GREEN AUDIT REPORT
2021-2022

SUKANTA MAHAVIDYALAYA
Dhupguri, Jalpaiguri
West Bengal, India

Prepared by
GREEN AUDIT COMMITTEE
SUKANTA MAHAVIDYALAYA
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AUDIT TEAM MEMBERS

Internal Audit Members

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Dr. Apurba Barman, Assistant Professor, Physics, Member
Prof. Sougata Karjee, Assistant Professor, Mathematics, Member
Dr. Tridib Mondal, Assistant Professor, Chemistry, Member
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Principal

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IQAC coordinator

Prof. Ranjan Kumar Das

Acknowledgements

The Green Audit Committee is grateful to all science and arts departments, library and office sections (all stakeholders) as well as our dear students for their valuable inputs and assistance. Audit Committee also thankful to our respected Principal (Dr Nilangshu Sekhar Das) and IQAC Coordinator (Prof. Ranjan Kumar Das) for their continuous support to prepare the green audit.

BACKGROUND OF GREEN AUDIT

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 can acronymically be called 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 is 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 CO_2 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.

GREEN AUDIT INFORMATION

1. GENERAL INFORMATION

1.1Year of Establishment of college:

SUKANTA MAHAVIDYALAYA, established on 25th September in 1981, is the general degree college in Dhupguri of Jalpaiguri district.

1.2History behind the establishment of the college:

SUKANTA MAHAVIDYALAYA, named after the eminent Bengali poet Sri Sukanta Bhattacharya (1926-1947), was established on 25th September, 1981 at Sukanta Nagar, P.O. – Dhupguri, Dist. – Jalpaiguri, West Bengal. It is a Government-aided Degree College, permanently affiliated to the University of North Bengal and enlisted under Section 2(F) and 12 (B) of the U.G.C. Act, 1956. It is situated at the Dhupguri – Falakata Road and reachable from the district town Jalpaiguri in one hour journey by bus or train. The college is situated in an area known as Dooars which is the tea belt of North Bengal other than Darjeeling.
SUKANTA MAHAVIDYALAYA, Dhupguri offers various facilities to its students including Canteen, Computer Lab, Fest, Library, Medical Facilities and more; subjected included as Chemistry, Physics, Mathematics, Computer Science, Botany, Zoology, Bengali, Environmental Science, English, Sanskrit, History, Geography, Political Science, Education, Philosophy, Economics, Physical Education and Self-financing course (BBA).

1.3 Total campus area:

- 292363 sq. ft.

1.4 Total built up area:

- 34660 sq. ft.

1.5 Total open space area:

- 257703 sq. ft.

1.6 Total green area:

- 228704 sq. ft.

1.7 Whether the college is implementing the Green Policy for the first time: "(mention date/month/year)

- Yes, (17/09/2020)

1.8 Whether green audit is followed annually, if so, please produce the year-wise recommendations of the auditor along with report (as Annexure):

- It is started from 2020-21 session. The green audit of the session 2020-21 was not evaluated by the Auditor/Expert Member due to Covid-19 pandemic. It was internal members that recommended to appoint an External member for next session as well as analysis of water quality of the campus, air and noise level monitoring, etc. All the recommendations by internal members are conducted during this session to improve the Green Audit Report for the academic session 2021-22.

1.9 Whether college has constituted the "College Environmental Committee or Green Audit Committee"

- Yes.

1.9.1 Name of the Committee members

Dr. Palas Samanta, Assistant Professor, Environmental Science, Convener
Dr. Apurba Barman, Assistant Professor, Physics, Member
Prof. Sougata Karjee, Assistant Professor, Mathematics, Member
Dr. Tridib Mondal, Assistant Professor, Chemistry, Member
Dr. Debdip Bhattacharjee, Assistant Professor, Geography, Member

1.9.2 Number of meetings conducted so far

- Two meetings are arranged during this session for preparation of green audit with respect to Solid waste management, Water Management, Energy Audit, Biodiversity mapping and improvement, and miscellaneous.

1.9.3 Resolution of the meetings: Attached as Annexure

- Attached as Annexure.

1.9.4 Action taken by the Committee

- ***Promote student involvement:*** It was discovered that student community, which is a reliable internal backbone of college as well as our society, should be encouraged more to get more accustomed to the environment.
- ***Green audit report preparation:*** All stakeholders of the Institution helped continuously to prepare the green audit report for the academic session 2021-2022.
- ***Expert opinion, hiring, consultation and analysis:*** It was additionally discovered that an expert input would be very helpful in terms of ensuring a robust routing, assessment, and assessment of the information gathered. This is because tested procedures would be used appropriately, resulting in an efficient process. This cooperation would be successful in obtaining improved concepts, guidelines, and assistance for carrying out, assessing, and constantly monitoring the process.

