel Near Auditorium Lobby	AC 10000	49	1	46	10-25
16	Gravel Near Auditorium Lobby	AC 10000	49	1	47	10-26
17	Gravel Near Auditorium Lobby	AC 10000	49	1	48	10-27
18	Gravel Near Auditorium Lobby	AC 10000	49	1	49	10-28
19	Gravel Near Auditorium Lobby	AC 10000	49	1	50	10-29
20	Gravel Near Auditorium Lobby	AC 10000	49	1	51	10-30
21	Gravel Near Auditorium Lobby	AC 10000	49	1	52	10-31
22	Gravel Near Auditorium Lobby	AC 10000	49	1	53	10-32
23	Gravel Near Auditorium Lobby	AC 10000	49	1	54	10-33
24	Gravel Near Auditorium Lobby	AC 10000	49	1	55	10-34
25	Gravel Near Auditorium Lobby	AC 10000	49	1	56	10-35
26	Gravel Near Auditorium Lobby	AC 10000	49	1	57	10-36
27	Gravel Near Auditorium Lobby	AC 10000	49	1	58	10-37
28	Gravel Near Auditorium Lobby	AC 10000	49	1	59	10-38
29	Gravel Near Auditorium Lobby	AC 10000	49	1	60	10-39
30	Gravel Near Auditorium Lobby	AC 10000	49	1	61	10-40
31	Gravel Near Auditorium Lobby	AC 10000	49	1	62	10-41
32	Gravel Near Auditorium Lobby	AC 10000	49	1	63	10-42
33	Gravel Near Auditorium Lobby	AC 10000	49	1	64	10-43
34	Gravel Near Auditorium Lobby	AC 10000	49	1	65	10-44
35	Gravel Near Auditorium Lobby	AC 10000	49	1	66	10-45
36	Gravel Near Auditorium Lobby	AC 10000	49	1	67	10-46
37	Gravel Near Auditorium Lobby	AC 10000	49	1	68	10-47
38	Gravel Near Auditorium Lobby	AC 10000	49	1	69	10-48
39	Gravel Near Auditorium Lobby	AC 10000	49	1	70	10-49
40	Gravel Near Auditorium Lobby	AC 10000	49	1	71	10-50
41	Gravel Near Auditorium Lobby	AC 10000	49	1	72	10-51
42	Gravel Near Auditorium Lobby	AC 10000	49	1	73	10-52
43	Gravel Near Auditorium Lobby	AC 10000	49	1	74	10-53
44	Gravel Near Auditorium Lobby	AC 10000	49	1	75	10-54
45	Gravel Near Auditorium Lobby	AC 10000	49	1	76	10-55
46	Gravel Near Auditorium Lobby	AC 10000	49	1	77	10-56
47	Gravel Near Auditorium Lobby	AC 10000	49	1	78	10-57
48	Gravel Near Auditorium Lobby	AC 10000	49	1	79	10-58
49	Gravel Near Auditorium Lobby	AC 10000	49	1	80	10-59
50	Gravel Near Auditorium Lobby	AC 10000	49	1	81	10-60
51	Gravel Near Auditorium Lobby	AC 10000	49	1	82	10-61
52	Gravel Near Auditorium Lobby	AC 10000	49	1	83	10-62
53	Gravel Near Auditorium Lobby	AC 10000	49	1	84	10-63
54	Gravel Near Auditorium Lobby	AC 10000	49	1	85	10-64
55	Gravel Near Auditorium Lobby	AC 10000	49	1	86	10-65
56	Gravel Near Auditorium Lobby	AC 10000	49	1	87	10-66
57	Gravel Near Auditorium Lobby	AC 10000	49	1	88	10-67
58	Gravel Near Auditorium Lobby	AC 10000	49	1	89	10-68
59	Gravel Near Auditorium Lobby	AC 10000	49	1	90	10-69
60	Gravel Near Auditorium Lobby	AC 10000	49	1	91	10-70
61	Gravel Near Auditorium Lobby	AC 10000	49	1	92	10-71
62	Gravel Near Auditorium Lobby	AC 10000	49	1	93	10-72
63	Gravel Near Auditorium Lobby	AC 10000	49	1	94	10-73
64	Gravel Near Auditorium Lobby	AC 10000	49	1	95	10-74
65	Gravel Near Auditorium Lobby	AC 10000	49	1	96	10-75
66	Gravel Near Auditorium Lobby	AC 10000	49	1	97	10-76
67	Gravel Near Auditorium Lobby	AC 10000	49	1	98	10-77
68	Gravel Near Auditorium Lobby	AC 10000	49	1	99	10-78
69	Gravel Near Auditorium Lobby	AC 10000	49	1	100	10-79
70	Gravel Near Auditorium Lobby	AC 10000	49	1	101	10-80
71	Gravel Near Auditorium Lobby	AC 10000	49	1	102	10-81
72	Gravel Near Auditorium Lobby	AC 10000	49	1	103	10-82
73	Gravel Near Auditorium Lobby	AC 10000	49	1	104	10-83
74	Gravel Near Auditorium Lobby	AC 10000	49	1	105	10-84
75	Gravel Near Auditorium Lobby	AC 10000	49	1	106	10-85
76	Gravel Near Auditorium Lobby	AC 10000	49	1	107	10-86
77	Gravel Near Auditorium Lobby	AC 10000	49	1	108	10-87
78	Gravel Near Auditorium Lobby	AC 10000	49	1	109	10-88
79	Gravel Near Auditorium Lobby	AC 10000	49	1	110	10-89
80	Gravel Near Auditorium Lobby	AC 10000	49	1	111	10-90
81	Gravel Near Auditorium Lobby	AC 10000	49	1	112	10-91
82	Gravel Near Auditorium Lobby	AC 10000	49	1	113	10-92
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85	Gravel Near Auditorium Lobby	AC 10000	49	1	116	10-95
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92	Gravel Near Auditorium Lobby	AC 10000	49	1	123	10-102
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111	Gravel Near Auditorium Lobby	AC 10000	49	1	142	10-121
112	Gravel Near Auditorium Lobby	AC 10000	49	1	143	10-122
113	Gravel Near Auditorium Lobby	AC 10000	49	1	144	10-123
114	Gravel Near Auditorium Lobby	AC 10000	49	1	145	10-124
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118	Gravel Near Auditorium Lobby	AC 10000	49	1	149	10-128
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120	Gravel Near Auditorium Lobby	AC 10000	49	1	151	10-130
121	Gravel Near Auditorium Lobby	AC 10000	49	1	152	10-131
122	Gravel Near Auditorium Lobby	AC 10000	49	1	153	10-132
123	Gravel Near Auditorium Lobby	AC 10000	49	1	154	10-133
124	Gravel Near Auditorium Lobby	AC 10000	49	1	155	10-134
125	Gravel Near Auditorium Lobby	AC 10000	49	1	156	10-135
126	Gravel Near Auditorium Lobby	AC 10000	49	1	157	10-136
127	Gravel Near Auditorium Lobby	AC 10000	49	1	158	10-137
128	Gravel Near Auditorium Lobby	AC 10000	49	1	159	10-138
129	Gravel Near Auditorium Lobby	AC 10000	49	1	160	10-139
130	Gravel Near Auditorium Lobby	AC 10000	49	1	161	10-140
131	Gravel Near Auditorium Lobby	AC 10000	49	1	162	10-141
132	Gravel Near Auditorium Lobby	AC 10000	49	1	163	10-142
133	Gravel Near Auditorium Lobby	AC 10000	49	1	164	10-143
134	Gravel Near Auditorium Lobby	AC 10000	49	1	165	10-144
135	Gravel Near Auditorium Lobby	AC 10000	49	1	166	10-145
136	Gravel Near Auditorium Lobby	AC 10000	49	1	167	10-146
137	Gravel Near Auditorium Lobby	AC 10000	49	1	168	10-147
138	Gravel Near Auditorium Lobby	AC 10000	49	1	169	10-148
139	Gravel Near Auditorium Lobby	AC 10000	49	1	170	10-149
140	Gravel Near Auditorium Lobby	AC 10000	49	1	171	10-150
141	Gravel Near Auditorium Lobby	AC 10000	49	1	172	10-151
142	Gravel Near Auditorium Lobby	AC 10000	49	1	173	10-152
143	Gravel Near Auditorium Lobby	AC 10000	49	1	174	10-153
144	Gravel Near Auditorium Lobby	AC 10000	49	1	175	10-154
145	Gravel Near Auditorium Lobby	AC 10000	49	1	176	10-155
146	Gravel Near Auditorium Lobby	AC 10000	49	1	177	10-156
147	Gravel Near Auditorium Lobby	AC 10000	49	1	178	10-157
148	Gravel Near Auditorium Lobby	AC 10000	49	1	179	10-158
149	Gravel Near Auditorium Lobby	AC 10000	49	1	180	10-159
150	Gravel Near Auditorium Lobby	AC 10000	49	1	181	10-160
151	Gravel Near Auditorium Lobby	AC 10000	49	1	182	10-161
152	Gravel Near Auditorium Lobby	AC 10000	49	1	183	10-162
153	Gravel Near Auditorium Lobby	AC 10000	49	1	184	10-163
154	Gravel Near Auditorium Lobby	AC 10000	49	1	185	10-164
155	Gravel Near Auditorium Lobby	AC 10000	49	1	186	10-165
156	Gravel Near Auditorium Lobby	AC 10000	49	1	187	10-166
157	Gravel Near Auditorium Lobby	AC 10000	49	1	188	10-167
158	Gravel Near Auditorium Lobby	AC 10000	49	1	189	10-168
159	Gravel Near Auditorium Lobby	AC 10000	49	1	190	10-169
160	Gravel Near Auditorium Lobby	AC 10000	49	1	191	10-170
161	Gravel Near Auditorium Lobby	AC 10000	49	1	192	10-171
162	Gravel Near Auditorium Lobby	AC 10000	49	1	193	10-172
163	Gravel Near Auditorium Lobby	AC 10000	49	1	194	10-173
164	Gravel Near Auditorium Lobby	AC 10000	49	1	195	10-174
165	Gravel Near Auditorium Lobby	AC 10000	49	1	196	10-175
166	Gravel Near Auditorium Lobby	AC 10000	49	1	197	10-176
167	Gravel Near Auditorium Lobby	AC 10000	49	1	198	10-177
168	Gravel Near Auditorium Lobby	AC 10000	49	1	199	10-178
169	Gravel Near Auditorium Lobby	AC 10000	49	1	200	10-179
170	Gravel Near Auditorium Lobby	AC 10000	49	1	201	10-180
171	Gravel Near Auditorium Lobby	AC 10000	49	1	202	10-181
172	Gravel Near Auditorium Lobby	AC 10000	49	1	203	10-182
173	Gravel Near Auditorium Lobby	AC 10000	49	1	204	10-183
174	Gravel Near Auditorium Lobby	AC 10000	49	1	205	10-184
175	Gravel Near Auditorium Lobby	AC 10000	49	1	206	10-185
176	Gravel Near Auditorium Lobby	AC 10000	49	1	207	10-186
177	Gravel Near Auditorium Lobby	AC 10000	49	1	208	10-187
178	Gravel Near Auditorium Lobby	AC 10000	49	1	209	10-188
179	Gravel Near Auditorium Lobby	AC 10000	49	1	210	10-189
180	Gravel Near Auditorium Lobby	AC 10000	49	1	211	10-190
181	Gravel Near Auditorium Lobby	AC 10000	49	1	212	10-191
182	Gravel Near Auditorium Lobby	AC 10000	49	1	213	10-192
183	Gravel Near Auditorium Lobby	AC 10000	49	1	214	10-193
184	Gravel Near Auditorium Lobby	AC 10000	49	1	215	10-194
185	Gravel Near Auditorium Lobby	AC 10000	49	1	216	10-195

GOVERNMENT OF WEST BENGAL.

