

Green Audit Report
of
VICTORIA INSTITUTION (COLLEGE)



For the Year 2022-2023

INTERNAL QUALITY ASSURANCE CELL (IQAC)

VICTORIA INSTITUTION (COLLEGE)

78-B, Acharya Prafulla Chandra Road,
Kolkata - 700 009.

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ExEcutive Summary

Rapid urbanization and economic development at local, regional and global level has led to several environmental and ecological crises. On this background it becomes essential to adopt the system of the green campus for the institute which will lead for sustainable development. Victoria Institution (College) is deeply concerned and unconditionally believes that there is an urgent need to address these fundamental problems and reverse the trends. Being a premier institution of higher studies, the college has initiated 'The Green Campus' programme is conducted every year which activity promotes various project for environmental protection and sustainability.

Purpose of this audit is to ensure that the practices followed in the campus are in accordance with the green policy adopted by the institution, it works on several facets of Green Campus including water conservation, electricity conservation, tree plantation, waste management, paperless work, mapping of biodiversity etc. With this in mind, specific objectives of the audit is to evaluate adequacy of the management control framework of environment sustainability as well as the degree to which the departments are in compliance with the applicable regulations, policies and standards. It can make a tremendous impact on students' health and learning, college operational costs and the environment. The criteria methods and recommendations used in the audit were based on the identified risks.

Sonar Shara: Environment & Ecology Pvt. Ltd.

Paximal Sarkar
Director

CHAPTER - 1

INTRODUCTION

1.1 Green Audit

Environmental or Green Audit is a systematic, documented, periodic and objective review by regulated entities of facility operations and practices adopted to meet the environmental requirements (EPA, 2003). In other words, it is a management tool, comprising of systematic, documented, periodic and objective evaluation of how well environmental organization, management and equipment are performing with the aim of helping to safeguard the environment by facilitating management control of practices and assessing compliance with Institutional policies, which would include regulatory requirements and standards applicable.

Environmental auditing is essentially an environmental management tool for measuring the effects of certain activities on the environment against set criteria or standards. Depending on the types of standards and the focus of the audit, there are different types of environmental audit. Organizations of all kinds now recognize the importance of environmental matters and accept that their environmental performance will be scrutinized by a wide range of interested parties.

Considering the present environmental problems of pollution and excessive use of natural resources, Honorable Prime Minister, Shri. Narendra Modi has declared the Mission of Swachch Bharat Abhiyan. Also, University Grants Commission has mentioned the "Green Campus, Clean Campus" mission mandatory for all higher educational institutes. As environmental sustainability is becoming an increasingly important issue for the nation, the role of higher educational institutions in relation to environmental sustainability is more prevalent.

1.2 Why Green Audit

- To ensure that the performance of the institution with respect to environmental activities is in compliance with existing laws and regulations.
- To check the functionality and their operating success including water supply, energy related matters and other similar matters that are related to green operations in the campus
- To formulate or update the institution's environmental policy, if warranted.
- To measure the environmental impact of operational process related to green activities in the campus.
- To measure the performance of each green related operations and actions in the campus.
- To generate a database of green activities for continuous monitoring to assess the success of each of them.
- To identify future potential liabilities.
- To align the institution's developmental and day to day activities with the stated vision, mission, strategies.
- To identify possible ways to reduce expenditure and running costs on equipments, appliances, etc. or try enhance revenue income.
- To improve process and materials efficiency, and in response to stakeholder requests for increased closure.

1.3 Goals of Green Audit

College has conducted a green audit with specific goals as:

- Assess facility of different types of waste management.
- Increase environmental awareness throughout campus.
- Identification and documentation of green practices followed by university.
- Identify strengths and weaknesses in green practices.
- Conduct a survey to know the ground reality about green practices.
- Analyze and suggest solutions for problems identified from the survey.
- Identify and assess environmental risk.

- The long-term goal of the environmental audit program is to collect baseline data of environmental parameters and resolve environmental issues.

- To motivate staff for optimized sustainable use of available resources.

1.4 Objective of Green Audit

The general objective of green audit is to prepare a baseline report on biodiversity and other resources, measures to mitigate resource wastage and improve resource quality and sustainable practices. The specific objectives are:

- To prepare a checklist of flora and fauna diversity in and around the college campus.
- To suggest measures to improve biodiversity within the college campus.
- To monitor the energy consumption pattern of the college.
- To assess the quantity of water usage within the college campus.
- To suggest sustainable energy usage and water conservation practices.
- To find out various sources of organic and solid waste generation and mitigation possibilities.
- To inculcate values of sustainable development practices through green audit mechanism.

1.5 About Criteria 7 of NAAC

National Assessment and Accreditation Council (NAAC) is a self-governing organization that rated the institutions according to the scores assigned at the time of accreditation of the institution. Green Audit has become a mandatory procedure for educational institutes under Criterion VII of NAAC. The intention of the green audits is to upgrade the environmental condition inside and around the institution. It is performed by considering environmental parameters like water and wastewater accounting, energy conservation, waste management, air, noise monitoring, etc. for making the institution eco-friendly.

Students are the major strength of any academic institution. Practicing green action in any educational institution will inculcate the good habit of caring for natural resources in students. Many environmental activities like plantation and nurturing saplings and trees, Cleanliness drives, no vehicle day, Rainwater harvesting, etc. will make the students good citizens of the country. Through Green Audit, higher educational institutions can ensure that they contribute towards the reduction of global warming through Carbon Footprint reduction measures.

1.6 Benefit of Green Audit to an Educational Institute

There are many advantages of green audit to an Educational Institute.

- It would help to protect the environment in and around the campus.
- Recognize the cost-saving methods through waste minimization and energy conservation.
- Empower the organization to frame a better environmental performance.
- It portrays a good image of the institution through its clean and green campus.
- More efficient resource management.
- To create a green campus.

- To create plastic-free campus and evolve health consciousness among the Stakeholder.
- Recognize the cost-saving methods through waste minimizing and managing.
- Authenticate conformity with the implemented laws.
- Empower the organizations to frame a better environmental performance.
- Enhance the alertness for environmental guidelines and duties.
- Impart environmental education through systematic environmental management approach and Improving environmental standards.
- Benchmarking for environmental protection initiatives.
- Financial savings through a reduction in resource use.
- Development of ownership, personal and social responsibility for the College and its environment.
- Developing an environmental ethic and value systems in youngsters.
- Green auditing should become a valuable tool in the management and monitoring of environmental and sustainable development programs of the College.
- Finally, it will help to build a positive impression through green initiatives for the upcoming NAAC visit.

1.7 Introduction of Auditing Firm

Name of Firm	M/s. Sonar Bharat Environment & Ecology (P) Ltd.
Address	35, C. R. Avenue, 3 rd floor, Kolkata - 700012
Contact Details	033-40031179/033-22113034

Details of team Member

Sr. No.	Name	Designation/ Technical	Technical Experience /Qualification
1	Shri Parimal Sarkar	Legal Expert	<ul style="list-style-type: none">➤ M.Sc. in Disaster Management➤ Post Graduate Diploma in Environmental Law from National Law School, Bangalore➤ Lead Auditor in ISO 14000 (Environmental Management)
2	Shri Subrata De Sarkar	General Manager	<ul style="list-style-type: none">➤ General Manager in Central Public Sector undertaking.➤ 12 years experience in Environmental Auditing➤ Lead Auditor in ISO 50001:2011

Audit Team

S N	Name	Designation/ Qualification	Experience
1	Shri Suvra Majumdar	<ul style="list-style-type: none">➤ Post Graduate Diploma in Energy Management (MBA)➤ BEE-EA-5723, AEA-0221 (Accredited Energy Auditor)➤ B.Tech (Electrical Engineering)	<ul style="list-style-type: none">➤ 15 years experience of Energy audit
2	Shri Gautam Ghosh	<ul style="list-style-type: none">➤ Diploma in Mechanical & Electrical Engineering from Calcutta Technical School	<ul style="list-style-type: none">➤ 27 Years experience of working in electrical engineering department in different industries.➤ 12 years experience in independent electrical auditing
3	Shri Suman Chattaraj	Environmental Specialist	<ul style="list-style-type: none">➤ M.Tech in Environmental Science➤ 20 years experience in Environmental Impact Studies and Auditing

1.8 List of Instruments

Following are the instrument used at the time of the Energy Audit.