Objectives:

The following are the key areas that the Green Audit procedure concentrated on:

- To foster a healthy environment in the campus
- To raise understanding of environmental obligations and regulations.
- To find ways to reduce costs by eliminating and efficiently managing wastes

1.9.5 Future programmes of the Committee

Following agendas are the future plan of the Green Audit Committee:

- *Ensure mass involvement of students for academic upliftment.*
- *Conductance of more environmental awareness programmes.*
- *Sensitization of eco-friendly practices by inviting Expert members.*
- *Timely preparation of audit report and evaluation by Expert Members.*
- *Institutional Green Campus certification/recognition.*

1.9.6 Policy enforcement strategies

- Policies are adopted according to

  Environment (Protection) Act of 1986
  Water (Prevention and Control of Pollution) Act of 1974, amended in 1988
  Water (Prevention and Control of Pollution) Cess Act of 1977, amended in 1991
  Air (Prevention and Control of Pollution) Act of 1981, amended in 1987
  Fire Prevention and Fire Safety Act of 2005

Pre-Audit Stage	**Audit Stage**	**Post Audit Stage**
♣ Establishment of Environmental Management System - It includes all stakeholders of an organization comprising top management to the	♣ Actual Auditing - EMS plans and executes the actual visit of an auditor of concerned agency.	♣ Post-audit Stage – Consideration of all facts and observations of audit together with EMS.

functional team. Each of them has given a specific task of compliance within stipulated period. ♣ Declaration of Environmental Policy - The policy is the reflection of goals, objectives, scope and priorities of the organization related to environment sustenance. ♣ Planning of Programmes or Activities - All environmental aspects related to the organization and their legal requirements studied here before the planning of such activities. ♣ Implementation and Operations - EMS evaluate all implemented programmes and processes and modify it as per the environment policy.	♣ Checking of Documents and Evaluation – Evaluation of documents rigorously and necessary recommendations. ♣ Review of Environment Policy - Review of Environment Policy documents and interviews with representatives of stakeholders. ♣ Review of Programmes or Activities - Review of all implemented programmes or activities	♣ Evaluation of Findings - As per the standard procedure. ♣ Reporting with Recommendations - Brief report preparation along with recommendations with respect to EMS and deliver it to auditing agency. ♣ Action Plan Preparation – As per recommendations EMS should chalk out the action plan and accomplish it effectively. ♣ Follow-up - Auditor takes the follow-up of the programmes or activities periodically.

1.10 Whether college has conducted any awareness/responsibility programme among the staff members:

- ❖ NA.

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

- ❖ Yes, all stakeholders are concerned about it.

1.12 Whether college has involved the students as volunteers in greening programmes:

- ❖ Yes, College has three NSS wings and one NCC unit who take care of plantation drive for greening our college precises as well as nearby locality.

1.13 Whether construction/demolition/repairing are in compliances with green standard

- ❖ Yes, College strictly followed green standard.

1.14 Whether college has conducted any workshop/seminar/lecture on environmental awareness programme inside and/or outside the campus

- **Yes, NSS, NCC, Environmental Science, geography and physical education department conducted programmes about it.**

1.15 Whether the institute has department of Law/Environmental Science/3-Year degree Course/Course curriculum

- Yes, College has Environmental Science department. Environmental Study is mandatory for all SEM I students.

1.16 Whether college provides any community services, if so, give details (as Annexure):

- Yes, our NSS wings and NCC unit are performing the community services.

Name of the activity	**Year of the activity**	**Number of students**
Sanitization Programme (Science Bulding, Sukanta Mahavidyalaya)	15.07.2021	10
Service to the Vacination Camp at Dhupguri Rural Hospital	16.07.2021	5
Service at Dhupguri Mouza Primary School vaccination Center	27.07.2021	5
Service at Uttar Bora Gari Jr. High School Vaccination Center	30.07.2021	5
Blood Donation Camp	06.09.2021	150
Rashtriya POSHAN Maah 1st Week	08.09.2021	25
Rashtriya POSHAN Maah 2nd Week	16.09.2021-17.08.2021	40
Rashtriya POSHAN Maah 3rd Week	22.09.2021	15
Rashtriya POSHAN Maah 4th Week	30.09.2021	15
Vaccination Camp at Sukanta Mahavidyalaya	04.10.2021-09.10.2021	10
CLEANING DRIVE	16.10.2021	10
Cleaning Drive	09.11.2021	12
Rescue Operation (Train Accident)	13.01.2022 - 14.01.2022	15

1.17 Whether the students are aware about the use of medicinal plants (any lecture/seminar/conference organized on it):

- Yes, students are aware about medicinal plant, different type of awareness has been done such as lecture, field visiting and seminar by departments like Environmental Science, Geography, Botany and Zoology.

1.18 Comments on the following:

1.18.1 Plantation program:

- Yes, regularly follows the plantation programme.

1.18.2 Formation of Natural club/Eco club:

- NA

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

- Yes, we are conserved species as like medicinal, economical important species.

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

- NA

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

- NA

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

- Every year college celebrates World Environment Day, World Water Day and Ozone Day in the campus. The main focus of these programems was to provide awareness to the students about the importance of the environment, its conservation and sustainable use of environmental resources. The programmes are conducted through seminars, poster presentation, quiz competition debates etc.

1.18.7 Number of field visits/survey records:

- **4 (four). Data are presented as Listing of biodiversity tables and figures.**

1.18.8 Campus biodiversity register

- Yes, our college campus follows biodiversity registration (Botany Department).