Office of the Principal, Lady Brabourne College
P-12, SUHRAWARDY AVENUE,
KOLKATA - 700 017

No. SS415/ES/OFF/18 Dt. 30.7.2018

To: Messrs. Ceate Fire Industries Limited
Plot. No. KB 22, Bhadrakrishna 3rd Floor,
Salt Lake City, Sector 3, K-1-78

Sir,

I have the honour to request you to be so good as to supply the following articles immediately. Bills in triplicate may please be sent to this Office along with signed challan. Separate bill should be submitted for separate orders.

Yours faithfully,
Principal
LADY BRABOURNE COLLEGE
Govt. of West Bengal
Kolkata-17

Received through 31/07/2018

31/07/2018

Particulars	Rate	Amount	Remarks
1. ABC (MAP 90) Power type weight: 4 kg	7500.00	18	1,59,300.00
2. ABC (MAP 90) Power type weight: 2 kg	5400.00	14	89,208.00
3. Clean Agent (HCFC) weight: 2 kg	15600.00	02	3,6816.00
4. ABC (MAP 90) Power type coiling mounted weight: 5 kg	9300.00	04	43896.00
After buyback & discount			3,23,220
			2,38,419/-

FIRE DRILL AND TRAINING ON FIRE SAFETY APPARATUS FOR THE COLLEGE STAFF



1.19.15 Toilets/separate toilets for differently abled students

Administrative Approval for the two Toilet Units for Physically Challenged Students within Lady Brabourne College, Kolkata

Secretary, Government of West Bengal,
Higher Education Department

Sl. No. BA-11/2020-2021/1000
Date: 10.11.2020

To, Assistant Secretary,
Higher Education,
Government of West Bengal,
Kolkata

Subject: Request for approval for the two toilet units for physically challenged students in the building of Lady Brabourne College, Kolkata for the academic year 2020-21.

The undersigned is pleased to inform that the Government of West Bengal has decided to provide separate toilet units for physically challenged students in the building of Lady Brabourne College, Kolkata for the academic year 2020-21. The Government of West Bengal has decided to provide separate toilet units for physically challenged students in the building of Lady Brabourne College, Kolkata for the academic year 2020-21.

For and on behalf of the Government of West Bengal,
Secretary, Government of West Bengal,
Higher Education Department

For and on behalf of the Government of West Bengal,
Assistant Secretary, Government of West Bengal,
Higher Education Department

For and on behalf of the Government of West Bengal,
Assistant Secretary, Government of West Bengal,
Higher Education Department

Sl. No.	Project Name	Project Type	Project Status	Project Amount
1	Two Toilet Units for Physically Challenged Students in the Building of Lady Brabourne College, Kolkata for the academic year 2020-21.	Sanitation	Completed	₹ 10,00,000.00
Total				



TOILET FOR THE DIFFERENTLY ABLED

1.20 Over all noise level

Sl. No.	Inside campus area	Outside campus	Class room	Lawn	Office	Laboratory	Canteen
1	Low	High	Very low	Medium	Low	Very low	Very low

A belt of trees along the boundary wall of the college campus have significantly reduced highway noise. Reduction of the sound volume within the college campus leads to a quiet and peaceful environment.

1.21 Is there any device (preferably HVS: High Volume Sampler) for measuring ambient air quality in the campus (if so, pl mention the data month wise): "yes", "no" and "not applicable"

The College has applied to the Beniapur Police Station for a 'NO HORN ZONE' near the College premise

REQUEST FOR NO HORN ZONE AND NO PARKING IN FRONT OF COLLEGE GATE.

LADY BRABOURNE COLLEGE
P-1/2, SUHRAWARDY AVENUE ♦ KOLKATA - 17

No. 805/19/Police/19 Dated 6-9-19

From : The Principal, Lady Brabourne College, Kolkata.
To : The Officer-in-Charge
Beniapukur Police Station
Kolkata

06.09.2019

Sub: Request to notify Suhrawardy Avenue from Lady Brabourne College to Calcutta National Medical College & Hospital a 'NO HORN ZONE' and the stretch in front of the boundary wall of the College a 'NO PARKING ZONE'.

Sir,

This is to draw your kind attention to the fact that the frequent, and at times incessant, honking of horns by vehicles passing along the extremely busy road, Suhrawardy Avenue, gravely hampers teaching-learning during class hours to the extent that at times, holding classes becomes next to impossible because of the deafening noise, not to mention the amount of sound pollution it causes.

As the campus of the College extends right upto Gorachand Road, I would therefore, earnestly request you to please notify the stretch from Lady Brabourne College to Calcutta National Medical College & Hospital a 'NO HORN ZONE'.

In this context, I would further appeal to you to make the stretch of Suhrawardy Avenue in front of the College a 'NO PARKING ZONE' as parking by both heavy and light vehicles obstructs the view of the College gate for drivers entering the premises with teachers, guest teachers and at times, dignitaries. The parked vehicles also obstruct the view of the paintings on the College wall put up by Kolkata Police as a part of their laudable 'Clean Campus, Green Campus' initiative.


Moreover, posters are being pasted on the painted boundary wall by unknown persons, thereby defeating the very purpose of the said 'Clean Campus, Green Campus' drive. Under the circumstances, I shall be grateful if preventive steps are taken to stop defacing of the boundary wall and protect the wall paintings.

Thanking you in anticipation,

Yours Sincerely,

S. S. Sarkar
6.9.19

(Prof. Subi Sarkar)
Principal
Lady Brabourne College



2. WATER MANAGEMENT

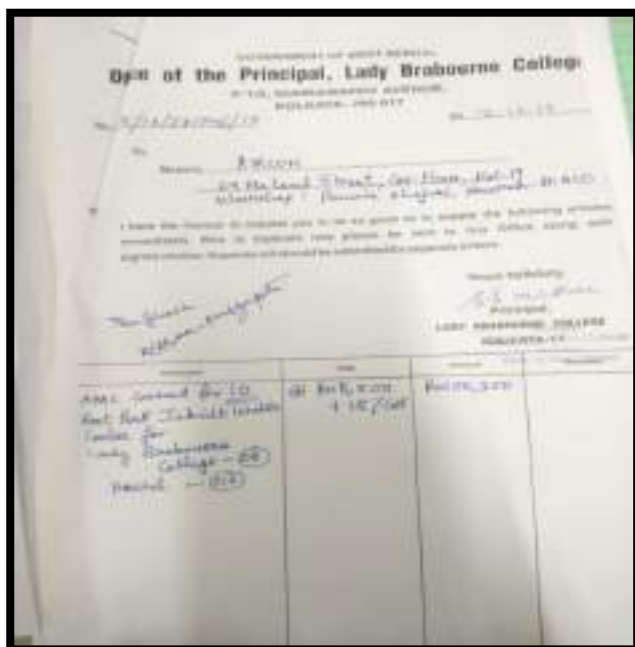
2.1 Whether college has an efficient and hygiene water storage mechanism to minimize the loss of water during storage:

Yes

2.2 Whether college is using water filter with RO, Aqua Guard and/or large water filter with cooler at the strategic locations in the college. If so, are they under AMC:

Yes

DOCUMENTS RELATED TO PURCHASE AND MAINTAINCE OF AQUAGAURD



UNIQUE SERVICE CENTRES
FOR SERVICE TRUST & AFFORDABILITY

INVOICE / UM CONTRACT RECEIPT
For Service Contract (All Water Filters)

Contact Number No. **323**
School **Bengal (Mains)**
Customer Name **Lady B. College** Date **11/11/19**
Address **P.O. S. Fingard** Unit ID No.
Pin **721012** Phone Customer Code
Specified units/Block of Rs. **1000/-** (Payable **the Husband only**)

Water Charge No. _____ Dated _____ Discharge on _____
Bring the service contract (receipt) for 1/2
year(s) for the above water purifier.
This service contract will be valid for the period From **2013** To **1919**

For UNIQUE SERVICE CENTRES

Customer's Acceptance
I/We agree to the terms and conditions of the service contract - Mentioned overleaf of the receipt

Date: **11/11/19**
Customer's Copy _____ Customer's Signature _____

23, Gerfa Manasata Road, Kolkata - 700 075
Phone : 2484 2568, 98310 88903

CONSERVATION AND SUSTAINABLE USE OF WATER IN THE COLLEGE CAMPUS

2.4 Is there any rainwater harvesting unit in college: "yes", "no" and "not applicable" (if so, what are the uses of this water):

Yes

RAIN WATER HARVESTING UNIT

The College has undertaken a project for Rain Water Harvesting in collaboration with 'State Water Investigation Directorate, West Bengal'. With the initiative of the Department of Botany, the Project of Rs. 43 lakh in collaboration with State Water Investigation Directorate, Govt. of West Bengal has been successfully completed.

This project involves a roof-top rain water harvesting scheme for artificial recharge of ground water in the College campus. The main objective of this project is to increase the ground water reserve and reduce arsenic and salinity in the ground water through dilution. Rain water is collected from the rooftop of the College and Hostel buildings with the help of gutters and downspouts. These downspouts are channelized to lead the collected rain water up to a filter bed. The rain water is filtered and recharged to the nearest aquifer thereafter through a newly constructed bore well.