Sr.	Instrument	Make/Sr.No.
1	Digital LUX Meter	HTC/2222600
2	Digital Micro OHM Meter	Innova/I-259
3	Digital Multi Meter	Kusam Mecco/162180630
4	Digital Clampmeter	Waco/1910149152
5	Meger	Waco/307421
6	Load analyser	Waco/2954563

1.9 List of Laboratory Instruments for Environmental Monitoring

Sl. No.	Name of Equipment	Make	Model
1	GAS CHROMATOGRAPH WITH FID, TSD.	VARIAN	CP3800
2	GAS CHROMATOGRAPH MASS SPECTROMETER WITH ECD	VARIAN	CP 3800 SATURN 2200
3	GAS CHROMA TOGRAPH WITH FID for Air	DANI	Master GC
4	ION CHROMATOGRAPH	Thermo Fisher Scientific	DIONEXICS 1100
5	H.P.L.C.	VARIAN	SERIES 200
6	FTIR	Thermo Fisher Scientific	Nicolet IS10
7	ATOMIC ABSORPTION SPECTRROPHOTOMETER	VARIAN	AA 2406TA 120
8	MERCURY ANALYSER	EC	MAS 5840
9	FLAME PHOTOMETER	LOWERENCE & MAYO	381
10	SPECTRO PHOTOMETER	VARIAN	CARY 50
11	BOD INCUBATOR	MULTISPAN	DIGITAL
12	ELECTRONIC MICRO BALANCE	Citizen	CMSF

1.10 List of Field Equipment Environment Department

Sl. No.	Name of Equipment	Make	Model
1	Field Dust Sampler	Envirotech/Lata Envirotech	APM – 550, PM 2.5 & 10
2	Respirable Dust Sampler	Envirotech/Lata Envirotech	APM-460BL
3	Stack Kit Sampler	Envirotech/Lata Envirotech	APM-620, PM- 602
4	Sound Level Meter (AUTOMEDTIC)	Envirotech	SLM-101
5	Sound Level Meter	Lutron	SLM-4001
6	Local Air Quality Sampler	Vayubodhan	APM-414
7	Auto Metric Whather Monitor	Spectrum Technology	WM-272
8	Depth Sampler	NA	NA

1.11 General steps involved in Green Audit

- a) Systematic and exhaustive data collection.
- b) Evidence based documentation of activities.
- c) Regular monitoring.
- d) Provide standards and methods for improvement by establishing cost effective Green action plan.

CHAPTER – 2

VICTORIA INSTITUTION (COLLEGE)

2.1 History of the College

The Victoria Institution, originally named as the Native Ladies Normal and Adult School, was founded on 1st February, 1871, by Brahmananda Keshub Chandra Sen under the auspices of the Indian Reform Association of which he was the President. The aim of the Institution as laid down by Keshub Chandra Sen was to build up a scheme of education "specially adapted to the requirement of the female mind and calculated to fit woman for her position in the society." Education, Keshub believed, should be "both natural and national" and his followers pursued the aim with apostolic fervor while nurturing the Institution. In 1932, the college section of the Institution was set up under the patronage of Maharani Suniti Devi, Maharani Sucharu Devi (daughters of Keshub Chandra) and other Board members among whom was Dr. Bidhan Chandra Roy who took keen interest in the growth of the Institution and remained associated with it till death. The college which started LA. course in 1932 soon became a first grade wom-en's college teaching upto B.A. Honours course in several subjects (1935). The science section of the college was opened in 1950. To meet the growing demand from the girls aspiring for higher education the morning section of the college was opened in 1963. In the Platinum Jubilee Year (2006-07) the college introduced B. Com (Hons.) and B.A./B.Sc. (Major) Vocational Streams. At present the college has 8 departments in Arts and 8 departments in Science sections conducting Honours, Major and General courses for nearly 2400 students. It is a study centre for distance education of Netaji Subhas Open University.

Over the years goals and objectives of the Victoria Institution College have been redefined keeping in mind women's growing role in different sectors of public life. But Keshub Chandra Sen's "comprehensive scheme of education" through special lectures, distance education ('antapur shiksha'), vocational training and physical training still forms the core of the education system of the V.I. College.

For more than seven decades the Victoria Institution College has been rendering commendable service for the promotion of women education in Bengal combining successfully heritage tradition with modernisation. The location of the college in the house of its Founder, a great soul, a harmonizer of all religions and one of the greatest social reformers of modern India, cannot fail to produce a wholesome and ennobling influence on the mind of the students and the staff of the college and inspire them to keep aloft the founder's ideal. The mission of the college is to realize founder's dream "one society, one religion, one world".

2.2 Location of the College

Victoria Institution (College) is located in the vicinity of Sealdah Station in Kolkata. Victoria Institution (College) is an educational institution with a rich cultural tradition in its background. College located at 78-B, Acharya Prafulla Chandra Road, Kolkata – 700 009.

2.3 Communication & Transportation

Transport system of Victoria Institution (College) is very good. It is situated at a distance of 3 km. from Sealdah Railway Station & Sealdah Metro Station. Howrah Railway station is near by 5 km & Kolkata Railway station is around 4.5 km from the College. It is also easy accessible from Sealdah, Howrah, & Kolkata railway station. Nearest Air Port is Netaji Subhas Chandra Bose International Airport, it is situated at a distance of about 13 km from the College.

2.4 Vision & Mission of the College:

Vision

The vision of the college is to be realise college founder's dream, "One Society, one Religion, one world".

Mission

The college mission is to redefine women's role in restructuring our society in its march "Onwards, Forward, Heaveward", the words which Keshub Chandra Sen pronounced on landing at Bombay on his return from England. It is necessary at times to look back and look ahead at the same time and readjust our position so that our vision is not allowed to blur and that our mission is not permitted to overlook the current socio-cultural requirements and our position in it.

The Governing Body at the apex of the college administrative system formulates plans provides guidance and maintains an overall supervision to ensure the proper implementation of the vision and mission.

The Academic-sub-committee and the Finance-sub-Committee, two statutory bodies, oversee that the mission of the college to educate girls to become liberated and sensitive young women, empowered to respond to global challenges is fulfilled.

The IQAC provides guidance and inspiration to stimulate and ensure quality enhancement and sustenance. The Teachers' Council along with various committees formed by the Principal, facilitate overall quality enhancement of the college.

2.5 Goals & Objectives:

- The primary objective of Victoria Institution (College) is to facilities learning, which is a life-long process, by creating excellent academic ambience and by providing all-round general education of body and mind by means of rich curricular, co-curricular and extra-curricular programmes taken under the supervision of sincere and competent faculty members.
- The Institution aims at providing a unique atmosphere of socio-religious harmony where every girl gets opportunity to find her own unique strength and opportunity of self-expression which would enable her to face any challenge in the context of rapid changes in the socio-economic-cultural scenario of the society. The Institution also tries to maintain a Ragging Free Zone.
- It has been the chief aim of the Institution to inculcate in every student a sense of responsibility towards society, respect for human being and care for nature and environment, so that she can become a worthy member of the society.

2.6 Campus Infrastructure:

Victoria Institution (College) is ragging free Green Campus with free internet facility. It has a very good and systematic building infrastructure. All the classrooms are spacious, well ventilated and comfortable. Total area of college over 607.28 Square Metre. Following facilities are available in the campus.

- Library
- Hostel
- Labs
- Canteen
- Gym
- Sports Field
- Auditorium

2.7 National Cadet Corps (NCC) :

- The National Cadet Corps came into existence under the National Cadet Corps Act XXXI of 1948 (passed in April, 1948; came into existence on 16th July, 1948). Victoria Institution (College) boasts of a highly functional NCC unit. It is run under the guidance of one of the professors who invites, encourages and initiates a number of events each year for the NCC cadets.
- The National Cadet Corps (NCC) is a youth development movement. It has enormous potential for nation building. The NCC provides opportunities to the youth of the country for their all-round development with a sense of duty, commitment, dedication, discipline and moral values so that they become able leaders and useful citizens. The NCC provides exposure to the cadets in a wide range of activities, with a distinct emphasis on social services, discipline and adventure training.
- During the previous year NCC cadets of the college were made to participate and engage with a plethora of social awareness and community service activities throughout the period. Not only were the cadets involved in observing National Youth Day, World Environment Day, International Yoga Day, Kargil Diwas; they also organised awareness campaigns to raise awareness regarding Covid 19; conducted blood donation camps; carried out Swachh Bharat Abhiyan and PuneetSagar Abhiyan in their own way. NCC cadets, during the said period not only aced in inter-district and national sports events (kick-boxing); they also participated in collective sports events like Fit India Run.



Fig. 1 : NCC Programme

2.8 National Service Scheme (NSS) :

The National Service Scheme (NSS) is a Central Sector Scheme of Government of India, Ministry of Youth Affairs & Sports. Launched in the year 1969 marking Mahatma Gandhi's Birth Centenary year, it aimed at providing hands on experience to students (Young NSS volunteers) in community service; the official motto being 'NOT ME BUT YOU'. NSS Unit of this College was established in 1975 with the philosophy of philanthropy and community service as its core values.