1.19 General aspects (express in statements)

1.19.1 Campus cleanliness

- ❖ We regularly followed the campus cleaning, waste is collected, namely, biodegradable as paper, non-biodegradable as plastic. Dust bin is a vital to waste management, we followed several dust bins like as biodegradable waste, non-biodegradable waste, liquid waste, etc., which are placed for management as proper way.

1.19.2 Rainwater harvesting

- ❖ NA.

1.19.3 Solar street lamps

- ❖ Our college has alternative power sources, which is solar power for light purposes. As a vision for the future, we will build renewable energy campuses through solar power centers.

1.19.4 Carbon dioxide neutrality on the campus by developing greenery

- ❖ Yes.
- ❖ According to the definition of carbon neutrality, every tonne of anthropogenic CO_2 released must be offset by the removal of an equal amount of CO_2.The following issues are highlighted:
  - sustainable water management,
  - a shift to renewable energy,
  - a campus bans on single-use plastics, plantations

  Sustainability is a comprehensive strategy. We must therefore impart our knowledge to others in order for them to gain knowledge and be inspired to make their own campus carbon neutral. The dedication and continuous advancement might help to keep everyone's support. Making progress toward a carbon neutral campus can enhance the institution's reputation.

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

- ❖ NA

1.19.8 Restriction in use of plastic and plastic products

- ❖ College is completely plastic free.

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

- Yes, the Green Committee is present in our college, they are working separately to maintain biodiversity, keeping record of air and noise quality, proper treatment of waste water generated from campus.

1.19.11 Training on vermicomposting

- NA

1.19.12 Celebration of 'No vehicle Day' on a particular day

- NA

1.19.13 Dams inside the campus to meet the demand for water

- NA

1.19.14 Installation of fire safety instruments in all the buildings/departments

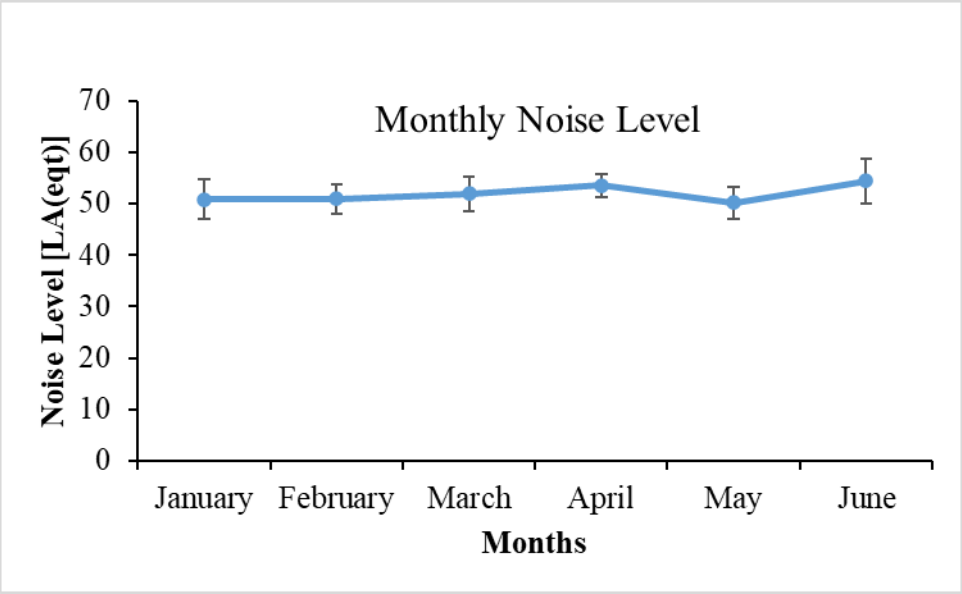
- Yes, installed in all buildings.

1.19.15 Toilets/separate toilets for differently abled students

- Yes, One.

1.20 Over all noise level

- Recently WBPCB installed sensor-based Noise Level Monitoring instrument within our campus for measuring ambient noise level. The monthly noise level within college campus since its installation is presented below:



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)?

- ❖ Recently WBPCB installed sensor-based Air Quality Monitoring instrument within our campus for measuring ambient air quality. The data is presented below as average annual:

Parameters	Values
Temperature (°C)	24.74 ± 6.45
Relative Humidity (%)	78.62 ± 17.28
SO_2 (µg/m^3)	12.11 ± 3.51
NO_2 (µg/m^3)	1.78 ± 5.29
$PM_{2.5}$ (µg/m^3)	54.17 ± 31.15
PM_{10} (µg/m^3)	101.78 ± 73.21
AQI	108.83 ± 71.45

The AQI values and corresponding ambient concentrations (health breakpoints) as well as associated likely health impacts for the identified eight pollutants are as follows:

AQI	**Associated Health Impacts**
Good (0–50)	Minimal impact
Satisfactory (51–100)	May cause minor breathing discomfort to sensitive people.
Moderately polluted (101–200)	May cause breathing discomfort to people with lung disease such as asthma, and discomfort to people with heart disease, children and older adults.
Poor (201–300)	May cause breathing discomfort to people on prolonged exposure, and discomfort to people with heart disease.
Very poor (301–400)	May cause respiratory illness to the people on prolonged exposure. Effect may be more pronounced in people with lung and heart diseases.
Severe (401–500)	May cause respiratory impact even on healthy people, and serious health impacts on people with lung/heart disease. The health impacts may be experienced even during light physical activity.