The Rain Water Harvesting Unit

Rain water collected is drained underground and hence used for replenishment and recharge of groundwater

2.5 Whether college has developed any reuse and recyclable of water system:

Yes

RECYCLING OF AIR CONDITIONER MACHINE CONDENSATE

Water conservation facilities by recycling water from A.C. condensate. A unique way has been employed to collect and reuse the condensate from air conditioner machines. Condensate from several air conditioners installed at the library is being effectively recycled and reused. The condensate has a drain-line and is collectively drawn into a storage tank situated at the backward of the main building of the College. The stored water is used from time to time for watering of plants in the garden.



Recycling of Condensate from Air Conditioner

2.6 Is there any scope of measurement of water quality parameters used in hostel, lab, office, canteen, tap water (if so, parameters: pH, EC, TDS etc.):

Water quality analysis of the College campus is made by the undergraduate and post graduate students as part of their practical syllabus. Moreover, workshops have been also conducted by the Departments of Chemistry and Zoology on water quality parameters.

**DEPARTMENTAL
WORKSHOP
DEPT. OF CHEMISTRY
Date: 6.2.2020**

Resource Person:

Faculty members of
the Department

Topic:

Estimation of DO, BOD
in the water samples
collected from
different locations
through some
physicochemical
techniques



**DEPARTMENTAL
WORKSHOP
DEPT. OF ZOOLOGY
Date: 25.9.2018**

Resource Person:

Faculty members of the
Department

Topic:

Water Quality Analysis



2.7 Lab-wise water consumption (lt/d):**Amount of Water drawn in the Overhead Tanks**

Sl. No.	Building	Number of overhead tanks	Capacity of each overhead tank	Number of times water drawn per day	Shared by Departments	Volume of water drawn
1	Main Building	16	2000lites	2	UG, PG Microbiology, UG, PG Botany, Arts, UG, PG Geography,UG Chemistry Lab Staff room , Office	32000 litres
2	New Science Building	4	2000lites	2	UG, PG Zoology, Arts departments,	8000 litres
3	RC Building	2	5000 lites	1	PGLAB Chemistry, Arts departments	10,000 litres

Volume of Water used by the Students in the Laboratories

Sl. No.	Building	Number of tanks	Number of Students	Water used by per student in the Practical class. L/Day	Total amount of water used per day L/Day	Volume of water drawn
1	Main building	UG, PG GEOGRAPHY	120	1L/Day	120L/Day	32,000 litres
	Main building	UG, PG BOTANY	105	1L/Day	105L/Day	
	Main building	UG CHEMISTRY LAB	80	1.5L/Day	120L/Day	
2	New science building	UG, PG ZOOLOGY	105	1L/Day	105L/Day	8,000 Litres
3	RC Building	PG CHEMISTRY LAB	30	1.51L/Day	45L/Day	10,000 litres

2.8 Whether college has sufficient/adequate drainage system:

Yes

3. ENERGY CONSERVATION

3.1 Reduction of energy consumptions, especially fossil fuel energy

3.1.1 Total electric consumption amount
KWH/Yr Units- consumed in 1 YEAR

76,728 KWH/Yr

3.1.2 Average electrical consumption in a month ...
Unit consumed in 1 month-

6394 Units

EXPENDITURE OF ELECTRIC CONSUMPTION IN LADY BRABOURNE COLLEGE IN 2020

Units Consumed per Month	Units Consumed per Year	Expenditure per Month	Expenditure per Year
6394	6394 X 12 = 76728	Rs. 65,556	Rs. 65,556 x 12 = Rs. 7,86,672

S. S. Sankar
Principal
Lady Brabourne College
Kolkata



Electric Bill of the College

3.1.3 Total No. of	
i) LED	570 TUBE + 47 LED BULB
ii) CFL	6
iii) Tube lights	211
iv) Incandescent lamps	-
v) Fans	338
vi) Air conditioners/Air Coolers	99

TOTAL NUMBER OF LED, CFL, TUBE LIGHTS, INCANDESCENT LAMPS, FANS AND AIR CONDITIONERS/AIR COOLERS IN THE DIFFERENT ROOMS OF THE COLLEGE.

Dept.	Led Double FittingTube	Led Single Fitting Tube	Normal Tube Light	Fans	A.C	LED Bulb	CFL Lamp	Exhaust	TL.5 Tube
Statistics Staff Room			4 Double Fitting (36 Watt)	6 (wall Bracket)	2 (1.5 Ton)				
3 rd Floor Room 75A	3 (20 Watt)	1 (20 Watt)		3 Old	1 (2 Ton)				
3 rd Floor Room 76	3 (20 watt)			2 (Old)	1 (2 Ton)				
3 rd Floor Room 76B	2 (20 watt)			1 (Old)	1 (2 Ton)				
Statistics Lab	4 (20 Watt)			6 (Wall Bracket)	2 (2 Ton)				
Statistics Computer Lab			3 Double Fittings (36 Watt)	2 (Old)	2 (1.5 Ton)				1 Double (28 watt)
Room No. 66	4 (20 Watt)	2 (20 Watt)		5 (New)					
Room No. 67	4 (20 Watt)	2 (20 Watt)		5 (New)					
Room No. 68	4 (20 Watt)	2 (20 Watt)		5 (New)					
Physics Computer Lab.	4 (20 Watt)	2 (20 Watt)		5 (New)	2 (1.5 Ton) - Window				
Bathroom (Ground Floor)						2 (7 watt)			
History room 41	5 (20 Watt)			5 (New)					5 Double (28wt)
Physics room 42			2 Single Fittings (36 Watt)	7 (old)					
Room 43			3 Single Fittings (36 Watt)	2 (old)					
Room 44	3 (20 Watt)			2 (old)	1 (1.5 Ton)				
Room 45	2 (20 Watt)	1 (20 Watt)		1 (old)					
Physics Work Shop			6 Double Fittings (36 Watt)	4 (old)	3 (1.5 Ton)				
C.S.I.R Research Lab					2 (1.5 Ton)		2 (20 watt)		1 Double (28wt)

Physics Store			1 Single Fittings (36 Watt)	1 (old)		1 (7 watt)			1 Double (28wt)
Workshop 46				1 (old)	1 (1.5 Ton)				1 Double (28wt)
Corridor 1st Floor	2 (20 Watt)	11 (20 Watt)							
Sanskrit Staff Room				2 (New)	1 (2 Ton)	1 (7 watt)		1 (9 Inch)	
Room No. 62	8 (20 Watt)	2 (20 Watt)		8 (New)					
Room No. 63	4 (20 Watt)	2 (20 Watt)		5 (New)					
Room No. 62	4 (20 Watt)	2 (20 Watt)		5 (New)					
Bathroom G-Fl			3 Double Fittings (36 Watt)						
Bathroom G-Fl			3 Double Fittings (36 Watt)						
Corridor G-Fl		9 (20 Watt)							
Second Floor – Hindi	5 (20wt)		7 Single Fittings (36 Watt)	6 (old)	2 (1.5 ton)	1 (11wt)			
Chemistry (II) Lab	10 (20wt)	2 (20wt)		2 (Old)				3 (18 inch)	
Chemistry (III) Lab	7 (20wt)	2 (20wt)		4 (Old)				1 (18 inch)	
Chemistry store		1 (20wt)	1 Single Fittings (36 Watt)	2 (Old)					
Chemistry Research Lab	5 (20wt)		2 Single Fittings (36 Watt)	3 (Old)	1 (1.5 ton)				
Chemistry (IV) Lab		4 (20wt)		3 (Old)	2 (1.5 ton)				
First floor – Corridor		9 (20wt)							
Second floor –Corridor		9 (20wt)							

Total Compound Lights	1 Metal Halogen (400wt)	15 (150wt)	6 (250 wt)	6 (New)					
Room 1 to 8			8 Single Fittings (36 Watt)	8 (New)					
Room 9 to 16			8 Single Fittings (36 Watt)	8 (New)					
Room 17 to 25			10 Single Fittings (36 Watt)	10 (New)					
P.G. Canteen			10 Double Fittings (36 Watt)	7 (New)				2 (9 inch)	
Bathrooms (Ground Floor)			8 Single Fittings (36 Watt)			4 (7wt)		6 (9 inch)	Water Heater 3 nos 200 wt
Room 27 to 52			18 Single Fittings (36 Watt)	26 (New)					
Common room			6 Double Fittings (36 Watt)	6 (New)					
Bathroom			4 Single Fittings (36 Watt)			7 (7wt)		6 (9 inch)	3 Water Heaters (200 wt)
Ground floor Corridor			16 Single Fittings (36 Watt) 4 Double Fittings (36 Watt)						
1st floor Corridor			16 Single Fittings (36 Watt) 4 Double Fittings (36 Watt)						

Measures taken to reduce electricity consumption

1. The architectural design of the College is based upon use of natural lighting & cross ventilation, to save extra power for bulbs and fans.

- The College is constructed on Traditional Plan which allows fresh air by cross ventilation
- Class rooms are well lit by a number of doors and door sized windows.
- Total amount of sunlight received by the class rooms is for 7 hrs

2. Switch off Drill is practiced to reduce energy usage.	
3.1.4 Whether college has any provision/choice of renewable and carbon-neutral electricity options:	No
3.1.5 Whether college has planned to install solar panels: if so, Project installed/working: Date/Month/Year)	Yes (26 th October, 2018)
3.1.6 Whether college has efficient water heating system:	No
3.1.7 Whether the staff members of all sectors are concerned in turning off electrical appliances when not in use in both commercial and residential area:	Yes
3.1.8 Is there any monitoring system – like put off the main switch where there is no need of electricity?	No
3.1.9 Whether the users follow the appropriate and measurable targets for a reduction of energy, such as, computer, printers, electrical equipment when not in use:	Yes
3.1.10 Is there any options for equipment's running on standby mode:	Yes
3.1.11 Whether college has taken initiative to purchase efficient and environmentally sound appliances in order to fulfill the green budget:	No
3.1.12 Whether college has its own mechanism in repairing of electrical fault:	Yes (College Building is maintained by PWD. An attendant for Electrical Work is always available)
3.1.13 Whether the class rooms are with sufficient illumination in day time and ventilation:	<p>Yes</p> <p>The architectural design of the College is based upon use of natural lighting & cross ventilation, to save extra power for bulbs and fans.</p> <ul style="list-style-type: none"> • The College is constructed on Traditional Plan which allows fresh air by cross ventilation • Class rooms are well lit by a number of doors and door sized windows. • Total amount of sunlight received by the class rooms is for 7 hrs
Number of lights & fans in class room (average):	
Use of light & fans in the day time (average hours):	6 hours
Number of windows per class:	AVERAGE 3
Natural light source in day time (in hours) (average per class):	6 hours

DEPARTMENTAL DOORS AND WINDOWS

Department	Room	No. of doors	No. of Windows
Botany	18A	4	-
	8B	2	4
	19	1	1
	20	1	1