Each year new volunteers are recruited by the NSS cell who devote their time towards various community services. The volunteers of NSS worked under the supervision of their Programme Officer Smt. Aloka Mukhopadhyay since 2007. Their activities comprised of both indoor and outdoor programmes which ranged from spreading awareness to maintenance of college campus. The activities of the NSS unit of Victoria Institution (College) have been highly appreciated by the University of Calcutta and Smt. Aloka Mukhopadhyay was awarded with the title of Best Programme Officer in 2016. She had also represented the West Bengal Contingent as Contingent Leader in the very prestigious National Integration Camp held at Bangalore in 2017..

Since 2023, Smt Anuradha Basu has been functioning as its programme officer. NSS committee prepares an annual plan each year to organize regular activities and also conduct special camps upon receipt of specific grants from the University of Calcutta. We encourage and invite students each year to participate in NSS activities as volunteers. Upon completion of three years as NSS volunteer, Calcutta University furnishes a certificate of appreciation towards each volunteer which is distributed from the college and which is held in high regard by universities, institutes of higher learning and employers across the country.



Fig. 2 : NSS Programme

CHAPTER - 3

Green audit Methodology

3.1 Utility of Green Auditing

Green audit is used to improve existing anthropogenic activities, with the object to reduce the adverse effects of these activities upon environment. An environmental auditor will study an organization's efforts to conserve the environment in a systematic and documented manner and will produce an environmental audit report.

3.2 Objectives of the Study

The basic objective of green audit is to promote environment management and conservation in the college campus. Purpose of the audit is to identify, quantify, describe and prioritize the framework of environmental sustainability in compliance with the applicable regulations, policies and standards. Major objectives of carrying out green audit are:

- To introduce an awareness among the students regarding real concerns of environment and its sustainability.
- To secure the environment and cut down the threats posed to human health by analyzing the pattern and extent of resource use on the campus.
- To establish a baseline data to assess future sustainability by avoiding the interruptions in environment that are more difficult to handle and their corrections requires high cost.
- To bring out a present status report on environmental compliance.

3.3 Methodology

In order to perform green audit, methodology included different techniques such as physical inspection of the campuses, observation and review of the documentation, interviewing key persons and data analysis, measurement of the present status of environment management in the campuses:

- Water quality assessment, consumption and management
- Air quality assessment and management
- Electricity consumption and management
- Sound pollution monitoring
- Waste management
- Bio diversity status of the campus
- Land use and land coverage
- Rain water Harvesting
- Use of alternate energy sources.

CHAPTER - 4

LAND USE ANALYSIS, VICTORIA INSTITUTION (COLLEGE)

4.1 General overview of the concept of land use:

Land use refers to man's activities and the various uses which are carried on and derived from land. Viewing the earth from space, it is now very crucial in man's activities on natural resource. In situations of rapid changes in land use, observations of the Earth from space give the information of human activities and utilization of the landscape.

4.2 Methodology adopted for land use mapping

Three types of data that are GPS points, field survey data and Google earth data for Geo-referencing have been used in this study. Land use map of the study area have been prepared using field survey

CLASSIFICATION SCHEME FOR LAND USE ANALYSIS OF BUILT UP AREA

Level-I	Level-II
1. Built- up land area	1.1 Dense 1.2 Moderate 1.3 Sparse

Therefore, attempt has been made in this study to map land use for Victoria Institution (College) with a view to detect the land consumption in the built-up land area.

LAND USE DATA OF VICTORIA INSTITUTION (COLLEGE)

CATEGORIES OF LAND USE	AREA IN SQ METRES
OPEN SPACE AND PLANTATION	1220.57
GROUND COVERAGE	4849.71
TOTAL AREA	6070.28

Ground coverage of 79.89% (i.e 4849.71 sq. mtr.) consists of the buildings.

FINDINGS:

Victoria Institution (College) which was established in the year 1932, has an eco-friendly environment. It has a long legacy of healthy environmental practices including periodic plantation, their preservation and maintenance. Its land use is such that about 20.11% of the total area is occupied by open land and plantation that generates a better and sustainable campus environment.

CHAPTER – 5

WATER QUALITY ASSESSMENT CONSUMPTION & MANAGEMENT

5.1 Water Quality Analysis Test Report



Qualissure Laboratory Services

361, Prantik Pally,
45/361, Bose Pukur Road,
Kolkata - 700107
Email : qualissure@gmail.com
Mob. No. : 9831287086
9830093976

DOC NO : QLS/SAMP/08-D/00

TEST REPORT

Name & Address Of the Customer : M/s. Victoria Institution College 78 B, Acharya Prafulla Chandra Rd, Baithakkhana, Kolkata, West Bengal, Pin:700009	Report No. : QLS/MR/W/23-24/C/844 Date : 13.12.2023 Sample No. : QLS/MR/W/23-24/844 Sample Description : Drinking Water Sample Location : Ground Floor New Building Aquaguard Sample Drawn On : 06.12.2023 Date of Performance : 07.12.2023-13.12.2023 Ref No. & Date : SBEEPL/VC/2023-24/20, 02.12.2023
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Analysis Result

(A) Microbiological Analysis

Sl. No.	Characteristic	Limit as per Drinking Water Standard : IS:10500, 2012 RA: 2018 Amd. 2	Test Method	Result
1.	Total Coliform Bacteria/100ml	Not Detectable	IS 15185-2016	Not Detected
2.	E.coli /100ml	Not Detectable	IS 15185: 2016	Not Detected

(B) Chemical Analysis

Sl. No.	Test Parameter	Test Method	As per Drinking Water Standard : IS:10500, 2012 RA: 2018 Amd. 1 & 2		Result
			Acceptable Limit	Permissible Limit	
1.	pH Value at 25°C	IS 3025 (Part 11)- 1984 RA: 2019	6.5-8.5	No Relaxation	7.91
2.	Turbidity in NTU	IS 3025 (Part 10)- 1984 RA: 2017	1	5	<1.0
3.	Total Dissolved Solids (TDS) in mg/l	IS 3025 (Part 16): 1984 (RA 2017)	500	2000	168
4.	Calcium(as Ca) in mg/l	IS 3025 (Part 40): 1991(RA 2019)	75	200	32.9
5.	Chloride(as Cl) in mg/l	IS 3025 (Part 32): 1988 (RA 2019)	250	1000	19.1
6.	Iron (as Fe) in mg/l	IS 3025 (Part 53): 1988(RA 2019)	1.0	No Relaxation	0.12
7.	Magnesium(as Mg) in mg/l	APHA 24 th Edition- 2023, 3500 Mg	30	100	14.1
8.	Nitrate (as NO ₃) in mg/l	IS 3025 (Part 34): 1988(RA 2019)	45	No Relaxation	<0.5
9.	Free Residual Chlorine in mg/l	IS 3025 (Part 26): 1986 RA: 2021	0.2	1.0	<0.1
10.	Sulphate (as SO ₄) in mg/l	IS 3025 (Part 24): 1986 (RA 2022)	200	600	17.2
11.	Alkalinity (as CaCO ₃) in mg/l	IS 3025 (Part 23): 1986(RA 2019)	200	600	129.2
12.	Total Arsenic(as As) in mg/l	IS 3025 (Part 37): 1988 (RA 2019)	0.01	No Relaxation	<0.01
13.	Total Hardness (as CaCO ₃) in mg/l	IS 3025 (Part 21): 2019	200	600	141.1

Report Prepared By: 

for Qualissure Laboratory Services
Reviewed & Authorized By

Soumya Chakraborty, Microbiologist
(Authorized Signatory)

for Qualissure Laboratory Services
Reviewed & Authorized By

Bishwajyoti Choudhury, Chemist
(Authorized Signatory)

-----End of the Report-----

• The results relate only to the item(s) tested.



Fig. 3 : Drinking water sample collect

WASTE WATER ANALYSIS REPORT



Qualissure Laboratory Services

361, Prantik Pally,
45/361, Bose Pukur Road,
Kolkata - 700107
Email : qualissure@gmail.com
Mob. No. : 9831287086
9830093976

DOC NO : QLS/SAMP/08-D/00

TEST REPORT

Name & Address Of the Customer : M/s. Victoria Institution College 78 B, Acharya Prafulla Chandra Rd, Baithakkhana, Kolkata, West Bengal, Pin:700009	Report No. : QLS/MR/W/23-24/C/845 Date : 13.12.2023 Sample No. : QLS/MR/W/23-24/845 Sample Description : Waste Water Sample Location : Canteen Main Drain Sample Drawn On : 06.12.2023 Date of Performance : 07.12.2023-13.12.2023 Ref No. Date : SBT-PL/VC/2023-24/20, 02.12.2023
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Analysis Result

Sl. No.	Parameter	TEST METHOD	Result	Limit as per CPCB for discharge of effluents	
				Inland Surface Water	Public Sewers
1.	pH at 25°C	APHA 24 th Edition-2023, 4500 H+	6.41	5.5 to 9.0	5.5 to 9.0
2.	Total Suspended Solid in mg/l	APHA 24 th Edition-2023, 2540 D	152	100	600
3.	Chemical Oxygen Demand (as COD) mg/l	APHA 24 th Edition-2023, 5220B	538	250	---
4.	Biochemical Oxygen Demand (as BOD) mg/l	IS 3025 (Part 4)-1993, RA:2019	136	30	350
5.	Oil & Grease in mg/l	APHA 24 th Edition-2023, 5520A	8.5	10	20