Pollutant	Time Weighted Average	Industrial, Residential, Rural and Other Area	Ecologically Sensitive Area (notified by Central Government)
SO_2, $\mu g/m^3$	Annual*	50	20
	24 hours**	80	80
NO_2, $\mu g/m^3$	Annual*	40	30
	24 hours**	80	80
PM_{10}, $\mu g/m^3$	Annual*	60	60
	24 hours**	100	100
$PM_{2.5}$, $\mu g/m^3$	Annual*	40	40
	24 hours**	60	60

2. WATER MANAGEMENT

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

- NA

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, Aqua Guards and/or large water filter with coolers are working condition, which are maintained by college development fund.

2.3 Whether college has its own mechanism in repairing of water leakage:

- Yes, repairing of water leakage is maintained by college development fund.

2.4 Is there any rainwater harvesting unit in college:

- NA

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

- NA.

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*.)

- Yes, Chemistry department performed this duty every month. The average yearly data (mean ± standard deviation) of academic session 2021-2022 is tabulated as follows:

Water Collection Sites	pH	TDS (PPM)	EC (µS/cm)
Standard Drinkable Water (BIS, 2012)	6.5 - 8.5	50-150	~190
Office Aquaguard	6.83 ± 0.22	89.6 ± 4.4	178 ± 8.2
Office Aquaguard No. 2	6.70 ± 0.21	88.2 ± 4.6	175 ± 9.4
Gate No. 2 Aquaguard	6.80 ± 0.24	90.2 ± 4.2	179 ± 9.9
Library Aquaguard	6.88 ± 0.31	94.1 ± 4.9	187 ± 10.2
Science Building Aquaguard	7.10 ± 0.26	72.2 ± 7.7	141 ± 8.7
Teacher's Room Aquaguard	6.65 ± 0.28	89.3 ± 4.8	179 ± 8.3
RBU Department Aquaguard	6.70 ± 0.22	87.7 ± 4.3	175 ± 8.4
RBU Department Tap Water	6.54 ± 0.34	86.5 ± 9.6	173 ± 14.1
Office Tap Water	6.60 ± 0.35	87.5 ± 9.9	175 ± 13.6
Staff Room Tap Water	6.65 ± 0.32	88.1 ± 10.5	177 ± 14.5
Library Tap Water	6.72 ± 0.36	89.2 ± 11.2	178 ± 15.2

Science Building Tap Water	6.90 ± 0.36	55.3 ± 14.2	110 ± 17.1
Chemistry Department Tap Water	6.84 ± 0.38	54.2 ± 14.7	108 ± 17.4
Botany Department Tap Water	6.80 ± 0.34	88.1 ± 9.4	176 ± 14.6
Zoology Department Tap Water	6.78 ± 0.34	88.0 ± 9.4	176 ± 14.5
Physical Education Department Tube well	6.45 ± 0.41	176.4 ± 32.1	352 ± 62.1
Student Canteen Water	7.4 ± 0.31	87.8 ± 9.7	176 ± 11.2

2.7 Lab-wise water consumption (lt/d)

Departments/Labs	Water consumption (lt/d)
Chemistry	7 - 10
Zoology	4 - 5
Botany	4 - 5
Office	80 - 130
Staff room	80 - 130
Aqua guards	2000 - 2500
Student toilets	1000 - 1500
Total Consumption = 3175 – 4280 Lit/day	

2.8 Whether college has sufficient/adequate drainage system:

- Yes, all departments have sufficient drainage system for water discharging.

3. ENERGY CONSERVATION

3.1 Reduction of energy consumptions, especially fossil fuel energy

3.1.1 Total electric consumption amount…… **35,656.2 kW/yr**

3.1.2 Average electrical consumption in a month…… **2971.35 kW/yr**

3.1.3 Total require of energy

- **Table: Power consumption in a month**

Electrical Appliances/ instruments	Number	Power (W/unit)	Total power (W)	kW	Operation hours/day	kW-hr	No of days in month (Average)	Total consumption per month (unit)

TUBE LIGHT	9	40	360	0.36	2	0.72	18	12.96
LED BULB	150	8	1200	1.2	2	2.4	18	43.2
LED TUBE	240	20	4800	4.8	2	9.6	18	172.8
METAL LED	15	20	300	0.3	6	1.8	18	32.4
PROJECTOR	9	150	1350	1.35	0.5	0.675	18	12.15
WiFi ROUTER	3	20	60	0.06	4	0.24	18	4.32
CCTV CAMERAS	28	15	420	0.42	6	2.52	18	45.36
FAN	381	75	28575	28.575	2.5	71.4375	18	1285.88
COMPUTERS	92	120	11040	11.04	1.5	16.56	18	298.08
LAPTOPS	10	65	650	0.65	1	0.65	18	11.7
PRINTERS	25	50	1250	1.25	0.25	0.3125	18	5.625
XEROX	4	700	2800	2.8	0.25	0.7	18	12.6
COPIER	1	500	500	0.5	0.25	0.125	18	2.25
SCANNER	5	20	100	0.1	0.25	0.025	18	0.45
INDUCTION	6	1200	7200	7.2	0.25	1.8	18	32.4
A/C	13	1500	19500	19.5	2.5	48.75	18	877.5
REFRIGERATOR	1	110	110	0.11	24	2.64	18	47.52
TABLE/STAND FAN	5	75	375	0.375	2	0.25	18	4.5
PUMP	2	750	1500	1.5	1	1.5	18	27
EXHAUST FAN	12	90	1080	1.08	1.5	1.62	18	29.16
AQUAGUARD	6	25	150	0.15	3	0.45	18	8.1
WATER FILTER	2	50	100	0.1	3	0.3	18	5.4
Total =								**2971.35**