	21	3	3
	Staff Room	1	1
	23	3	3
	29L	1	1
	29	1	1
	7	2	3
Bengali	RC - G - 12	1	2
	RC - G - 13	1	2
	RC - 107	1	6
Chemistry	9	2	2
	10	2	1
	11	3	3
	12	1	1
	14	1	-
	Chemistry Lab	2	4
	15	2	1
	13	2	1
	Store 2	1	-
	17	1	1
	PG Staff	3	6
	PG Lab 2	4	-
	Chem LT- 1	1	2
	Chem LT- 2	2	3
	Chem LAB III	1	-
	35	2	1
	Research Lab	1	-
	33	2	1
	30	2	2
English			
UG Seminar Library	5	2	2
UG Teaching	6	2	2
UG Teaching	57/58	Shared with other Depts	Shared with other Depts
PG Seminar Library	28-A	2	2
PG Teaching and Advanced Research Centre Cubicle	28-B	2	2
PG Staff Room and PG Records	32	1	1
Geography			
UG	3	6	6
PG	3	5	9
PG Lab	3	4	10
Scholar & ARC room	1	2	1
Hindi	CR-1	1	1
	CR 2	1	3
	CR 3	2	1

	Staff Room	1	-
History	Staff Room	1	2
	6	2	4
	9	2	61
Mathematics			
RC-3	1	2	7
RC-1/06	1	2	3
LAB	1	2	1
RC(G)5	1	2	2
Microbiology			
Room No.26	1	3	3
Room No.27	1	3	3
New wing	1	1	6
Main Lab	1	1	5
Old staff room	1	1	2
III yr Classroom	1	1	3
III yr Lab	1	1	1
PG 1 Classroom	1	1	2
PG 2 Classroom	1	1	3
Philosophy	8A	1	3
	8B	1	4
Political science	Staff Room	2	3
	67	2	6
	63	2	6
	41	2	4
Physics	42	4	4
	43	2	2
	44	1	1
	45	1	1
	46	2	1
	Work Shop	1	Sliding windows 3
	52	4	6
	51	2	2
	50	2	2
	49	1	
	48	3	4
	47	1	3
	65	2	6
	54	2	2
	55	2	4
	56	5	6
	56A	1	9
	Beside Zoology Department	1	6
	54	2	2
	55	2	4

	Sanskrit	64	1	2								
		RC-6	1	2								
	Sociology	66	2	4								
		RC	1	2								
	Statistics	Staff room	1	8								
		1	1	6								
		73	2	6								
		3	2	8								
	Women's studies	WS room	1	1								
	Persian	61A	1	2								
	Zoology	69	2	3								
		70	1	3								
		72	2	3								
		73	2	3								
		75	1	2								
		76	1	2								
		PG LAB	2	3								
	Library	Main Library	11	26								
		Library Annex	1	8								
		RC Building	3	7								
	Office	1	1	2								
		2	2	2								
	Auditorium		9	0								
	MERGED SCHEME		1	8								
	Principal Chamber		2	-								
3.1.13 How many (%) e-notice generated by the college for academic/administrative purposes in a month?			4 in one month									
3.1.14 How many (%) paper-notice generated by the college for academic/administrative purposes in a month?			40 Notices, 90.90%									
3.1.15 Total number of computer, printer, Laptop, Xerox machine.			<div>TOTAL NUMBER OF</div> <table><tr><td>Computer</td><td>366</td></tr><tr><td>Laptop</td><td>81</td></tr><tr><td>Printer</td><td>161</td></tr><tr><td>Xerox machine</td><td>3</td></tr></table>		Computer	366	Laptop	81	Printer	161	Xerox machine	3
Computer	366											
Laptop	81											
Printer	161											
Xerox machine	3											
3.1.16 Whether college has organized lectures on energy conservation in order to give awareness to the students:			Yes									
3.2 Energy conservation strategies												
3.2.1 Whether the architectural design for college is based upon use of natural lighting & ventilation, to save extra power for bulbs and fans:			Yes The College is constructed on Traditional Plan which allows cross ventilation. Class rooms have a number of doors and door sized windows that allow ample sunlight and fresh air.									

3.2.2 Whether fluorescent bulbs are replaced with CFL bulbs/LEDs:	Yes
3.3 Minimize the use of unsustainable transport	
3.3.1 What are the available/maximum transport facilities used by the staff members/students etc., - mention the number (in average per day):	Students / Staffs - Public Transport = 80%, Private Car, Used By Teachers = 20%
3.3.2 Whether college has any common car sharing/car pool among the students and faculty:	No
<u>4. WASTE MANAGEMENT</u>	
4.1 Maximization of the process of wastes & minimization of non-renewable refuse	
4.1.1 Is there any method of segregation of waste materials?	Yes
4.1.2 Total amount of solid waste generated in the campus (including tree droppings & Lawn wastes)	50 litres per day Total number of staff - AVERAGE 250 Per capita production per day - 50/250
4.1.3 Whether college arrange any workshop/seminar/conference for awaring the students/staff for specific arrangements for recyclable wastes:	Yes
4.1.4 Whether college follow specific disposal method for solid or liquid waste in specific manner:	Yes
<p>Facilities in the Institution for the management of degradable and non-degradable waste</p> <ul style="list-style-type: none"> • Solid waste management • Liquid waste management • Biomedical waste management • E-waste management • Waste recycling system • Hazardous chemicals and radioactive waste management <p>Solid waste management</p> <ul style="list-style-type: none"> • The institution has a regular, efficient and organized system of cleaning the College and Hostel premises. Besides the Govt. appointed sweepers, there are non-government part-time workers and workers from an outsourced company who regularly clean the garbage and clear the clogging in the drains of the twin premises. All kinds of solid waste is taken outside the campus and disposed of via Kolkata Municipal Corporation's garbage collection and transportation vehicle. • Broken glass wares, contaminated/uncontaminated, used in laboratories, are packed properly in rigid containers and disposed of via municipal trash. • Gloves, tissue papers, uncontaminated plastic materials are collected and disposed of to regular trash dumpster. 	

- Government of India mandates the segregation of waste at source based on their nature of degradability. Thus segregated vats have been set up for collection of assorted waste produced in the campus.
- The '**Green Bin**' collects the food-waste from college canteens and hostel kitchen besides the fallen dead leaves from the garden. These are all degradable waste, which are recycled by composting at source.
- The non-degradable waste is collected in the '**Blue Bin**' which is disposed off from time to time (**Municipal Garbage Lifting Facility**).
- The Red Bin is for the collection of Bio-medical waste generated in the Department of Microbiology.



Green Bin Blue Bin

Liquid waste management

- The Dept of Chemistry ensures that liquid wastes are drained out into specified basins where they are first diluted 5 times before running them out through the common drainage system. This ensures sufficient dilution to reduce their toxicity below LD₅₀ level.
- The Dept of Microbiology ascertains that contaminated liquid wastes are autoclaved or chemically sterilised and disposed of through sanitary sewer.



Biomedical waste management

In the Department of Microbiology, all materials which meet the definition of biohazard wastes are collected, processed and disposed of in accordance with the proper procedures which have been developed to comply with correct safety regulations.

- Disposables used i.e. plastic petri-dishes, eppendorfs or micro-tips are packed in auto-clavable

plastic bags and sterilized. These sterilized bags are transferred to waste container which is disposed of via municipal trash.

- Culture media in glass petri-dishes are sterilized by autoclaving and then repacked in the autoclavable bags. These bags are again sterilized by autoclaving and then transferred to a waste container which is disposed of via municipal trash.
- Culture media in glass conicals or beakers are sterilized by autoclaving and then washed properly after decanting the materials into sanitation.
- Contaminated or uncontaminated needles, syringes, scissors and other sharp things are properly packed in rigid plastic boxes and disposed of to municipal trash.
- Before disposal everything is made biologically stable.



Autoclave

E-waste management

- **Quantity of e-waste generated: As on December 2020, Desktop-39, Printer 6, Scanner-2, UPS-14.**
- The College has been successful in handling e-waste in a scientific manner. The e-waste i.e. discarded electronic and electrical devices destined for refurbishment and recycling are handed over to a certified and authorised e-waste recycler (done according to E-waste Management Rule, 2016).

Waste Recycling System

- Segregated vats have been set up for collection of assorted waste produced in the campus.
- The '**Green Bin**' collects the food waste from college canteens and hostel kitchen besides the fallen dead leaves from the garden. These are all degradable waste, which are recycled by composting at source.



Municipality Worker collecting waste

4.1.5 Whether the recycling/collection facilities are provided by the city Municipality and/or private suppliers (including glass, white plastic bottle, printer cartridges, cardboard, furniture, plastics, thermocol, waste papers, electrical goods & alliances, electronic gadgets, instruments, equipment, packing materials):

Yes

- All kinds of solid waste is taken outside the campus and disposed of via Kolkata Municipal Corporation's garbage collection and transportation vehicle.
- The College has been successful in handling e-waste in a scientific manner. The e-waste i.e. discarded electronic and electrical devices destined for refurbishment and recycling are handed over to a certified and authorized e-waste recycler (done according to E-waste Management Rule, 2016).

Disposal methods

Sl No.	Location	Amount of generation	Method of disposal	Name of the Agency (if any) for disposal
1	College Campus	250 L	Organic waste collected in Green Bin. Inorganic waste collected in blue bin. Biomedical waste autoclaved	Kolkata Municipal Corporation's garbage collection and transportation vehicle.
2	Hostel campus	100L	Organic waste, collected in Green Bin. Inorganic waste collected in blue bin	Kolkata Municipal Corporation's garbage collection and transportation vehicle.