Report Prepared By :

for Qualissure Laboratory Services
Reviewed & Authorized By

Bishnupriya Banerjee, Chemist
(Authorized Signatory)

---End of the Report---

* The results relate only to the item(s) tested



Fig. 4 : Waste water sample collect

CHAPTER – 6

AMBIENT AIR QUALITY AssEssMENT ANd MANAqEMENT

6.1 Air Quality Test Report



		Qualissure Laboratory Services		361, Prantik Pally, 45/361, Bose Pukur Road, Kolkata - 700107 Email : qualissuro@gmail.com Mob. No. : 9831287086 9830093976	
DOC NO : QLS/SAMP/08-A/00					
TEST REPORT					
Name & Address Of the Customer: M/s. Victoria Institution College 78 B, Acharya Prafulla Chandra Rd, Bailhakkhana, Kolkata, West Bengal, Pin:700009			Report No. : QLS/MR/A/23-24/C/1345 Date : 11.12.2023 Sample No. : QLS/MR/A/23-24/1345 Sample Description : Ambient Air Sample Mark : Near Main Office Ref. No. : SBEEPL/VC/2023-24/20 Ref. Dated : 02.12.2023		
Analysis Result					
Location : Near Main Office			Date of sampling : 06.12.2023-07.12.2023		
Sampling Done by : R.Sardar			Sampling done as per : CPCB Guidelines (Volume-1)		
Environmental Condition : Clear & Sunny			Average Temperature : 24°C		
Barometric Pressure : 753 mm of Hg			Average Humidity : 29 %		
Sl. No.	Pollutants	Result	Limit as per CPCB	Method of Test Reference	
1	Particulate matter (<10µm) in µg/m ³	88	100	IS: 5182 (Part-23), RA-2017	
2	Particulate matter (<2.5µm) in µg/m ³	50	60	USEPA CFR-40,Part-50, Appendix-L	
3	Sulphur dioxide (SO ₂) in µg/m ³	7.3	80	IS: 5182 (Part-2)-2001, RA-2017	
4	Nitrogen dioxide (NO ₂) in µg/m ³	30.9	80	IS: 5182 (Part-6)-2006, RA-2017	
5	Carbon Monoxide (CO) in µg/m ³	801	2000	IS: 5182 (Part-10):1999,RA-2014	
NOTE: Limit as per CPCB notification, New Delhi, 18 th November 2009, for Ambient air quality.					
Report Prepared By : 			for Qualissure Laboratory Services Reviewed & Authorized By  Denzindhab Goyal, Chemist [Authorized Signatory]		
<small>* The results relate only to the item(s) tested.</small>					



Fig. 5 : Ambient Air sample collect

AMBIENT AIR TEST REPORT



Qualissure Laboratory Services

361, Prantik Pally,
45/361, Bose Park Road,
Kolkata - 700107
Email : qualissure@gmail.com
Mob. No. : 9831287086
9830093976

DOC NO : QLS/SAMP/08-A/00

TEST REPORT

Name & Address Of the Customer:	Report No. : QLS/MR/A/23 24/C/1346
M/s. Victoria Institution College	Date : 11.12.2023
78 B, Acharya Prafulla Chandra Rd, Baithakkhana,	Sample No. : QLS/MR/A/23 24/1346
Kolkata, West Bengal, Pin:700009	Sample Description : Ambient Air
	Sample Mark : Near Keshab Memorial Hall
	Ref No. : SBEEPL/VC/2023-24/20
	Ref Dated : 02.12.2023

Analysis Result

Location : Near Keshab Memorial Hall	Date of sampling : 06.12.2023-07.12.2023			
Sampling Done by : R.Sardar	Sampling done as per : CPCB Guidelines (Volume-1)			
Environmental Condition : Clear & Sunny	Average Temperature : 25°C			
Barometric Pressure : 753 mm of Hg	Average Humidity : 29 %			
Sl. No.	Pollutants	Result	Limit as per CPCB	Method of Test Reference
1	Particulate matter (<10µm) in µg/m ³	68	100	IS: 5182 (Part-23), RA-2017
2	Particulate matter (<2.5µm) in µg/m ³	36	60	USEPA CFR-40,Part-50, Appendix-L
3	Sulphur dioxide (SO ₂) in µg/m ³	6.9	80	IS: 5182 (Part-2)-2001, RA-2017
4	Nitrogen dioxide (NO ₂) in µg/m ³	28.6	80	IS: 5182 (Part- 6)-2006, RA-2017
5	Carbon Monoxide (CO) in µg/m ³	743	2000	IS: 5182 (Part-10):1999,RA-2014
NOTE: Limit as per CPCB notification, New Delhi, 18 th November 2009, for Ambient air quality.				

Report Prepared By :

for Qualissure Laboratory Services
Reviewed & Authorized By

Denimadhab Goral, Chemist
(Authorized Signatory)

• The results relate only to the item(s) tested.



Fig. 6 : Ambient Air sample collect

CHAPTER – 7

NOISE MONITORING

7.1 Ambient Noise Monitoring Status:

361, Prantik Pally,
45/361, Bose Pukur Road,
Kolkata - 700107
Email : qualissure@gmail.com
Mob. No. : 9831287086
9830093976

DOC NO : QLS/SAMP/08-C/00

TEST REPORT

Name & Address Of the Customer: M/s. Victoria Institution College 78 B, Acharya Prafulla Chandra Rd, Baithakkhana, Kolkata, West Bengal, Pin:700009.	Report No. : QLS/MR/A/23-24/C/1347 Date : 11.12.2023 Sample No. : QLS/MR/A/23-24/1347 Sample Description : Ambient Noise Date of Performance : 07.12.2023-11.12.2023 Ref No. : SBEEPL/VC/2023 24/20 Ref Dated : 02.12.2023
---	---

Monitoring Result of Noise


Sampling Done By : R.Sardar


Sampling Guideline : As per IS: 9876: 1981 (RA-2001)


Sample No	Date of Monitoring	Location	Leq dB (A) Day Time	Leq dB (A) Night Time
1347	06.12.2023- 07.12.2023	Near Main Gate	63.2	45.3

Code/ Category	Leq dB(A) Day Time	Leq dB(A) Night Time
A/Industrial	75	70
B/Commercial	65	55
C/Residential	55	45
D/Ecological Sensitive	50	40

NOTE:
Day Time : 06.00 Hr. – 22.00 Hr.
Night Time : 22.00 Hr. – 06.00 Hr.

Report Prepared By: 

for Qualissure Laboratory Services
Reviewed & Authorized By

Benimadhab Gora, Chemist
(Authorized Signatory)



* This report refers only to the sample tested.



Fig. 7 : Noise level monitoring

CHAPTER - 8

Rain water HaRvesting system

Rain water harvesting has been an integral part of the infrastructure at the campus and the collected rainwater is utilized to recharge the ground water levels. This artificial technique of collecting water from roof-tops helps in the process of water conservation by not allowing excess surface water from flowing into the drains. A water tank has been placed to preserve the rain water and this is used for watering the plants in the college campus.



Fig. 8 : Rain water Harvesting Tank

CHAPTER - 9

ELECTRICITY CONSUMPTION (IN UNIT) AND MANAGEMENT

9.1 General Details:

Sl.No.	PARTICULARS	DETAILS	
1	Name & Address of College	Victoria Institution (College) 8-B, Acharya Prafulla Chandra Road, Kolkata – 700 009.	
	Web Site	https://victoriacollege.co.in	
2	Name of Contact Officer	Dr. Maitreyi Ray Kanjilal	
	Designation	Principal	
	Name of Alternative Officer	Dr. Sudip Kumar Sinha	
	Designation	Assistant Professor	
3	Telephone No.	(033) 2350 1959	
	Mobile No.	9830585797	
	Fax No.		
	e-mail ID	victoriacollege1932@gmail.com	
	No. of shift	2 Shift,: 6.30 AM to 11.30 AM & 10.30 AM to 5.30 PM.	
	No. of Employees (Approx)	93	
4	Electricity Consumption	Imported (Purchased) 4070	
5	Specific Energy Consumption	Fuel 752/-	Electricity Rs. 3,63,240/- (Per year)
6	LPD	4,400/-	
7	EPI	1.19	

9.2 Electrical Details

a) Transformers

	No. 1
Voltage Ratio	N/A
KVA	N/A
% Impedence	N/A

b) Electricity Consumption

	Particulars	Demand
A	Contract demand KVA	35.0
B	Maximum demand	35.0
C	Total Energy units consumed / year	48845
D	Avg. Power Factor(P.F.)	0.97
E	Avg. Energy bills(Rs/month)	Rs. 30,270/-

c) Detailed list of Electric Motors operating in the college

S.NO.	NAME OF THE PLANT	RATING OF MOTOR (KW)	NO. OF MOTORS
1	Victoria Institution (College),	7.4 KW	2 nos.

d) **Connected Load**

	EQUIPMENT	TOTAL NUMBERS	LOAD IN KW (TOTAL)
A	Motors : Greater than 10kW	NIL	NIL
	: Less than 10 kW	2 Nos.	7.4 KW
B	AC & Ventilation with TR capacity		
a)	Others (Package ACs/ Split ACs / Windows ACs), Photocopy Machine, Water Coller with TR	Room AC of Split/Window type – 24.61 KW	
C	Total Process Load (in kW)	32.01 KW	
D	Total Lighting Load (in kW) & Luminaries details	No's of lighting luminaries (LED+T/L+P/L – 24.64 KW (including fan, compressors, water purifier)	
	Total Load (in KW)	59.65 KW	

9.3 Use of Alternate Energy

The institute has taken an important step for reduction in pollution level by installation of solar panel and photo voltaic cell for generating electricity. About 40 solar panels are installed at the roof of the College building of AJC Bhawan (Science Building) & Keshub Memorial Hall.

