

GREEN AUDIT REPORT

(2024-25)

Govt. College Jukhala, District- Bilaspur (H.P.)



Govt. College Jukhala, Distt.- Bilaspur (H.P.)



Satellite view of Govt. College Jukhala (Source: Google Map)

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Members of the Green Audit
Committee

i

I. About Green Audit

1

II. Green Cover

i. List of plants

2

ii. Overview of the campus

3-5

III. Green Practices

5-11

i. Solid Waste Management

ii. Botanical Garden

iii. Energy Conservation

iv. Water Conservation


v. E-Waste Management

vi. Laboratory Waste Management


IV. Recommendations by Green Audit Committee

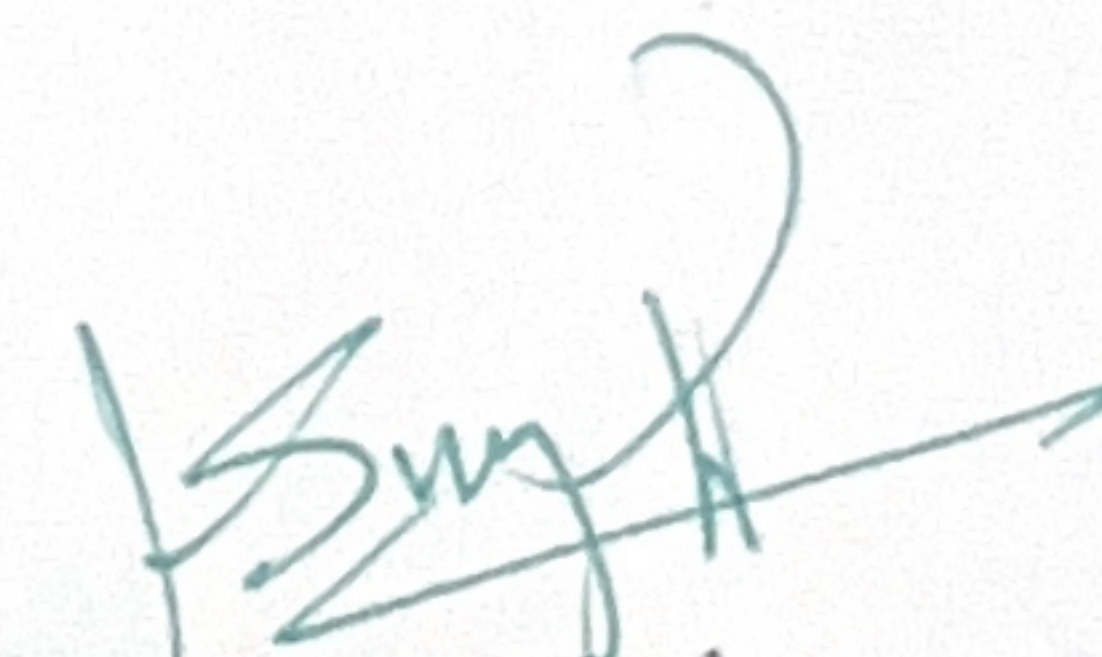
Green Audit Committee
(2024-25)