4.1.6 Whether college has any composting ground/vat or any collection unit etc.:

Yes. **Vermicompost Pit** have been excavated at the backward of hostel premise. Fallen leaves of

(if yes, what is the percentage of waste undergone composting and the final use of the products)					College Garden trees and kitchen waste are dumped and used for vermicomposting. Percentage not determined			
4.1.7 Is there any mechanism of treatment/uses of domestic influent in the college campus (if so, what is the capacity of treatment plant/composting etc.):					No			
4.1.8 Minimize use of chemical pollutants.								
Sl. No.	Department	Name of the waste			Total (a+b+c)	Characterization (if any)	Method of disposal	Agency if any
		Chemical (a)	Biological waste (b)	Microbial waste (c)				
1	Chemistry	Liquid wastes are drained out into specified basins, diluted 5 times before running them out through the common drainage system. This ensures sufficient dilution to reduce their toxicity below LD ₅₀ level	None	None	25 L/Day	Chemical	Sewage	Municipality garbage lifting
2	Botany	Liquid wastes are drained out into specified basins, diluted 5 times before running them out through the common drainage system.	Dissected plant parts	Plastic Petri-dishes, eppendorfs or micro-tips	10 L/Day	Organic, Inorganic, Chemical	Green Bin. Blue bin, Chemical waste Drained out	Municipality garbage lifting
3	Microbiology	Liquid wastes are drained out into specified basins. diluted 5		Plastic Petri-dishes, eppendorfs or micro-tips	10 L/Day	Microbial, Chemical	Autoclaved and then disposed, Chemical waste	Municipality garbage lifting

		times before running them out through the common drainage system.					Drained out	
4	Zoology	Liquid wastes are drained out into specified basins, diluted 5 times before running them out through the common drainage system.	Dissected animal body parts, tissues	plastic Petri-dishes, eppendorfs or micro-tips	10 L/Day	Organic, Inorganic, Chemical	Green Bin. Blue bin, Chemical waste Drained out	Municipality garbage lifting

Records of dustbins/collection bins inside the campus

Sl no.	Location of dustbin	No. of dustbins			Quantity of collection (per day)	Disposal time	Cleaning by eco-friendly product Y/N
		Biodegradable	Non-biodegradable	Plastic waste			
1	Main Building	1	1	Non degradable bin	25+25	Morning	No
2	Roma Chaudhuri Building	1	1	Non degradable bin	25+25	Morning	No
3	Hostel	1	1	Non degradable bin	25+25	Morning	No

4.1.9 Whether the cleaning products used by the college staff are eco-friendly and under the COSHH (Control of Substances Hazard to Health) regulations:

Yes

4.1.10 Whether the college is using fertilizers, pesticides for any purposes, if so, amount used per month and places of uses.

10 kg per month of compost

4.1.11 Use of public transport:

Yes

5.E-WASTE MANAGEMENT

5.1 Quantity of e-waste generated:

As on December 2020, Desktop-39, Printer 6, Scanner-2, UPS-14

Quantity of e-waste generated: As on December 2020:

Number of Desktops (waste)-39,
 Number of Printers (waste)- 6,
 Number of Scanner (waste)-2,
 Number of UPS(waste)-14
 Number of cartridge used month-wise: 4(Average)
 Number of cartridge disposed in a year (average): 40- 45 (Average)
 Number of times refilling & reusing method of disposal of e-waste (if any) . No refilling

SS arkan

Principal
 Lady Brabourne College
 Govt. of West Bengal
 Kolkata

5.2 Number of cartridge used month-wise: 4 (Average)

5.3 Number of cartridge disposed in a year (average): 40- 45 (Average)

5.4 Number of times refilling & reusing method of disposal of e-waste (if any) No refilling

5.5 Whether college has conducted any awareness programme on e-waste management: No

5.6 Is there any means of disposal of unused computers, printers and electronic wastes through authorized agents: Yes

5.7 Disposal methods

Compuvision
 88/4, ANIL KUMAR DUTTA LANE, KOLKATA - 700 013
 PHONE : 9821080278, 033-4064 3048
 E-mail : compuvision@rediffmail.com

To:
 The Principal
 Lady Brabourne College
 6/13, Bidhannagar, Avenue
 Kolkata-700017

Ref. No. CPV/2020/15-19
 Ref. Dt. 05/12/2020

Dear Sir/Ma'am,

As per information received we would like to inform you that we will receive the e-waste (scrap electronic gadgets) 5000 quantity of the e-waste (Management and Handling) under section 43B and 15 of the environment protection act and as per the provision for e-waste management.

1. Scrap CPU (Mother board, HDD, etc) (single)	Rs. 200/-
2. Scrap/unused CPU Cabinet	Rs. 20/-
3. Scrap Monitor	Rs. 60/-
4. Scrap Keyboard	Rs. 25/-
5. Scrap Mouse	Rs. 10/-
6. Scrap UPS	Rs. 75/-
7. Scrap Laser printer	Rs. 300/-
8. Scrap Design Printer	Rs. 1000/-
9. Scrap Photo copier	Rs. 1000/-
10. Scrap Air Conditioner	Rs. 1000/-
11. Scrap Scanner	Rs. 100/-

Terms & Conditions:
 1. Payment to be made in cash.
 2. All work will be done after proper security is given by your representative.

For Compuvision
Signature
 Authorized Signatory

CC/TECH : BRABOURNE COLLEGE
Authenticated
SS arkan
 Principal
 Lady Brabourne College
 Bidhannagar
 Kolkata

<u>6. GREEN AREA MANAGEMENT</u>	
6.1 Is there any garden in the college campus/outside the campus under college custody:	Yes
6.2 Whether the garden is watered by using drip/sprinkler irrigation system:	No
6.3 Is there any mechanism of review of periodical monitoring of tree species:	Yes Maintenance of Campus Biodiversity Register
6.4 Whether the college has taken any programme for plantation of some fruit trees which can attract birds, bees etc.	Yes (plantation of trees)

Records of Plantation programmes

Sl No.	Programme conducted	Date	No. of trees planted	Present status of the species	Documentation (if any)	No. of beneficiaries
1	Bonomahatsab	21.6.2016	5	Fully grown trees	Documented in the PBR	100
2	Annual Function	16.12.2016	36 flowering plants	Some have survived annually		400
3	Bonomahatsab	29.6.2017	6	Fully grown trees		100
4	Annual Function	15.12.2017	46 flowering plants	Some have survived annually		400
5	Bonomahatsab	20.6.2018	40	Fully grown trees		100
6	Annual Function	20.12.2018	36 flowering plants	Some have survived annually		400
7	Bonomahatsab	24.6.2019	6	Fully grown trees		100
8	Annual Function	23.12.2019	37 flowering plants	Some have survived annually		400
9	Plantation by SBI		100 saplings			1000
10	Plantation by Pollution Control Board		40 saplings			1000
11	Plantation by Kolkata Police					1000

6.5 Biodiversity mapping.

Campus Biodiversity Register

CAMPUS BIODIVERSITY REGISTER

LIST OF LARGE TREES OF THE LADY BRABOURNE COLLEGE CAMPUS

			I	M	O	E			
Sl. No.	Name of the place	Area	Type of plantation				Species name & quantity	Name of the Family	Total no. of species
1	Garden Premise	7414 sq.mt.				E	<i>Zizyphus mauritiana</i>	RHAMNACEAE	1
2	Garden Premise	7414 sq.mt.	I	M			<i>Terminalia arjuna</i>	COMBRETACEAE	1
3	Garden Premise	7414 sq.mt.	I	M			<i>Alstonia scholaris</i>	APOCYNACEAE	2
4	Garden Premise	7414 sq.mt.	1				<i>Grewia asiatica tiliaceae</i>	TILIACEAE	1
5	Garden Premise	7414 sq.mt.				E	<i>Lagerstroemia thorelii</i>	LYTHRACEAE	3
6	Garden Premise	7414 sq.mt.	I				<i>Pterospermum acerifolium</i>	STERCULACEAE	2
7	Garden Premise	7414 sq.mt.	I				<i>Albizzia lebbek</i>	MIMOSACEAE	1
8	Garden Premise	7414 sq.mt.				E	<i>Citrus maxima</i>	RUTACEAE	3
9	Garden Premise	7414 sq.mt.	I				<i>Polyalthea longifolia var. pendula</i>	ANNONACEAE	2
10	Garden Premise	7414 sq.mt.				E	<i>Plumeria acutifolia</i>	APOCYNACEAE	2
11	Garden Premise	7414 sq.mt.					<i>Ixora coccinea</i>	RUBIACEAE	1
12	Garden Premise	7414 sq.mt.				E	<i>Bougainvillea spectabilis</i>	NYCTAGINACEAE	1
13	Garden Premise	7414 sq.mt.				E	<i>Tabernaemontana coronaria</i>	APOCYNACEAE	1
14	Garden Premise	7414 sq.mt.	I				<i>Bauhinia acuminata</i>	CAESALPINACEAE	1
15	Garden Premise	7414 sq.mt.				E	<i>Dombeya mastersii</i>	STERCULACEAE	1
16	Garden Premise	7414 sq.mt.				E	<i>Ravenia spectabilis</i>	RUTACEAE	1

17	Garden Premise	7414 sq.mt.				E	<i>Bassia latifolia</i>	SAPOTACEAE	10
17	Garden Premise	7414 sq.mt.	I				<i>Holarrhena antidysenterica</i>	APOCYNACEAE	1
18	Garden Premise	7414 sq.mt.	I	M			<i>Mimusops elengii</i>	SAPOTACEAE	2
19	Garden Premise	7414 sq.mt.			O	E	<i>Cycas circinalis</i>	CYCADACEAE	3
20	Garden Premise	7414 sq.mt.	I				<i>Polyalthea longifolia</i>	ANNONACEAE	5
21	Garden Premise	7414 sq.mt.	I				<i>Magnolia grandiflora</i>	MAGNOLIACEAE	1
22	Garden Premise	7414 sq.mt.	I				<i>Gardenia floribunda</i>	RUBIACEAE	1
23	Garden Premise	7414 sq.mt.				E	<i>Hamelia patens</i>	RUBIACEAE	1
24	Garden Premise	7414 sq.mt.				E	<i>Chrysalidocarpus sp.</i>	ARECACEAE	2
25	Garden Premise	7414 sq.mt.	I	M			<i>Terminalia catappa</i>	COMBRETACEAE	1
26	Garden Premise	7414 sq.mt.				E	<i>Roystonea regia</i>	ARECACEAE	3
27	Garden Premise	7414 sq.mt.	I	M			<i>Melia indica</i>	MELIACEAE	2
28	Garden Premise	7414 sq.mt.	I	M			<i>Araucaria coockiia</i>	RAUCARIACEAE	1
29	Garden Premise	7414 sq.mt.				E	<i>Anthocephalus chinensis</i>	RUBIACEAE	1
30	Garden Premise	7414 sq.mt.			O		<i>Ravenala madagascariensis</i>	MUSACEAE	2
31	Garden Premise	7414 sq.mt.	I		O		<i>Peltophorum inerme</i>	CAESALPINIACEAE	1
32	Garden Premise	7414 sq.mt.				E	<i>Litsaea sebifera</i>	LAURACEAE	1
33	Garden Premise	7414 sq.mt.	I				<i>Murraya paniculata</i>	RUTACEAE	2
34	Garden Premise	7414 sq.mt.	I				<i>Spondias pinnata</i>	ANACARDIACEAE	1
35	Garden Premise	7414 sq.mt.	I				<i>Tectona grandis</i>	VERBENACEAE	1
36	Garden Premise	7414 sq.mt.					<i>Spondidas dulcis</i>	ANACARDIACEAE	1
37	Garden	7414 sq.mt.	I				<i>Bombax malabaricum</i>	BOMBACACEAE	2