For reducing carbon emission, and dependence on fossil fuel, the institution has resorted to using green energy by harnessing solar power. In order to increase generation of solar energy, installation of solar panels in the open space around the building was be considered. This helps in reducing Carbon emission.



**Solar panel on the rooftop
Of A.J.C. Bhawan (Science Building)**



**Solar panel on the
rooftop of K.M. Hall**



**Grid Connections on the rooftop
Of A.J.C. Bhawan (Science Building)**



**Grid connections on the
rooftop of K.M. Hall**

Fig. 9 : Solar Power system for Green Energy

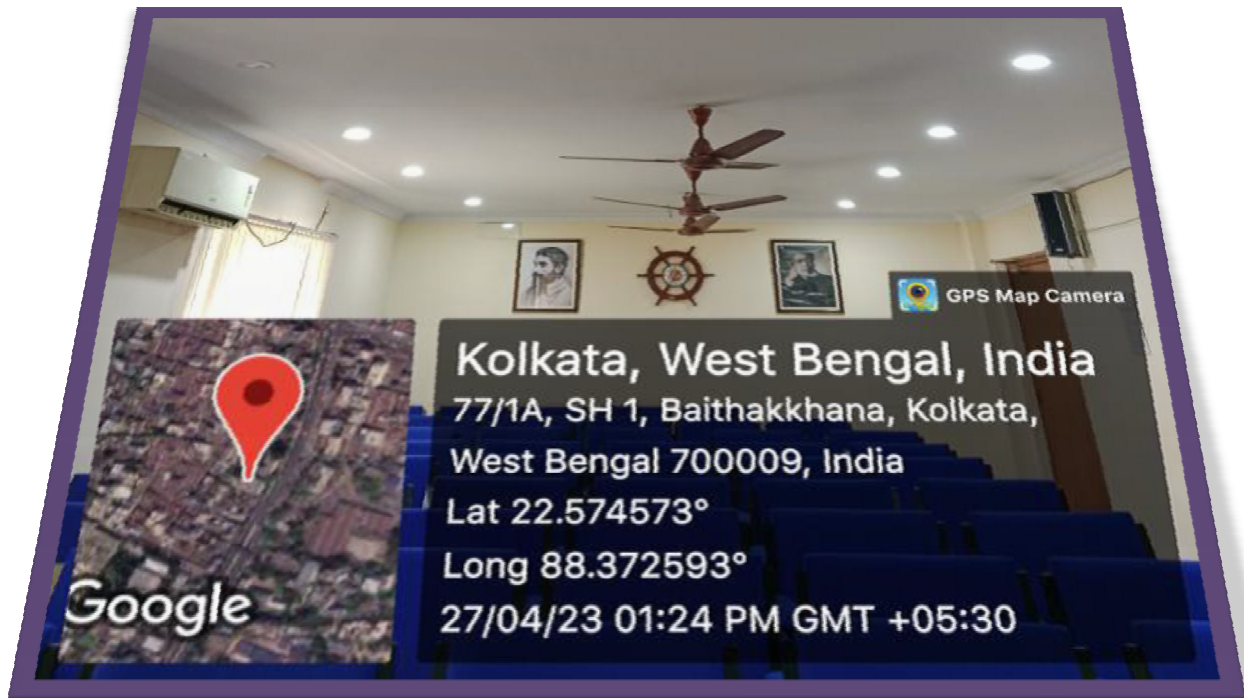


Fig. 10 : Use of LED Bulb for efficient power utilization

CHAPTER - 10

Waste Management

The present Prime Minister of India Sri Narendra Modi launched 'Swachh Bharat Abhiyan' (Clean India Mission) on 2nd October, 2014. In this mission, the proper use of dust/waste bins is one of the major priorities. To implement this mission, collective mass effort is necessary. For proper segregation and management proper use of waste bins is the only solution for waste management purpose in the college campuses.

10.1 Solid Waste

Victoria Institution (College) has set up separate bins to ensure proper segregation and collection of the biodegradable, non-biodegradable and hazardous waste products generated in the campus. The responsibility of recyclable waste is however still not taken up due to devoid of recycling device to carry on the procedure. However, several solid wastes such as glass, cans, used white and brown papers, batteries, print cartridges, cardboard, furniture, damaged pen, carbon papers etc are either sold to vendors for recycling or dispatched via municipality disposal van on regular basis.



Fig. 11 : Solid waste collect dust bin

TO WHOM IT MAY CONCERN

This is to certify that Victoria Institution (College), has effectively implemented solid waste and e-waste disposal and ensured hygienic condition in the campus.

Debi Prasad Shaw
Debi Prasad Shaw
26/8/22

M/S . DEBI PRASAD SHAW

Waste Paper Dealer, supplier to Paper Mill & Govt. Contractor

Regd. Office: 456A, Rabindra Sarani, Kolkata- 700005

contact no: 9831012151

9433061982



emami* paper mills limited

regd. office : 687 anandapur e.m. bypass kolkata 700 107 india
phone: 91 33 6613 6264 fax : 91 33 6613 6900 email : emamipaper@emamipaper.com website : www.emamipaper.in
CIN : L21019WB1981PLC034161

Date – 25.04.2022

PULPING CRETIFICATE

TO WHOM IT MAY CONCERN

This is to certify that one lot (945 kgs) Waste Paper of Victoria Institution College, Kolkata had been purchased by us from M/s. Debi Prasad Shaw of 456A, Rabindra Sarani, Kolkata – 700005 through our supplier and have consumed the waste paper as raw material for making pulp.

For EMAMI PAPER MILLS LTD.



Authorised Signatory

ISO 9001: ISO 14001 & OHSAS 18001 Certified Company
unit balasore : vill : balgopalpur, p.o. rasulpur, dist. balasore 756 020, odisha, india
phone : 91 6782 275723/26/79 fax : 91 6782 275778 email : balasore@emamipaper.com

Fig. 12 : Solid Waste Sale certificate

10.2 Liquid Waste

- The waste water from college canteen, hostel and washrooms is safely disposed of through internal sewage system connected to the Municipal Corporation sewage line.
- The liquid wastes produced mainly by the Chemistry department are collected in three different plastic containers. If possible, the organic solvents are reused after fractional distillation process. Otherwise the liquid waste is diluted, neutralized and disposed off
- Waste water from Reverse Osmosis systems is collected and reused.
- Leaking taps and pipes if any are periodically checked and serviced.

10.2 E-Waste

Substantial quantity of e waste is generated due to extensive use of computer.

All members particularly students have been advised not to throw used pendrive etc. any where, but to keep in designated bins. Waste thus collected is stored in secured place.

The usable parts of the outdated computer systems are reused and the unusable parts are resold to the computer junk dealers.

Different electrical items like fan, air conditioner is repaired by the college electrician if possible or otherwise they are disposed of by the Kolkata Municipal Corporation.

As per the guidelines of Pollution Control board (P.C.B.) e-waste is to be disposed off through approved vendors of the P.C.B.