3.1.4 Whether college has any provision/choice of renewable and carbon-neutral electricity options:

- Yes, college has solar power plant. Its operation will be started very soon.

3.1.5 Whether college has planned to install solar panels:

- Yes, college has installed solar power plant with the help of NBDT.

3.1.6 Whether college has efficient water heating system:

- NA

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, the staff members of all sectors are concerned about it.

3.1.7 Is there any monitoring system – like put off the main switch where there is no need of electricity:

- ❖ Yes, Multi-Chip Package (MCP) is installed in every floors as well as for every department, and leads to avoid short-circuit and power saving.

3.1.8 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, the stakeholders of the Institution are concerned about it.

3.1.9 Is there any options for equipment's running on standby mode:

- ❖ Yes, all electronic gadgets have set as automatic standby mode, which saves power.

3.1.10 Whether college has taken initiative to purchase efficient and environmentally sound appliances in order to fulfill the green budget:

- ❖ Yes, as follows:
- Eco chargers and Smart sockets.
- LED light, bulbs.
- Solar panels.

3.1.11 Whether college has its own mechanism in repairing of electrical fault:

- ❖ Yes, Multi-Chip Package (MCP) is installed in every floors as well as for every department. College has own electrical staff, who repair as early as possible.

3.1.12 Whether the class rooms are with sufficient illumination in day time and ventilation:

- ❖ Yes, all class rooms are well illumination in day time and has sufficient ventilation.

Number of lights & fans in class room (average):

- ❖ 4 LED, and 4 Fan

Use of light & fans in the day time (average hours):

- ❖ 2-3 hours

Number of windows per class:

- ❖ It depends on room size; on average it is 3.

Natural light source in day time (in hours) (average per class):

- Only cloudy weather and few rooms (Room number 14 and 16) need electrical bulb/tube.

3.1.13 How many (%) e-notice generated by the college for academic/administrative purposes in a month

- All notices are circulated by e-governance**.**

3.1.14 How many (%) paper-notice generated by the college for academic/administrative purposes in a month

- All notices are printed first then circulated by e-governance.

3.1.15 Total number of computers, printer, Laptop, Xerox machine

- Computer **-** 122, Printer – 25, Xerox – 4, Copier **-** 1

3.1.16 Whether college has organized lectures on energy conservation in order to give awareness to the students:

- NA, but Environmental Science teachers are aware students about it during class time.

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, as per Government Green Standards.

3.2.2 Whether florescent bulbs are replaced with CFL bulbs/LEDs:

- Yes. Maximum bulb used in 10–20-watt LED.

3.3 Minimize the use of unsustainable transport

3.3.1 What are the available/maximum transport facility used by the staff members/students etc., - mention the number (in average per day):

- Used bicycle by students, teachers, and staff to minimize the vehicular emission.
- All faculties and staff are used personal car, bike and bicycle.

Car	Bike	Bicycle
7	35	5

3.3.2 Whether college has any common car sharing/car pool among the students and faculty:

- NA

4. WASTE MANAGEMENT

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, college followed as CPCB prescribed waste guideline.
- College is following zero organic waste protocol. Food waste generated by students and staffs are taken by them to their own home, so that, minimum waste is generated inside the campus. The chemicals from laboratories are disposed in a sealed tank along with water.

4.1.2 Total amount of solid waste generated in the campus (including tree droppings & Lawn wastes)

Total number of sweeper staff : 4
Per capita production per day : 0.5-1 kg/day waste

4.1.3 Whether college arrange any workshop/seminar/conference for awareness the students/staff for specific arrangements for recyclable wastes:

- NA, but Environmental Science teachers are aware students about it during class time.

4.1.4 Whether college follow specific disposal method for solid or liquid waste in specific manner:

- Not applicable, waste generated by college, which are directly taken by Dhupguri Municipal Authority.

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, waste generated by college, which are directly taken by Dhupguri Municipal Authority. In particular, some degradable wastes are buried under soil.

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

- NA.

(if yes, what is the percentage of waste undergone composting and the final use of the products)

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*.):

- NA.