	Premise								
38	Garden Premise	7414 sq.mt.	I				<i>Gmelina arborea</i>	VERBENACEAE	1
39	Garden Premise	7414 sq.mt.					<i>Delonix regia</i>	CAESALPINIACEAE	1
40	Garden Premise	7414 sq.mt.	I				<i>Artocarpus heterophylla</i>	MORACEAE	2
41	Garden Premise	7414 sq.mt.					<i>Samanea saman</i>	MIMOSACEAE	1
42	Garden Premise	7414 sq.mt.	I				<i>Nyctanthes arbortristis</i>	OLEACEAE	1
43	Garden Premise	7414 sq.mt.	I	M			<i>Psidium guajava</i>	MYRTACEAE	1

I- Indigenous, M-Medicinal, O-Ornamental, E-Exotic

LIST OF MEDICINAL PLANTS

Local name	Scientific Name	Family	Plants parts used	Uses
Golmorich	<i>Piper nigrum</i> Linn	Piperaceae	Seeds, fruits	Seeds – in dyspepsia, cholera; fruits – cold and cough
Kalmegh	<i>Andrographis paniculata</i> (Burm. f.)	Acanthaceae	Whole plants, leaves, roots.	Fever, dysentery, dyspepsia, improves liver function, Leaves – in case of irregular stool, loss of appetite; roots – given to children to cure general debility.
Gandha bena	<i>Cymbopogon citrates</i> Stapf.	Poaceae	Whole plant	Antiseptic
Ghrita kumari	<i>Aloe barbadensis</i> Mill. Family – Local name – Plant parts used –Uses –	Liliaceae	Fleshy part, leaves.	Fleshy part - in constipation, dyspepsia, menstrual complaints, eczema, diarrhea and dysentery. Leaves – juice applied on head for tranquility in case of insanity
Arrow head	<i>Sagittaria sagittifolia</i> L.	Alismataceae	Flower buds, root tip	Cytological study
Talmuli	<i>Curculigo orchoides</i> Gaethn.	Amaryllidaceae	Rhizomes, roots	
Gulanha	<i>Tinospora cordifolia</i>	Menispermaceae		Lowering blood sugar
	<i>Tridax procumbens</i>	Asteraceae		Cure wound
Mahadevjata	<i>Sansevieria cylindrical</i> Boj.	Liliaceae	Whole plants	Female disease
Dhudhi	<i>Euphorbia hirta</i>	Euphorbiaceae		Asthma, Antibacterial, Anti inflammatory

	<i>Antigonum leptopus</i>	Polygonaceae		
Yam	<i>Dioscorea alata</i>	Dioscoreaceae	Rhizome	Steroid producing plants
Basak	<i>Justicia adhatoda</i>	Acanthaceae	Leaves	Cough, colds, asthma, bronchodilator
Talmuli	<i>Curculigo orchioides</i> Gaethn.	Amaryllidaceae	Rhizomes, roots	Rhizomes – to treat piles, asthma, jaundice, diarrhea; roots – paste applied on scorpion bites, to stop bleeding from cuts of cattle, root bark juice mixed with milk and sugar giving to treat bleedings piles.
Chotoelachi	<i>Elettaria cardamomum</i> Maton	Zingiberaceae	Fruit, seeds	Sweet small, cough and cold, also in headache, vomiting
Thankuni	<i>Centella asiatica</i> (Linn.) Urban.	Umbelliferae	Leaf	Dysentery, jaundice, leprosy
Aparajita	<i>Clitoria turnatea</i> Linn.	Papilionaceae (Fabaceae)	Leaves, stem, roots, root- bark	Leaves, stem and roots - Tonic to brain, to treat hysteria; root bark – to treat colic pain, tuberculous gland.
Patharkuchi	<i>Bryophyllum pinnatum</i> (Lam.) Kurz Syn. <i>B. calycinum</i> Salisb.	Crassulaceae	Leaves	Treat diabetes, cold and cough, urinary discharges, fresh crushed leaves taken once daily to treat tumors.
Harjora	<i>Cissus quadrangularis</i> Linn. Syn. <i>Vitis quadrangularis</i>	Vitaceae	Leaves, stem.	Leaves – in bowel complaints; stem – to cure scurvy, irregular menstruation, asthma, sap applied externally on forehead to cure one-sided headache
Chhatim	<i>Alstonia scholaris</i>	Apocynaceae	Seeds, fruits	Leaves – in fever cold and cough
Amlaki	<i>Emblica officinalis</i> Gaertn.	Euphorbiaceae	Fruits, leaves, seeds.	Fruits – to treat vomiting, leprosy, piles, anaemia; leaves – in ophthalmia
Kalaboti, Sarbojaya	<i>Canna indica</i> Linn.	Cannaceae	Rhizome, fruit, roots, flower, and leaves	Increase sweating, urination, fever and cold
Arjun	<i>Terminalia arjuna</i> (Roxb.) Wight & Am.	Combretaceae	Bark, leaves, fruits.	Bark –in hypertension and ulcers, bark is astringent, cooling, antidysentric Cough, fruits – in asthma and hernia; leaves- in ear-ache, applied on sores and ulcers.
Krishna tulsi	<i>Ocimum tenuiflorum</i> Linn.	Labiatae (Lamiaceae)	Whole, leaves, seeds, roots.	Whole plant – in case of snake bite and scorpion sting, leucoderma, Leaves – digestive, diuretic, expectorant
SadaDhutra	<i>Datura stramonium</i>	Solanaceae	Leaves, fruits, seeds.	Antispasmodic, curing

	Linn.			dandruff, falling of hair, asthma
Brihati	<i>Solanum indicum</i> Linn.	Solanaceae	Root, leaves, fruit, seeds	Toothache, asthma, gout, diarrhoea.
Aswagandha	<i>Withania somnifera</i>	Solanaceae	Roots, leaves fruit.	Breathing trouble, chronic bronchitis, heart disease.
Gandhal	<i>Paederia scandens</i> (Lour.) Merrill. Syn. <i>P. foetida</i>	Rubiaceae	Leaves, roots	Leaves – in dysentery, dyspepsia, paralysis, roots – to treat rheumatism.
Kakmachi	<i>Solanum nigrum</i> Linn.	Solanaceae	Whole plant, roots, leaves, fruits.	Whole plant – in asthma, bronchitis, rheumatism, hiccup, heart disease, roots – to treat urinary disease; leaves – as laxative; green fruits – paste applied on leucorrhoea; ripe fruits – to treat tuberculosis
Lanka	<i>Capsicum frutescens</i> Linn.	Solanaceae	Fruits	Fever, acidity, indigestion, rheumatism
Bahera	<i>Terminalia bellirica</i> (Gaertn.) Roxb.	Combretaceae	Bark, fruits	Bark – to treat leucoderma, fruits – to treat asthma, dysentery, diarrhoea
Jaggyadumur	<i>Ficus glomerata</i>	Moraceae	Roots, leaves, milky juice, fruits, and bark.	Roots – sap is taken to treat diabetes, juice given in dysentery; leaves – in bronchitis, bleeding piles; milky juice – in piles, diarrhea; fruits – in leprosy, urinary discharges; bark – given to cattle suffering from rinder pest
Tagar	<i>Ervatarnia coronaria</i> R. Br.	Apocyanaceae	Root, latex.	Roots – To relief toothache, warm of intestine; latex – relief the eye pain also apply in wounds.
Nayantara	<i>Catharanthus roseus</i> (Linn.) G. Don.	Apocyanaceae	Entire plant, roots, leaves, latex.	Entire plant –to improve memory, to treat leucorrhoea, leukemia, diabetes mellitus, hypertension, intestinal worms; roots – to cure septic wounds, asthma, cancer; leaves – to reduce high blood pressure, blood dysentery; latex – applied to cure cancerous wounds.
Ashok	<i>Saraca asoca</i> (Roxb.) de Wilde	Cesalpiniaceae	Bark	Leucorrhoea, bloody piles and heart disease; flowers – as uterine tonic, diabetes, seeds – in dysentery, and skin disease. Bark, flowers, seeds.
Ramtulsi	<i>Ocimum gratissimum</i> Linn.	Labiatae (Lamiaceae)	Whole plants, leaves, nutlets, seeds.	Flowers – to treat jaundice and skin disease, Whole plants – to treat skin disease, disease

				of brain and heart; Leaves – Decoction of the leaf applied to treat septic wounds, Seeds – soaked in water and taken very cooling and refreshing drink Fruits – to cure leprosy, bronchitis, asthma, jaundice, blood diseases
Patta	<i>Coleus amboinicus</i> Lour. Syn. <i>C. aromaticus</i> Benth.	Labiatae (Lamiaceae)	Leaves	Appetizer, digestive, liver tonic, expectorant
Sthalpadma	<i>Hibiscus mutabilis</i> L.	Malvaceae	Cell sap of leaves, flowers.	Hair growth, pH indicator
Piara	<i>Psidium guajava</i> Linn.	Myrtaceae	Root bark, fruits, and leaves.	Root bark – In stomach troubles; fruits – to treat warm, wind, leaves – to treat toothache, mouth ulcer.
Karipata	<i>Murrayakoenigii</i> (Linn.) Spreng.	Rutaceae	Leaves, roots, fruits.	Leaves – in dysentery, vomiting, eruptions; roots - as a purgative, to treat pain associated with kidney; fruits – as an astringent
Ganja	<i>Cannabis sativa</i> L.	Cannabinaceae	Female inflorescence dried shoots and leaves.	Relieve pain and in treatment of hysteria and various nervous disorders.
Muktijhuri	<i>Acalypha indica</i> Linn.	Euphorbiaceae	Whole plant, leaves.	Whole plant – as diuretic, to treat gastrointestinal irritant, constipation; leaves – fresh juice applied to affected parts of the body in case of insect or snake-bites.
Jaba	<i>Hibiscus rosasinensis</i> Linn.	Malvaceae	Flowers, leaves, roots.	Flowers – in black colour of hair, female disease; leaves – soothing, used in growth of hair. Roots – in cold.
Atasi, Jhunjhunja.	<i>Crotalaria pallida</i> Ait.	Papilionaceae (Fabaceae)	Extract of whole plant, seeds.	Extract of whole plant – in hypotension, anti-tumor; seeds – yield a black dye, uses as substitute for coffee.
Nishinda	<i>Vitex negundo</i> Linn.	Verbinaceae	Leaves, leaf juice, stem bark, root bark, flower, fruit, seeds, whole plant	Improve memory, dandruff, astringent, skin disease
Kalojam	<i>Eugenia jambolana</i> Linn.	Myrtaceae	Stem bark, leaves, fruit, and seed.	Stem bark – To treat stomach problem in boys, leaves – In amoebicosis Fruit juice – preservative, hot sensitive, in kidney trouble; seeds – in diabetes.
Telakucha	<i>Coccinia grandis</i> (Linn.) Voigt	Cucurbitaceae	Roots, leaves, flowers, fruits.	Roots - in case of vomiting, burning sensation of hands