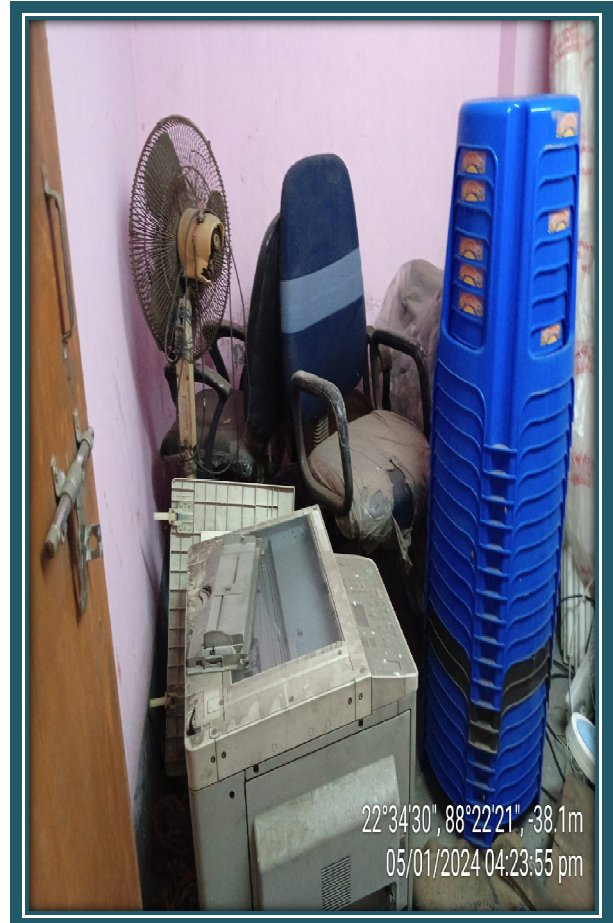


Fig. 13 : E-Waste Store room

CHAPTER – 11

ENVIRONMENTAL AUDIT

Biodiversity status of the College Campus

11.1 Introduction

Victoria Institution (College) is very rich in biodiversity. To conserve this biodiversity, our first need is to learn about the existing diversity of the place. Unless we know whom to conserve we will not be able to plan proper conservation initiatives. Also, it is important to have an understanding of the bio-diversity of an area so that the local people can be aware of the richness of bio-diversity of the place they are living in and their responsibility to maintain that richness.

11.2 Objective

The main objective of this study is to get a baseline data of bio-diversity of the area which will include:

1. Documentation of the floral diversity of the area: its trees, herbs, shrubs, climbers and aquatic vegetations.
2. Documentation of the major faunal groups like mammals, reptiles, amphibians, birds and among the insects, butterflies and dragonflies.
3. Documentation of the specific interdependence of floral and faunal life.

Location Map

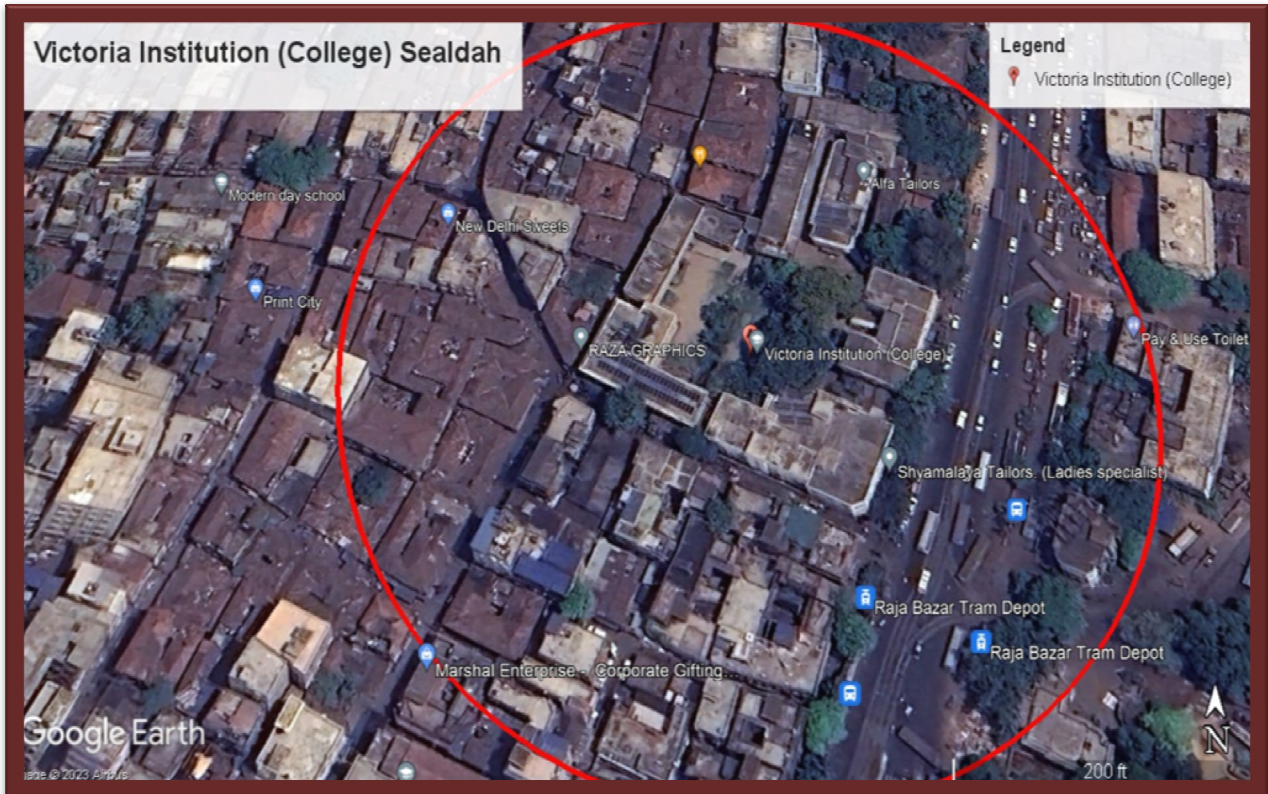


Fig. 14 : Location map

11.3 Method of Study

Brief methodology for the floral and faunal survey is given below:

- a) Sampling was done mostly in random manner.
- b) Surveys were conducted for the maximum possible hours in day time.
- c) Tree species were documented through physical verification on foot and photographed each species as much as possible.
- d) The total area was surveyed by walking at day time.
- e) For faunal species we emphasized mainly on the direct sighting. Also call of various birds and amphibians and nesting of some faunal species were considered as direct evidences.
- f) Observing mammals depend critically on the size of the species and its natural history. Diurnal species are common and highly visible. Nocturnal species, however, are rare and difficult to detect. Small mammals like the field rats were found near their burrows, particularly during their entry or exit times in or out from their burrows respectively. In some cases, deposits and footprints were also observed that served as a potential clue for the presence and absence of the concerned species. These secondary evidences were all noted with time and space co-ordinates.
- g) Birds are often brightly coloured, highly vocal at certain times of the year and relatively easy to see. Sampling was done on the basis of direct sighting, call determination and from the nests of some bird species
- h) Reptiles were found mostly by looking in potential shelter sites like crevices of building, logs, tree hollows and leaf litter and also among and underneath the hedges. Sometimes some species, particularly the garden lizards were also observed in open spaces (on twigs and branches and even on brick constructions) while they were basking under direct and bright sunlight.

- i) Amphibians act as potential ecological indicators. However, most of them are highly secretive in their habits and may spend the greater part of their lives underground or otherwise inaccessible to biologists. These animals do venture out but typically only at night. They were searched near pond, road beside wetland and in other possible areas. Diurnal search operations are also successful.
- j) Active invertebrates like the insects require more active search. For larger winged insects like butterflies, dragonflies and damselflies, random samplings were carried and point sampling was also done.
- k) The easiest way to observe many of the invertebrates is simply looking for them in the suitable habitat or microhabitat. Searching was carried out under stones, logs, bark, in crevices in the walls and rocks and also in leaf litter, dung etc. slugs and snails are more conspicuous during wet weather and especially at night when they were found using torch.

11.4 Plant diversity in the College Campus

Victoria Institution (College) premises having about 607 Sq.Mtr. of land have unique plant diversities. These include some largest trees.