4.1.8 Minimize use of chemical pollutants

Sl No.	Deptt.	Name of the waste			Total (a+b+c) (kg/month)	Characterization (if any)	Method of disposal	Agency if any
		Chemical (a)	Biological waste (b)	Microbial waste (c)				
1	Chemistry	Laboratory waste, cleaner	N.A	N.A	NIL (Closed due to COVID)	N.A	Given table	N.A
2.	Zoology	Laboratory waste, cleaner	Practical waste	Practical waste	NIL (Closed due to COVID)	N.A	Given table	N.A
3.	Botany	Laboratory waste, cleaner	Practical waste	Practical waste	NIL (Closed due to COVID)	N.A	Given table	N.A
4.	Geography	Laboratory waste, cleaner	N.A	N.A	NIL (Closed due to COVID)	N.A	Given table	N.A
	All Toilet and Latrine	Bathroom Cleaner	N.A	N.A		N.A	Given table	N.A

Table: Different types of waste generated in the college and their disposal

Type of Waste	Particulars	Direct method
E-Waste	Computers, electrical and electronic parts	Direct selling, Exchanging with new model
Plastics waste	Pen, refill, Plastics water bottles and other plastic containers, wrappers etc.	Direct selling
Solid waste	Damaged furniture, paper waste, paper plastics, food wastes	Reuse after maintenance energy conversion

Chemical Wastes	Laboratory waste	Neutralize with water
Waste water	Washing, Urinals, Bathrooms	Soak pits, phytoremediation
Glass waste	Broken glass wares from labs	Direct selling
Sanitary Napkin/ pad	--	Burning by vending machine

4.1.9 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 ecofriendly product Y/N
		Biodegradable	Nonbiodegradable	Plastic waste			
1	Administrative Building	22	10				
2	Science Building	5	2				
3	Chemistry Lab	2	1				
4	Physics Lab	2	1				
5	Geography Lab	1	1				
6	Zoology Lab	1	1				
7	Botany Lab	1	1				
8	BBA Deptt.	4	1				
9	Computer Lab	1	1				
10	Canteen	1	1				
11	Library	6	1				

- **Biodegradable – 0.1 – 0.5 kg/day (office and class rooms)**
- **Non-biodegradable – 0.01 kg/day (office and class rooms)**
- **Biodegradable – 0 kg/day (labs)**
- **Non-biodegradable – 0 kg/day (labs)**
- **Hazardous waste – 0 gm/day (labs)**
- **E-waste collected – 30 Kg/year**
- **Glass waste – 0 Kg/year**
- **Dry leaves – 1 -2 Kg/day**

4.1.9 Whether the cleaning products used by the college staff are ecofriendly 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

- NA

4.1.11 Use of public transport:

- Yes, 90 percent of stakeholders generally used public transport such as bus, toto, *etc*.

5. E-WASTE MANAGEMENT

5.1 Quantity of e-waste generated:

- 30 Kg/year

5.2 Number of cartridge used month-wise:

- 6 pics/month

5.3 Number of cartridge disposed in a year (average):

- 35 pics

5.4 Number of times refilling & reusing method of disposal of e-waste (if any):

- One time.

5.5 Whether college has conducted any awareness programme on e-waste management:

- NA

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

- NA, College deal with exchanged, which minimized the price reduction of new model.

5.7 Disposal methods: **NA**

Sl No.	Location	Amount of generation	Method of disposal	Name of the Agency (if any) for disposal
NA	**NA**	**NA**	**NA**	**NA**

6. GREEN AREA MANAGEMENT

6.1 Is there any garden in the college campus/outside the campus under college custody?

- ❖ Yes, the college has its own garden.

6.2 Whether the garden is watered by using drip/sprinkler irrigation system:

- ❖ Normal tap water.

6.3 Is there any mechanism of review of periodical monitoring of tree species:

- ❖ Yes, Botany department keep this periodical record and survey.

6.4 Whether the college has taken any programme for plantation of some fruit trees which can attract birds, bees, etc.

- ❖ NA, due to lack of space.

6.5 Biodiversity mapping

- ❖ Yes, it is conducted by Botany Department along with Environmental Science, Geography and Zoology. It is attached as Annexure.

6.6 Records of Plantation programmes

Sl No.	Programme conducted	Year	No. of tree planted	Present status of the species
1.	NSS plantation	20.07.2021	100	80
2.	World Environment Day (NSS)	5-06-2022	50	40
3	World Environment Day (NCC)	5-06-2022	20	20

Recommended actions: 1) Try to measure noise level of campus, 2) Measure water quality parameters of drinking waters.

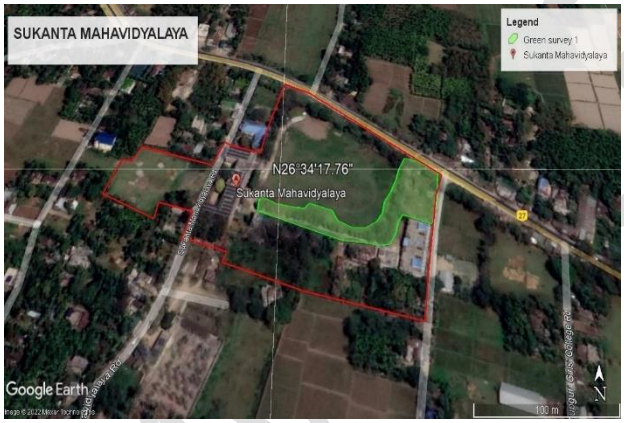
(Signature of IQAC Coordinator) (Signature of Principal/Chairperson of IQAC)