				and feet; Leaves – in cough and skin disease
Mehendi	<i>Lawsonia inermis</i> Linn.	Verbinaceae	Bark, leaves, stem, flowering twigs and	
Lalpata	<i>Poinsettia pulcherrima</i> R. Garh.	Euphorbiaceae	Latex, Flowers	Anatomical and morphological study.
Bhui amla	<i>Phyllanthus fraternus</i> Webster	Euphorbiaceae	Whole plant, fresh leaves and roots	
Brahmi	<i>Bacopa monnienia</i> (Linn.) Fennell	Scrophulariaceae	Whole plant, leaves.	Neuralgia, ulcer, leukoderma, increase memory.
Ram basak	<i>Phlogacanthus thysiformis</i> (Hardw.) Mabborly	Acanthaceae	Leaves, flowers, bark.	Cough, rheumatism, chronic bronchitis, acidity.
Berela	<i>Sida acuminata</i>	Malvaceae		
Berela	<i>Sida cordifolia</i>	Malvaceae		
Sarpagandha	<i>Rauvolfia serpentine</i> Benth. Ex Kurj.	Apocyanaceae	Roots, leaves	In high blood pressure, epilepsy, pneumonia, snake bite
Dalim	<i>Punica granatum</i> Linn.	Punicaceae	Leaves and stem bark, fruit juice, flowers, root bark.	Leaves and stem bark – in diarrhea, intestinal worms, piles; fruit juice – Cooling medicine, tonic, good for liver; flowers – in leucorrhoea, sore eyes and cold; root bark – to treat enlarged liver.
Dhania	<i>Coriandrum sativum</i> L.	Umbelliferae	Stem, leaves, fruits	Digestive, carminative.
Sharisa	<i>Brassica campestris</i> Linn.	Cruciferae	Whole plant, seeds	Laxative, rheumatism, cold and cough.
Jhau	<i>Thuja occidentalis</i>	Cupressaceae	Leaf and stem.	To remove mole.
Durbaghash	<i>Cynodon dactylon</i> Pers.	Graminae	Leaves, rhizomes	Antiseptic, stop bleeding, eye disease.
Mathi	<i>Trigonella foenumgraceae</i> Linn.	Leguminosae	Seed	Condiment, lowers cholesterol, antidiabetic.
Rerhi	<i>Ricinus communis</i> Linn.	Euphorbiaceae	Leaves, roots and root bark, seed and seed oil.	To treat night blindness, headache, sciatica, constipation, to treat corpulence and cough.
Dhutra	<i>Datura metel</i> Linn.	Solanaceae	Whole plant, roots, leaves, fruits, seeds.	In asthma, cough, fever, ulcer, skin disease, gonorrhoea, falling of hairs, Parkinson's disease.
Patchouli	<i>Pogostemon heyneanus</i> Benth.	Labiatae	Leaves and whole plant	Skin disease
Kulekhara	<i>Hygrophila schulli</i> (Buch-ham.) M.R.et. S.M. Almeida	Acanthaceae	Whole plant	Skin disease, anaemia, insomnia, rheumatism.

	<i>Syn. H. auriculata</i> (Schum)			
Apang	<i>Achyranthes aspera</i> Linn.	Amaranthaceae		Anti inflammatory and uterine stimulant activity, rheumatism, hydrophobic

EXOTIC SPECIES OF MEDICINAL PLANTS

Local name	Scientific Name	Family	Plants parts used	Uses
	<i>Costus speciosus</i>	Costaceae		Reduce blood sugar
Satamul	<i>Asparagus racemosus</i> Willd.	Asparagaceae	Tuber roots	Blood dysentery, bloody urine, epilepsy; leaves – to treat night blindness.
Pianj	<i>Allium cepa</i> L.	Liliaceae	Whole plant, rhizome	Tonic, cough, anti-vomiting
Saibanilata	<i>Lantana camara</i> Linn. <i>Syn. L. aculeata</i> Linn.	Verbenaceae	Whole plant.	Whole plant – As antiseptic, antispasmodic, laxative, antidote to snake venom; useful in tetanus, epilepsy, malaria, cuts and wounds, ulcers
Fan palm	<i>Borassus flabellifer</i> Linn.	Palmae	Inflorescence, leaves, stem	Inflorescence – Produces molasses and sugar.
Bach	<i>Acorus calamus</i> Linn.	Araceae	Whole plant	Intestinal disorder, skin disease, cough and bronchitis, insecticidal, tonic.
Mahadevjata	<i>Sansevieria cylindrical</i> Boj.	Liliaceae	Whole plants	In female disease.
Arrowhead	<i>Sagittaria sagittifolia</i> L.	Alismataceae	Flower buds, root tip.	Cytological study
Ghritakumari	<i>Aloe barbadensis</i> Mill.	Liliaceae		Fleshy part - in constipation, dyspepsia, menstrual complaints, eczema, diarrhea and dysentery. Leaves – juice applied on head for tranquility in case of insanity
Gandhabena	<i>Cymbopogon citrates</i> Stapf.	Poaceae	Whole plant	Antiseptic, eczema, insecticide, perfumery
Murba	<i>Sansevieria roxburghiana</i> Schult.	Liliaceae	Rhizomes	To treat high fever, cough of long standing, breathing trouble due to heart disease.
Ban tulsi	<i>Ocimum americanum</i> Linn.	Labiatae (Lamiaceae)	Whole, leaves, seeds, roots.	Leaves – digestive, diuretic, expectorant.
Bhringaraj	<i>Wedelia chinensis</i> Merrill	Asteraceae	Leaves	Cough, promote hair growth
Swetjhanti, rashphool	<i>Barleria cristata</i> Linn	Acanthaceae	Whole plant, roots and leaves, leaf juice	Whole plant – as a stimulant and demulcent; roots and leaves – applied on swelling, to treat toothache; leaf juice – in cough and catarrhal fever.
Tara lata	<i>Michenia scandens</i> Wiedl.	Compositae	Inflorescence	Morphological study

	<i>Stevia reaudiana</i> Linn.	Asteraceae	Leaves	Sweetening agent, the main ingredient stevioside is 300 times sweeter than that of sugar cane, used by diabetic patients.
Jhau	<i>Cryptomeria japonica</i>	Taxodiaceae	leaves and stem	Essential oil used in medicine and cosmetics.
Amrul	<i>Oxalis comiculata</i> Linn.	Oxalidaceae	Leaves, whole plant.	Leaves – Fresh juice given dyspepsia, to treat boils, scurvy, fever, dysentery, piles, diarrhea; whole plant – in piles, anaemia, juice mixed with oil and applied as message to remove cough
Gurmar	<i>Gymnema sylvestre</i> (Retz) R.Br. Ex Schult.	Asclepiadaceae	Leaves, roots, fruits, entire plant	Remedy for diabetes, diuretic, stomachic, constipation, conjunctivitis.
Ayapan	<i>Eupatorium triplinerve</i> Vahl Syn. <i>E. ayapan</i> Vent.	Compositae (Asteraceae)	Leaves, whole plant.	Haemostatic in wounds, jaundice, low blood pressure.
Bel	<i>Aegle marmelos</i> Corr. Ex Roxb	Rutaceae	Roots, root bark, fresh leaves, flowers, unripe fruits, ripe fruits.	Roots – in fever, abdominal pain, palpitation of the heart; root bark – in case of snake bite; fresh leaves – deafness and inflammation; flowers - in dysentery; unripe fruit – piles, dysentery and diarrhea; ripe fruit – tonic, laxative, good for heart and brain.
Batabilabu	<i>Citrus decumana</i> L.	Rutaceae	Fruits, leaves.	Fruits – cold, bile trouble, tiredness; leaves – cold and fever
Rangan	<i>Ixora coccinea</i> Linn.	Rubiaceae	Flowers, roots	Flowers – in blood dysentery, gonorrhoea; roots – in wounds of elementary canal, blood dysentery
Shimool	<i>Bombax malabaricum</i> DC.	Bombacaceae	Root, stem, leaves.	Gonorrhoea, bowel complaints, general weakness, leprosy
Gandharaj	<i>Gardenia florida</i> L.	Rubiaceae	Flowers	Essential oil, used in medicine and cosmetics

LIST OF BIRDS SIGHTED AT THE COLLEGE CAMPUS

Sl. No.	Common Name	Scientific name	Food	Abundance
1	Blue rock pigeon	<i>Columba livia</i>	Grains	Plenty, kept as pet
2	Spotted dove	<i>Spilopelia chinensis</i>	Grains, Seeds	Occasional visitor
3	Koyel	<i>Eudynamis scolopacea</i>	Fruits	Seen in most parts of the year except

				during the winters
4	Crow pheasant	<i>Centropus sinensis</i>	Insects, rodents, fly	Rarely seen
5	Barn Owl	<i>Tyto alba</i>	Rodent	Resident
6	Common kingfisher	<i>Alcedo atthis</i>	Fish	Seen throughout the year, singly
7	Blue throated barbet	<i>Megalaima asiatica</i>	Insects, banyan fruits	Seen throughout the year except during the winters
8	Coppersmith barbet	<i>Megalaima haemacephala</i>	Fruits	Seen throughout the year except during the winters
9	Lesser golden backed woodpecker	<i>Dinopium benghalense</i>	Insects, ants	Occasional visitor
10	Black backed woodpecker	<i>Chrysocolaptes festivus</i>	Insects, ants	Rarely seen
11	Brown shrike	<i>Lanius cristatus</i>		Rarely seen
12	Blackheaded oriole	<i>Oriolus xanthomus</i>	<i>Nectar, fruits</i>	Seen throughout the year except during the winters
13	Black drongo	<i>Dicrurus adsimilis</i>		Rarely seen
14	Common myna	<i>Acridotheres tristis</i>		Seen throughout the year in flocks
15	Jungle myna	<i>A. fuscus</i>	Fruits, insects	Seen throughout the year in flocks
16	Pied myna	<i>Stumus contra</i>	<i>Insects</i>	Occasional visitor
17	Bramhiny myna	<i>Stumus pagodarum</i>	Banyan fruits	Occasional visitor
18	Indian tree pie	<i>Dendrocitta vagabunda</i>	Omnivorous	Occasional visitor
19	House crow	<i>Corvus splendens</i>	Omnivorous	Seen throughout the year
20	Jungle crow	<i>C. macrorhynchos</i>	Omnivorous	Rarely seen
21	Common woodshrike	<i>Tephrodornis pondicerianus</i>	Carnivorous	Rarely seen
22	Red vented bulbul	<i>Pycnonotus cafer</i>	Seeds, fruits	Seen throughout the year
23	Red whiskered bulbul	<i>P. jocosus</i>	Seeds	Occasional visitor
24	Whitebrowed fantail flycatcher	<i>Rhipidura aureola</i>	Insects	Occasional visitor
25	Tailor bird	<i>Orthotomus sutorius</i>	Insects	Seen throughout the year
26	Magpie robin	<i>Copsychus saularis</i>	Seeds, fruits	Occasional visitor
27	Yellow wagtail	<i>Motacilla flava</i>	Insects	Occasional visitor
28	Purple Sunbird	<i>Nectarinia asiatica</i>	Nectar	Often seen
29	House sparrow	<i>Passer domesticus</i>	Seeds, nuts	Seen throughout the year in flocks
30	Pariah kite	<i>Milvus migrans govinda</i>	Carnivorous	Seen throughout the year in flocks
31	White Breasted Water hen	<i>Amauromis phooniurus</i>	Soil Insects, aquatic plants	Occasional visitor
32	Rise ringed parakeet	<i>Psittacula krameri</i>	Gram, nuts, chilies	Seen only certain parts of the year in flocks