These plants are listed and depicted as following:

List of the Major Plants of the Garden

SL. NO.	COMMON NAME	SCIENTIFIC NAME	FAMILY
1	Debdaru	<i>Polyalthia longifolia</i> Sonn.	Annonaceae
2	Rose	<i>Rosa centifolia</i> L.	Rosaceae
3	Kamini	<i>Murraya paniculata</i> Jack.	Rutaceae
4	China Rose	<i>Hibiscus rosa-sinensis</i> L.	Malvaceae
5	Nayantara	<i>Catharanthus roseus</i> L.	Apocyanaceae
6	Karabi	<i>Nerium oleander</i> Mill	Apocyanaceae
7	Tagar	<i>Tabernaemontana divaricata</i> R.Br.ex. Roem. & Schult.	Apocyanaceae
8	Chatim	<i>Alstonia scholaris</i> L.R.Br..	Apocyanaceae
9	Cape jasmine (Gandharaj)	<i>Gardenia jasminoides</i> J.Ellis	Rubiaceae
10	Betel Nut (Supari)	<i>Areca catechu</i> L.	Arecaceae
11	Red Silk Cotton	<i>Bombax ceiba</i> L.	Malvaceae
12	Palm	<i>Elacis guinensis</i> Jacq.	Arecaceae
13	Guava	<i>Psidium guajava</i> L.	Myrtaceae
14	Neem	<i>Azadirachta indica</i> (A) Juss.	Meliaceae
15	Peepal Tree	<i>Ficus religiosa</i> L.	Moraceae
16	Kanchan	<i>Bauhinia acuminata</i> L.	Fabaceae

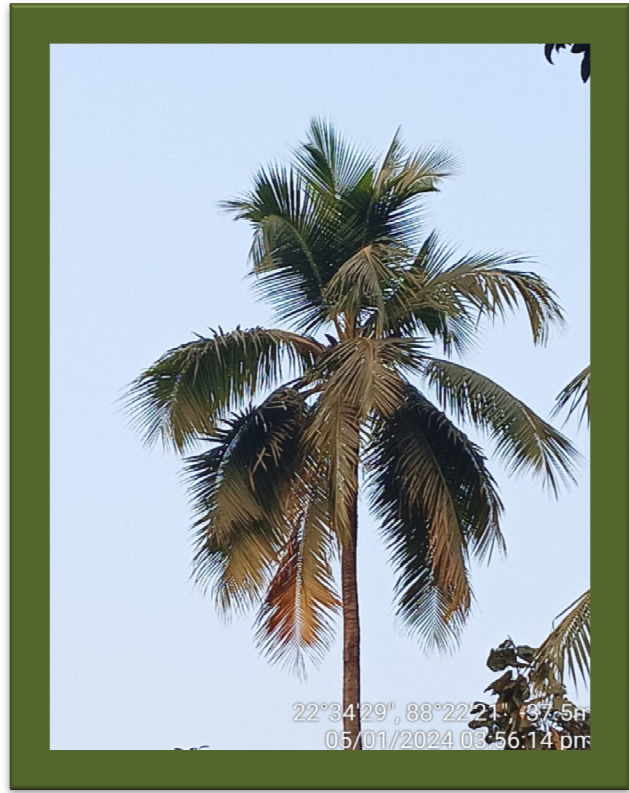




Fig. 15 : Major plant in the college campus area

11.5 Medicinal Plants in the Campus:

Sl No.	Common Name	Scientific Name	Family
1	Neem	<i>Azadirachta indica</i>	Meliaceae
2	Akashmoni	<i>Acacia auriculiformis</i>	Fabaceae
3	Krishnachura	<i>Caesalpinia pulcherrima</i>	Fabaceae
4	Yellow Oleander, Kolkey	<i>Thevetia peruviana</i>	Apocynaceae
5	Tagar plant	<i>Tabernaemontana divaricata</i>	Apocynaceae
6	Parijat, Shiuli	<i>Nyctanthes arbor-tristis</i>	Oleaceae
7	Aparajita	<i>Clitoria ternatea</i>	Fabaceae
8	Hibiscus	<i>Hibiscus rosa-sinensis</i>	Malvaceae
9	Nayantara, Periwinkle	<i>Catharanthes roseus</i>	Apocynaceae
10	Tulsi	<i>Ocimum sanctum</i>	Lamiaceae
11	Ghritakumari	<i>Aloe barbadensis</i>	Liliaceae
12	Curry plant	<i>Murraya koenigii</i>	Rutaceae
13	Papaya plant	<i>Carica papaya</i>	Caricaceae
14	Wild basil	<i>Clinopodium vulgare</i>	Lamiaceae



Fig. 16 : Medicinal plants in the college campus area

11.6 Checklist of Reptiles:

Sl. No.	Common name	Scientific Name	Bengali Name
1	Skink	Lampropholis sp.	Anjani
2	Oriental Garden Lizard	Colotes versicolor	Girgiti
3	Common House Gecko/Gekko	Hemidactylus frenotus	Tiktiki



Fig. 17 : Reptiles

11.7 Checklist of Birds:

A total of 20 types of bird species were found in the campus, which is quite a good number, in spite of the industrialized surrounding around it.

Total bird species encountered in the college campus.

Sl. No.	Name of Bird	Scientific Name
1	Owl	Strigiformes
2	Sparrow	Passeridae
3	Crow	Corvus
4	Myna	Acridotheres tristis
5	Parrot	Psittacula eupatria
6	Bulbul	Molpastes cafer
7	Koel	Eudynamis scolopaccus
8	Pigeon	Columba livia
9	Indian Vulture	Gyps indicus
10	Indian Cuckoo	Cuculus micropterus
11	Dodo	Raphidae columbiformes
12	Dove	Columbidae columbiformes
13	Duck	Anatidae anseriformes
14	Eagle	Aquila accipitridae
15	Hummingbird	Trochilidae apodiformes
16	Kiwi	Apteryx apterygiformes
17	Ostrich	Struthio camelus
18	Peacock	Pava cristatus
19	Penguin	Pentagonica sphenisciformes
20	Swan	Cygnus coscoroba

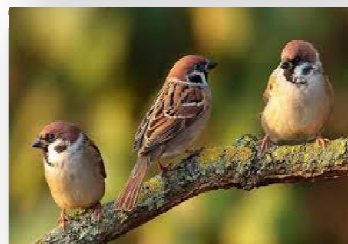
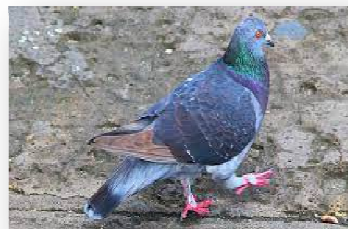


Fig. 18: Local Birds

11.8 Checklist of Mammals:

Sl. No.	Common name	Scientific name	Bengali name
1	Indian palm squirrel	<i>Funumbulus sp.</i>	Kathberali
2	Frugivorous bat	Suborder Megachiroptera	Badur
3	Insectivorous bat	Suborder Microchiroptera	Chamchike
4	House mouse	<i>Mus musculus</i>	Indur
5	Rat	<i>Rattus norvegicus</i>	Dhere indur
6	Cat	<i>Felis catus</i>	Biral

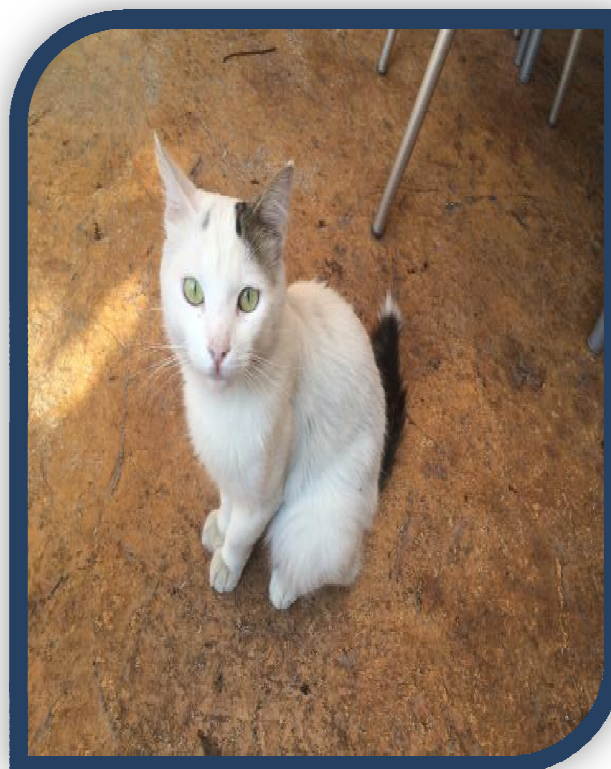


Fig. 19 : Mammals

11.09 Checklist of Ferns and Seasonal Flowers

Sl. No.	Local Name	Common Name	Scientific Name
1.	Petunia	Petunia	<i>Petunia hybrid</i>
2.	Verbena	Verbena	<i>Verbena sp.</i>
3.	Jaba	China Rose	<i>Hibiscus rosa-sinensis L.</i>
4.	Aparajita	Aparajita	<i>Clitoria ternatea</i>
5.	Fern	Fern	<i>Pteris spp.</i>
6.	Gulab	Rose	<i>Rosa sp.</i>
7.	9 o' clock plant	9 o' clock plant	<i>Portulaca grandiflora</i>
8.	Marigold, Ganda	Marigold	<i>Tagetes erecta</i>
9.	Maiden Pink, China pink	Maiden Pink	<i>Dianthus chinensis</i>
10.	Sandhyamani	Four o clock flower,	<i>Mirabilis jalapa</i>
11.	Nayantara	Periwinkle	<i>Catharanthes roseus</i>
12.	Shiuli	Parijat	<i>Nyctanthes arbor-tristis</i>
13.	Sthalapadma	Confederate rose	<i>Hibiscus mutabilis</i>
14.	Tagar	Tagar	<i>Tabernaemontana divaricata</i>
15.	Madhabilata	Burma creeper	<i>Quisqualis indica</i>
16.	Maiden Pink	Maiden Pink	<i>Dianthus deltoids</i>
17.	Mike Ful	Amaryllis	<i>Hippeastrum sp.</i>

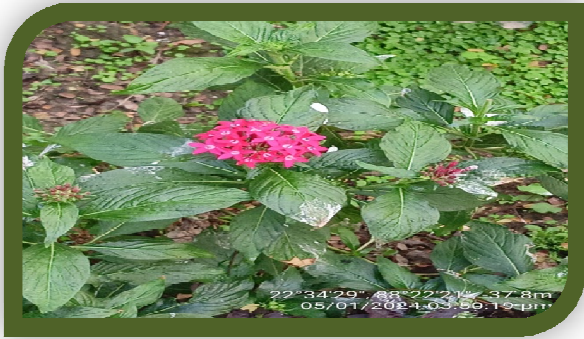


Fig. 20 : Flower of the college premises

CHAPTER - 12

GREEN INITIATIVES

Victoria Institutional (College) aims to protect and conserve its biodiversity, fresh and clean ambiance through the following green initiatives to protect and conserve nature.