(Signature of Expert Member/Auditor)

(Signature of Green Audit Team Members)

ANNEXURE

Location map of Sukanta Mahavidyalaya



Green Survey 1

Green Survey 2

Green Survey 3

Green Survey 4

Table 1a Biodiversity mapping of specious plant species as detected in green survey 1

Sl No.	Place Name	Plant types (Common name)	Species name and quantity	Name of the family	Total no.of species	Category of the plant/tree
1	***Sukanta murti to main gate of the college***	Mottled spurge (Cactus)	Euphorbiaceae	E. Lactea	1	Ornamental
2		Beargrasses	Xerophyllum	Liliaceae	1	Ornamental
3		Common Guava	Myrtaceae	*Psidium guajava*	4	Economic
4		*Moonon Longifolium* (False Ashoka)	Monoon Longifollum	Annonaceae	2	Ornamental
5		Peepal tree (Sacred tree)	Ficus Religiosa	Moraceae	1	Indigenous
6		Krishnachura (Flameboyant)	Fabaceae	Delonix regia	4	Indigenous
7		Haritaki	Terminalia	Combraetaeeac	1	Medicinal
8		Debdaru	Moonon Longifolium	Annonaceae	21	Economic
9		Bohera	Terminalia Bellirica	Combretaceae	1	Medicinal
10		Mango	Anacardiaeeae	Mangifera Indica	2	Economic
11		Tamarind	Tamarindes indica	Fabaceae	1	Economic
12		Ashoka	*Saraea asoca*	Fabaceae	2	Indigenous
13		Sirish	Albizialebbeek	Fabaceae	5	Economic
14		Ficus	Moraceeae	Ficas Benjamina	1	Ornamental
15		Mimosa	Albizia Julibrissin	Fabaceae	1	Ornamental
16		Bokul	Mimusops Elengi	Sapotaceae	3	Indigenous
17		Kadom tree	Neolamarckia kadamba	Rubiaeeae	1	Indigenous

Table 1b Biodiversity mapping of species plant species as detected in green survey 2

Sl No.	Place Name	Plant types (Common name)	Species name and quantity	Name of the family	Total no. of species	Category of the plant/tree
1	***Staff canteen to the back side of Muktamancha of the college***	Papaya	*Carica papaya*	Caricaceae	2	Indigenous
2		Sirish	Albizialebbeek	Fabaceae	9	Economic
3		Mango	Anacardiaeeae	*Mangifera indica*	2	Economic
4		Tamarind	*Tamarindesindica*	Fabaceae	1	Economic
5		Gamari	*Gmelina arborea*	Lamiaceae	3	Economic
6		Krishnachura (Flameboyant)	*Delonixregia*	Fabaceae	3	Indigenous
7		Jaam	*Acacia auminata*	Fabaceae	1	Economic
8		*Akashmoni*	*Annona savumosa*	Fabaceae	3	Indigenous
9		*Kadom tree*	*Neolamarckia kadamba*	Rubiaeeae	1	Indigenous
10		*Ketoki/Keo*	*Crepe ginger*	Costaceae	1	Medicinal
11		*Mehogini*	*Hwietenia mahagoni*	Meliaceae	15	Economic
12		*Sugar Apple*	*Annona squamosa*	Annonaceae	1	Economic
13		*Segun*	Verbenaceae	*Tectona grandis*	2	Economic
14		*Neem*	Meliaceae	*Azadirachta indica*	2	Medicinal
15		*Kool*	Rahamnaceae	*Ziziphus mauritiana*	3	Indigenous
16		*Amloki*	Phyllanthaceae	*Phyllanthus emblica*	1	Medicinal

Table 1c Biodiversity mapping of species plant species as detected in green survey 3

Sl No.	Place Name	Plant types (Common name)	Species name and quantity	Name of the family	Total no. of species	Categoryof the plant/tree
1	***Flower garden of the college***	Jarul	*Lagerstroemia speciosa*	Lythraceae	1	Economic
2		Condyline	*Cordyline fruticosce*	Asparagaeae	1	Ornamental
3		Dragontongue	*Phyllodium elegans*	Fabaceae	1	Ornamental
4		Camelia	*Camelia oleifera*	Pheaceae	1	Ornamental
5		Rongon	*Ixora coecinea*	Rubiaceae	1	Ornamental
6		Hibiscus	*Hibiscusrosa-sinensis*	Malvaceae	2	Ornamental
7		Pinwheel flower	*Tabernamontana divaricata*	Apocynaceae	1	Ornamental
8		Palm	*Saribus rotundifolius*	Arecaceae	1	Ornamental
9		Arecapalm	Dypislutescens	Arecaceae	1	Ornamental
10		Yuccaalofola	*Yucc aaloifolia*	Aspanagaceae	1	Ornamental
11		Garden croton	*Codiaeum variegatun*	Euphorbiaceae	1	Ornamental
12		Lady palm	*Rhapis excelsu*	Arecaceae	1	Ornamental
13		Paper Read	*Cyperus papyrus*	Cypenseeae	1	Ornamental
14		Beschornenia	*Yucca aloifola*	Asponagaceae	1	Ornamental
15		Jesmine	*Jasmine subtripline*	Jasminaceae	1	Ornamental
16		Garden rose	*Rosa rubiginosa*	Rosaceae	1	Ornamental