LIST OF TERRESTRIAL MOLLUSCS SIGHTED AT THE COLLEGE CAMPUS

Sl. No.	Common Name	Scientific name	Abundance
1		<i>Macrochlamys indica</i>	Plenty
2	Apple snail	<i>Pila globosa</i>	Occasional
3	Garden snail	<i>Achatina fulica</i>	Seen mostly during the rainy season

LIST OF COMMON MAMMALS SIGHTED AT THE COLLEGE CAMPUS

Sl. No.	Common Name	Scientific name	Food	Abundance
1	Five striped squirrel	<i>Funambulus pennanti</i>	Nut	Resident
2	Pariah Dog	<i>Canis</i>	Omnivorous	Resident
3	Domestic cat	<i>Felis</i>	Carnivorous	Resident
4	Short nosed Fruit Bat	<i>Cynopterus sphinx</i>	Fruit	Resident
5	Indian Flying Fox	<i>Pteropus giganteus</i>	Fruit	Resident
6	False Vampire bats	<i>Meagderma lyra</i>	Insects	Resident
7	Indian Horse shoe bat	<i>Tadarida plicata</i>	Insects	Resident
8	Indian Pipistrelle	<i>Pipistrellus coromandra</i>	Insects	Resident
9	Indian Pipistrelle	<i>Pipistrellus mimus</i>	Insects	Resident
10	House mouse	<i>Mus musculus</i>	Omnivorous	Resident
11	House rat	<i>Rattus rattus</i>	Omnivorous	Resident
12	Palm Civet	<i>Paradoxurus hermaphroditus</i>	Omnivorous	Resident
13	Small Indian Civet	<i>Viverricula indica</i>	Omnivorous	Regular visitor
14	Common Shrew	<i>Sancus murina</i>	Omnivorous	Resident
15	Lesser Bandicoot Rat	<i>Bandicota indica</i>	Omnivorous	Resident
16	Short tailed Bandicoot Rat	<i>Bandicota bengalensis</i>	Omnivorous	Resident
17	Norway rat	<i>Rattus norvegicus</i>	Omnivorous	Occasional
18	The small Indian Mongoose	<i>Herpestes auropunctatus</i>	Omnivorous	Resident

BUTTERFLIES SIGHTED AT THE COLLEGE GARDEN AND HOSTEL PREMISES

Sl. No.	Common Name	Scientific Name	Family
1	Common Mormon	<i>Papilio polytes</i>	Papilionidae
2	Lime Butterfly	<i>Papilio demoleus</i>	Papilionidae
3	Common Jay	<i>Gnaphium dorson</i>	Papilionidae
4	Tailed Jay	<i>Gnaphium ogamemnon</i>	Papilionidae
5	Common Rose	<i>Atrophaneura aristolochiae</i>	Papilionidae
6	Common	<i>Chila saclytia</i>	Papilionidae
7	Three Spotted Grass	<i>Eurema blanda</i>	Lycaenidae
8	Common Grass Yellow	<i>Eurema hecabe</i>	Lycaenidae
9	Common Emigrant	<i>Catopsilia pomona</i>	Lycaenidae
10	Emigrant	<i>Catopsilia pyranthe</i>	Lycaenidae
11	Striffed Albatross	<i>Appias libythea</i>	Lycaenidae
12	Common Gull	<i>Cepora nerissa</i>	Lycaenidae

13	Common jezebal	<i>Delias eucharis</i>	Lycaenidae
14	Psyche	<i>Leptosia nina</i>	Lycaenidae
15	Common Wanderer	<i>Pareronia valeria</i>	Lycaenidae
16	Indian cabbage White	<i>Pieris canida</i>	Lycaenidae
17	Monkey Puzzle	<i>Rathinda amor</i>	Nymphalidae
18	Common Pierrot	<i>Castalius rosimon</i>	Nymphalidae
19	Forget Me Not	<i>Catochrysops starbo</i>	Nymphalidae
20	Pea Blue	<i>Lampides boeticus</i>	Nymphalidae
21	Pale Grass blue	<i>Pseudozizeeria maha</i>	Nymphalidae
22	Plains Cupid	<i>Chilades pandaca</i>	Nymphalidae
23	Lime Blue	<i>Chilades lajas</i>	Nymphalidae
24	Blue Tiger	<i>Tirumala limniace</i>	Nymphalidae
25	Stripped Tiger	<i>Danaus genutia</i>	Nymphalidae
26	Plain Tiger	<i>Danaus chrysippus</i>	Nymphalidae
27	Common Crow	<i>Euploea core</i>	Nymphalidae
28	Common evening Brown	<i>Melanitis leda</i>	Nymphalidae
29	Common Palm fly	<i>Elymnias hypermnestra</i>	Nymphalidae
30	Common Bushbrown	<i>Mycalesis perseus</i>	Nymphalidae
31	Common Five Ring	<i>Ypthima baldus</i>	Nymphalidae
32	Common Four Ring	<i>Ypthima huebneri</i>	Nymphalidae
33	Common Leopard	<i>Phalanta phalantha</i>	Nymphalidae
34	Commander	<i>Moduza procris</i>	Nymphalidae
35	Chestnut Streaked Sailer	<i>Neptis jumbah</i>	Nymphalidae
36	Common Castor	<i>Ariadne merione</i>	Nymphalidae
37	Grey Pansy	<i>Junonia atlites</i>	Nymphalidae
38	Peacock Pansy	<i>Junonia almana</i>	Nymphalidae
39	Lemon Pansy	<i>Junonia lemonias</i>	Nymphalidae
40	Chocolate Pansy	<i>Junonia iphita</i>	Nymphalidae
41	Common Baron	<i>Euthalia aconthea</i>	Nymphalidae
42	Danaid Eggfly	<i>Hypolimnys misippus</i>	Nymphalidae
43	Indian Skipper	<i>Spialia galba</i>	Hesperiidae
45	Rice Swift	<i>Borbo cinnara</i>	Hesperiidae
46	Small Branded Swift	<i>Pelipidas mathias</i>	Hesperiidae
47	Common Snow Flat	<i>Tagiades sp.</i>	Hesperiidae
48	Common Rose	<i>Atrophaneura aristolochiae</i>	Papilionidae
49	Common mime	<i>Chilasa clytia</i>	Papilionidae
50	Gram blue	<i>Euchrysops cnejus</i>	Nymphalidae

B) Plants planted

C) Plants planted in the Butterfly garden:

Name of the plant	Type of the plant	Name of the butterfly dependent on the food plant respectively
Atasi (<i>Crotalaria</i> sp.)	Nectar	Blue tiger and other butterflies
Curry leaf plant (<i>Murraya koenigii</i>)	Host	Lime butterfly and common Mormon
Cosmos	Nectar	
Akanda (<i>Calotropis</i>)	Nectar and host	Milkweed butterflies like plain tiger
Labani	Nectar	
Rangan (<i>fixora</i> sp.)	Nectar and host	Monkey puzzle
Lantana camara	Nectar	For most of the butterflies...
Common Passion flower (<i>Passiflora foetida</i>)	Nectar and host	Tawny coster
Karabi (<i>Nerium odorum</i>)	Nectar and host	Common crow
Begambahar	Nectar	
Nayantara (<i>Catharanthus</i> sp.)	Nectar	
Hatishur (<i>Heliotropium indicum</i>)	Nectar	
Rakhdron	Nectar	
Tikkunjo Wattakaka volubilis	Nectar and host	Blue tiger
Cassia sophera, cassia fistula	Host	Mottled-emigrant, common emigrants, common grass yellow
Tanner's cassia (<i>Cassia auriculata</i>)	Host	Larval host plant of Emigrants and Common grass yellow
Cassia sp., Cassia tora, Cassia alata	Host	Common emigrant
Kudrojota (<i>Anisotolochia</i> sp.)	Host	Common rose
Jarbansh <i>Stachyterpheta jamaicensis</i>	Nectar	
Salvia	Nectar	
Bhringora (<i>Wedelia</i> sp.)	Nectar	
Tejpata	Host	Common mime
Bohufal	Host	Tawny coster
Hurhure (<i>Cleome</i> sp.)	Host	Psyche
Lemon plant (<i>Citrus</i> sp.)	Host	Lime butterfly and Common Mormon
Ricinus sp.	Host	Castor
Kodori	Nectar and host	Commander
Tridax sp.	Nectar	
Vernonia sp.	Nectar	
Blumia lacera	Nectar	
Cycas sp.	Host	
Palm	Host	Palmfly
Sunflower	Nectar	
Zinnia	Nectar	
Galphonia	Nectar	
Phurash	Nectar	
Togor (<i>Taberna Montana coronaria</i>)	Nectar	
Debdaru (<i>Polyalthia</i> sp.)	Host	Tailed jay, Common jay
Petunia	Nectar	
Button flower	Nectar	
Tube rose (<i>Ruellia tuberosa</i>)	Nectar	
Adiantum (<i>Adiantum</i> sp.)	Host	Common grass yellow
Ad	Host	
Adiantum	Host	

Plants in the Butterfly Garden

BUTTERFLY GARDEN





7, Goshwami Rd, Goshwami, Kolkata, West Bengal 700014, India

Kolkata
West Bengal
India



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82°F

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