Chairperson

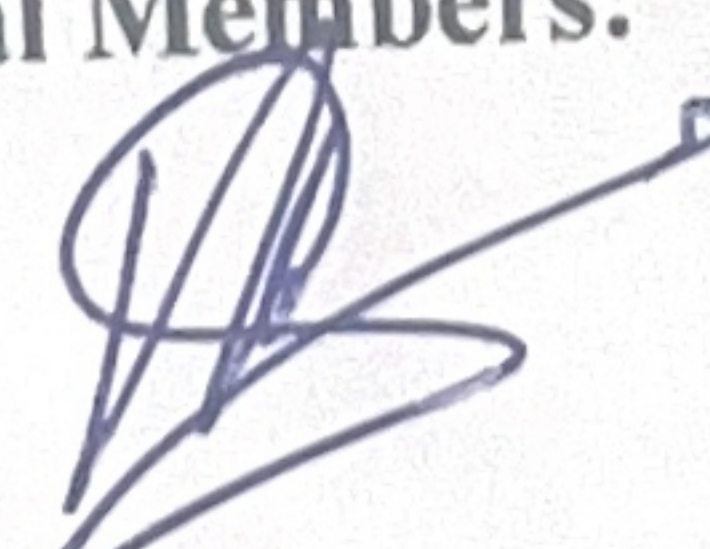

Principal
Govt. College, Jukhala
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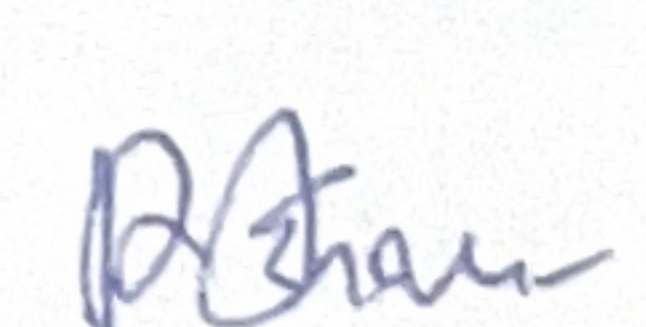
1. Technical Members:



Anil Chandel
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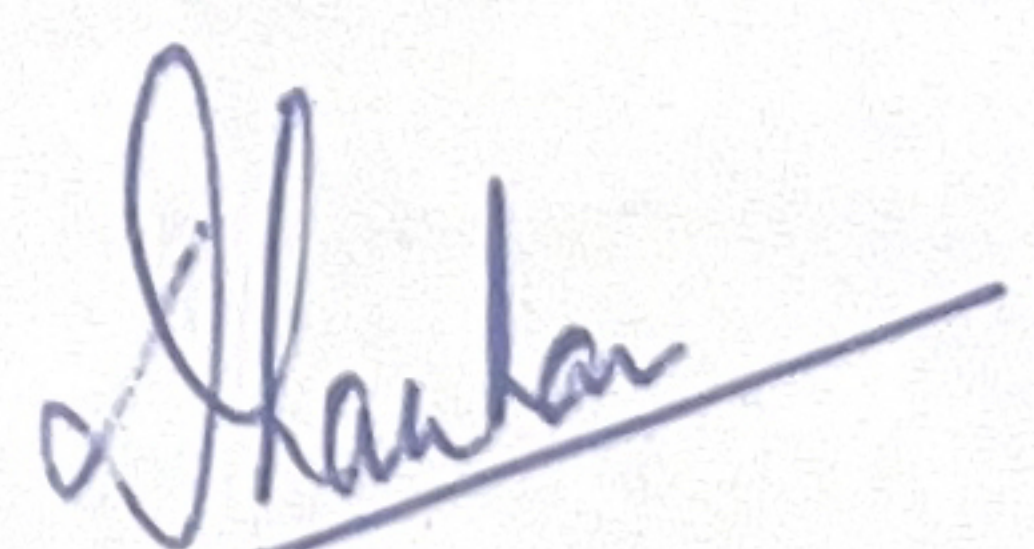

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Dr. Raj Kumar
Assistant Professor, Physics


Dr. Devender Singh
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About Green Audit

Green audit is the systematic identification, quantification, recording, reporting and analysis of components of college environment. It is conducted to evaluate the actual scenario at the institution campus. To preserve the environment within the institution, a number of viewpoints are applied to solve environmental problems such as promotion of the saving the energy, waste recycle, water consumption reduction, water harvesting etc.

Through the green audit, a direction a show to improve the structure of environment and inclusion of several factors that can protect the environment can be commenced. Green audit focuses on the Green Campus, Waste Management, Water Management, Air Pollution and Energy Management etc. being implemented by the institution.