Table 1d Biodiversity mapping of species plant species as detected in green survey 4

Sl No.	Place Name	Plant types (Common name)	Species name and quantity	Name of the family	Total no. of species	Category of the plant/tree
1	***Back side of the flower garden to thenew***	Kadom tree	*Neolamarckia kadamba*	Rubiaeeae	1	Indigenous
2		Gamari	*Cremlina arbonea*	Lamiaceae	6	Economic
3		Sirish	Albizialebbeek	Fabaceae	10	Economic
4		Eucalyptus	Myrtaceae	Eucalyptus Globulus	1	Ornamental
5		Akashmoni	*Annona savumosa*	Fabaceae	1	Indigenous

Table 2 Total number of plants species within the college campus

Indigenous Plants		**Medicinal Plants**		**Economic Plants**		**Ornamental or Exotic Plants**		**Total types of species**	**Totalno. of plants**
Types of species	Total no. of species	Types of species	Total no. of species	Types of species	Total no. of species	Types of species	Total no. of species	**41**	**120**
6	23	4	6	9	69	22	22		

Table 3 Animal diversity recorded within the College Campus

Sl.No	Common Name	Scientific Name	Systematic Position	Number
01.	Cockroach	*Periplanata americana*	Phylum-Arthropoda	100
02.	Butterfiy	*Pieris rapae*	Phylum-Arthropoda	20
03.	Butterfly	*Delias eucharis*	Phylum-Arthropoda	30
04.	Butterfly	*Papilio* sp.	Phylum-Arthropoda	20
05.	Butterfly	*Cepoora* sp.	Phylum-Arthropoda	10
06.	Butterfly	*Graphium* sp.	Phylum-Arthropoda	5
07.	Butterfly	*Catopsilia* sp.	Phylum-Arthropoda	10
08.	Mosquito	*Anopheles* sp.	Phylum-Arthropoda	30
09.	Mosquito	*Culex* sp.	Phylum-Arthropoda	2000
10.	Mosquito	*Aedes* sp.	Phylum-Arthropoda	2000
11.	House fly	*Musca* sp.	Phylum-Arthropoda	5000
12.	Bee	*Apis* sp.	Phylum-Arthropoda	200
13.	Waps	*Phimenes* sp.	Phylum-Arthropoda	150
14.	Beetle	*Madateuchus* sp.	Phylum-Arthropoda	300
15.	Beetle	*Titanus* sp.	Phylum-Arthropoda	250
16.	Beetle	*Coccinella* sp.	Phylum-Arthropoda	10000
17.	Ant	*Diacamma* sp.	Phylum -Arthropoda	5000
18.	Ant	*Plectroctena* sp.	Phylum-Arthropoda	200
19.	Termite	*Reticulitermes* sp.	Phylum-Arthropoda	150
20.	Silver Fish	*Lepisma* sp.	Phylum-Arthropoda	10
21.	Cricket	*Acheta* sp.	Phylum-Arthropoda	50
22.	Cricket	*Gryllus* sp.	Phylum-Arthropoda	100
23.	Grasshopper	*Gesonula* sp.	Phylum-Arthropoda	200
24.	Spider	*Hasariuss* sp.	Phylum- Arthropoda	30
25.	Spider	*Olios* sp.	Phylum- Arthropoda	25
26.	Rat	*Rattus rattus*	Phylum-chordata	50
27.	Snake	*Naja naja*	Phylum-chordata	5
28.	Snake	*Daboia russelli*	Phylum-chordata	5
29.	Snake	*Bungarus fasciatus*	Phylum-chordata	4
30.	Snake	*Ophiophagus hannah*	Phylum-chordata	3
31.	Bird	*Buceros bicornis*	Phylum-chordata	50
32.	Bird	*Dryocopus pileatus*	Phylum-chordata	30
33.	Bird	*Primolius couloni*	Phylum-chordata	20
34.	Bird	*Acrodotheres tristis*	Phylum-chordata	7
35.	Lizard	*Varanus bengalensis*	Phylum-chordata	30
36.	Lizard	*Hemidactylus frenatus*	Phylum-chordata	20
37.	Snail	*Pila* sp.	Phylum-mollusca	10
38.	Snail	*Achatina* sp.	Phylum-mollusca	10
39.	Frog	*Duttaphrynus melanostictus*	Class-amphibia	20
40.	Frog	*Rana* sp.	Class-amphibia	10
41.	Toad	*Bufo* sp	Class-amphibia	10
42.	House gecko	*Hemidactylus* sp.	Class-reptilia	10
43.	Lizard	*Trachylipis* sp.	Class-reptilia	10
44.	Lizard	*Calotes* sp.	Class-reptilia	12
45.	Asian water monitor	*Varanus* sp.	Class-reptilia	14
46.	Snake	*Naja* sp.	Class-reptilia	3

47.	Snake	*Viper* sp.	Class-reptilia	5
48.	Snake	*Ptyas* sp.	Class-reptilia	8
49.	Snake	*Bungarus* sp.	Class-reptilia	5
50.	Snake	*Fowlea* sp.	Class-reptilia	10