12.1 Plantation Programme

Plantation programme of Victoria Institution (College) promotes environment management and conservation in the college campus with the following objectives:

- i) To motivate the students to keep their surroundings green and clean by undertaking plantation of trees.
- ii) Promote ethos of conservation of water by minimizing the use of water.
- iii) Motivate students to imbibe habits and life style for minimum waste generation, source separation of waste and disposing the waste to the nearest storage points.
- iv) To create awareness amongst public and sanitary workers, so as to stop the indiscriminate burning of waste which causes respiratory diseases.
- v) To minimize the use of plastic bags, not to throw the min public places as they choke drains and sewers, cause water logging and provide breeding ground for mosquitoes.
- vi) Organize tree plantation programmes, awareness programmes such as Quiz, essay, painting competitions, rallys, nukkad natak etc. regarding various environmental issues and educate children about re-use of waste material & preparation of products out of waste
- vii) Organize Nature Trail in Wild Life Sanctuaries/Parks/Forest are as to know about the Bio-diversity.



Fig. 21 : Plantation programme

12.2 **Green computing practice**

Being an academic institution, papers are used for various purposes like exam answer sheets, circulars, notices, office work, document printing, and Xeroxing. Since the trees are cut for paper manufacturing, the sequestration of carbon is reduced increasing carbon footprint. To cut down the carbon footprint, the university administration and various departments follow paperless methods of communication by using emails, online forms submission, etc. The paperless work was helpful in reducing tons of CO₂. The tons of biomass are saved by this green computing practice

CHAPTER – 13

Consolidation of Audit Findings

Green Audit will create a greater appreciation and understanding of the impact of college actions on the environment. Victoria Institution (College) have successfully been able to identify the impacts on the environment through the various auditing exercises. The green auditing exercise have brainstormed and provide insights on practical ways to reduce negative impact on the environment. Participating in this green auditing procedure have gained knowledge about the need of sustainability of the college campus. It will create awareness around the use of the Earth's resources in your home, college, local community and beyond. Victoria Institution (College) should adopt an Environmentally Responsible Purchasing Policy, and work towards creating and implementing a strategy to reduce the environmental impact of its purchasing decisions. White good producing companies are rapidly developing in the area of energy efficiency. Many computer hardware and electrical supply companies now cooperate with customers to reclaim old or damaged parts. Although over twice as expensive up front, LCD monitors are estimated to use 40-60% less energy overall than CRTs. All computers purchased by the college have an Energy Star rating, which is beginning to be a standard requirement for computers.

13.1 Preparation of Action Plan

Management's policies referring to College and approach towards the use of resources need to be considered in purview of green audit report. An environmental policy should be formulated by the management of the college. The college should have a policy on green awareness raising or training programmes for students and staff, seminars on Environment Awareness are often organized by different departments of the institution, green awareness policy right from kitchen staff to procurement policy by the management. Based on the policies, college should have an action plan. The green auditing report will be a base line for the action plan to be evolved.

13.2 Follow up Action and Plans

Green Audit is an exercise which generates considerable quantities of valuable environment and resource management information. The time and effort and cost involved in this exercise is often considerable and in order to be able to justify this expenditure, it is important to ensure that the findings and recommendations of the audit are considered at the correct level within the organization and action plans and implementation programmes will be conducted on the basis of the audit findings.

13.3 Environmental Education

The following environmental education programmes may be implemented in the college before the next green auditing:-

Training programmes in solid waste management, liquid waste management setting up of biodiversity garden, tree management, medicinal plant nursery, vegetable cultivation, water management, energy management, landscape management, pollution mitigation methods, and water filtration methods.

- Give priority to environmental clubs and its programmes
- Set up model rainwater harvesting system, vegetable garden, medicinal plant garden, butterfly garden etc.
- Conduct exhibition on throw away plastic danger, recyclable products etc.
- Display various slogans and pictures to protect environment.
- Implement chemical treatment system for waste water from the laboratories and incinerators.
- Display of environmental awareness board such as – Save water, save electricity, No wastage of food/water, no smoking, switch off light and fan after use, plastic free campus etc.

CHAPTER - 14

ConCl usion and ReCommendations

Green Audit is the most efficient way to identify the strength and weakness of environmental sustainable practices and to find a way to solve problem. Green Audit is one kind of professional approach towards a responsible way in utilizing economic, financial, social and environmental resources. Green audits can “add value” to the management approaches being taken by the college and is a way of identifying, evaluating and managing environmental risks (known and unknown). There is scope for further improvement, particularly in relation to waste, energy and water management. The college in recent years consider the environmental impacts of most of its actions and makes a concerted effort to act in an environmentally responsible manner. Even though the college does perform fairly well, the recommendations in this report highlight many ways in which the college can work to improve its activities and become a more sustainable institution.

14.1 Suggestions

- a) Adopt the proposed Environmentally Responsible Purchasing Policy, and work towards creating and implementing a strategy to reduce the environmental impact of its purchasing decisions.
- b) Increase recycling education on campus.
- c) Increase awareness of Environmentally Sustainable Development – Use every opportunity to raise public, government, industry, foundation, and college awareness by openly addressing the urgent need to move toward an environmentally sustainable future.
- d) Collaborate for Interdisciplinary Approaches – Convene college faculty and administrators with environmental practitioners to develop interdisciplinary approaches to curricula research initiatives, operations, and outreach activities that support an environmentally sustainable future.

14.2 Recommendations:

- a) *Declare the campus plastic free and implement it thoroughly.*
- b) *Fire extinguisher are increasingly needed in College campus areas.*
At least two 10 kg capacity extinguisher is to be placed on each end of the floor. Regular refilling should be ensured and date of refilling should be clearly marked.
- c) *Replace incandescent and CFL lamps with LED Light*
- d) *Replace LCD computer monitors with LED monitors.*
- e) *More plants are needed are College campus area.*
- f) *Fire safety audit to be required.*
- g) *Avoid plastic/thermocool plates and cups in the college level or department level functions.*
- h) *A separate enclosure needs to be made for storage of scrap and E-waste materials.*
- i) *Noise level monitoring shall be done as per the guideline of "Noise Pollution (Regulation and Control) Rules '2000'.*
- j) *The Biodiversity is to be maintained whole considering the plantation in future.*
- k) *All the fans, lights and other electrical & electronics appliances are to be switched off when they are not in use.*
- l) *Regular checkups and maintenance of pipes, overhead tanks, and plumbing systems should be done by the engineering section to reduce overflow, leakages, and corrosions.*
- m) *As per the guidelines of Pollution Control Board, (P.C.B.) E-Waste is to be disposed of through approved vendors of the P.C.B.*

The College should take steps for disposal through the approved vendors.

Sonar Bharat Environment & Ecology Pvt. Ltd.
Pavimal Sarkar
Director

ACKNOWLEDGEMENT

We want to keep on record the excellent co-operation received from the entire team of faculty members, Principal, Co-Ordinator of IQAC and other teaching & non-teaching staff. Without their support, this Audit would not have been possible.

Our special word thanks are extended to:

1. Dr. Maitreyi Ray Kanjilal – Principal
2. Dr. Sudip Kumar Sinha – Assistant Professor

For all the assistance provided to the audit team of Sonar Bharat Environment & Ecology Pvt. Ltd.

Sonar Bharat Environment & Ecology Pvt. Ltd.
Raximal Sankar
Director



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Division	: 70	Current issue date	: 14.10.2022
Class	: 70.22	Current expiry date	: 13.10.2025
Process(es) not applicable	: 8.3	1st Surveillance due	: 13.10.2023
Certificate number	: IND/QMS/NAB-C3313/3200	2nd Surveillance due	: 13.10.2024
Attachment(s)	: None		


H. Narasimhaiah
Director

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QF-12A Rev 00 date 04.12.2019

THE END