Green Cover

Govt. College Jukhala is nestled around the Dawin Valley with the river Pushp Bhadra flowing nearby. It is within the geo-position Lat. 31.307689 Long. 76.810852 in Bilaspur, Himachal Pradesh, India. The area is enriched with diverse green cover in its close vicinity performing variety of ecological functions like providing oxygen, improving air quality, climate amelioration, conservation of water, preserving soil, and supporting wildlife, controlling climate by moderating the effects of the sun, rain and wind. Besides natural flora, many species are planted in different periods of time through various plantation programmes organised by the authority and have become an integral part of the college. The vegetation displays a seemingly endless variety of shapes, forms, texture, vibrant colors hence improving the aesthetic value of the region. Even individual plants vary their appearance throughout the course of the year as the seasons change. We often make an emotional connection with these plants and sometime become personally attached to the ones that we see every day. A thick belt of large shady trees in the periphery of the college have found to be bringing down noise and cut down dust and storms. A recent study has revealed that the rich diversity of plant species growing naturally and planted has help in carbon sequestration of the area. Thus, the college has been playing a significant role in maintaining the environment of the surrounding areas.

Green Auditing of college campus is the base line survey based on onsite visits and personal observations.

List of Plants

Sr. No.	Common Name	Botanical Name	Family	No. of Plants
1.	Amla (Indian Gooseberry)	<i>Emblica officinalis</i>	Euphorbiaceae	13
2.	Araucaria	<i>Araucaria columnaris</i>	Araucariaceae	2
3.	Silk Oak	<i>Graillea sp.</i>	Proteaceae	1
4.	Banana	<i>Musa sp.</i>	Musaceae	1
5.	Bottle Brush	<i>Melaleuca sp.</i>	Myrtaceae	4
6.	Paper flower	<i>Bougainvillea</i>	Nyctaginaceae	6
7.	Fish tail Palm	<i>Caryota sp.</i>	Arecaceae	4
8.	Bald Cypress	<i>Taxodium sp.</i>	Cupressaceae	21
9.	Cycas	<i>Cycas sp.</i>	Cycadaceae	16
10.	Eucalyptus	<i>Eucalyptus sp.</i>	Myrtaceae	26
11.	Cyprus	<i>Cupressus</i>	Cupressaceae	20
12.	Gorichori	<i>Tecoma stans</i>	Bignoniaceae	5
13.	Guava	<i>Psidium guajava</i>	Myrtaceae	2
14.	Arjun	<i>Terminalia arjuna</i>	Combretaceae	2
15.	Arli	<i>Nerium sp.</i>	Apocynaceae	1
16.	Morpankhi	<i>Platycadus orientalis</i>	Cupressaceae	4
17.	Yellow Elder Flower	<i>Tecoma stans</i>	Bignoniaceae	3
18.	Crape Myrtle	<i>Lagerstroemia indica</i>	Lythraceae	1
19.	Tut	<i>Morus sp.</i>	Moraceae	1
20.	Karyale	<i>Bauhinia sp.</i>	Fabaceae	2
21.	Karanja	<i>Pongamia pinnata</i>	Fabaceae	1
22.	Rubber Tree	<i>Ficus sp.</i>	Moraceae	1
23.	Blackboard Tree	<i>Alstonia scholaris</i>	Apocyanaceae	1

An Overview of the Lush Green Campus



Some Plants Grown in College Campus





Green Practices

(i) Solid Waste Management

The college produces different types of solid waste like, paper, plastic, laboratory, horticulture wastes. The color-coded dustbins have been placed at different places in college campus that separate biodegradable from non-biodegradable wastes.



Figure 2: Color-coded Dustbins for wet & dry wastes



Figure 3: Tobacco Free Zone

- Moreover, few initiatives have been taken up by the College to manage solid waste.
- ❖ Eco-club of the college organizes workshops for students on solid waste management.
 - ❖ By reusing and recycling of non-biodegradable wastes.
 - ❖ There is ban on single use plastic in the college campus.
 - ❖ Promoting the use and updating of e-books and e-journals in the library to reduce the requirement of printed books.

- ❖ Use of Incinerators is a major step towards the use of clean technology. The institution has installed a Sanitary Vending Machine (SVM) in Girl's common room and a Sanitary Disposable Machine (SDM) in girl's toilets. These machines are used for the disposal of non-biodegradable waste such as sanitary napkins.
- ❖ Our institution provides best academic environment which sensitizes everyone associated regarding the need to maintain a healthy ecological balance in their respective regions.

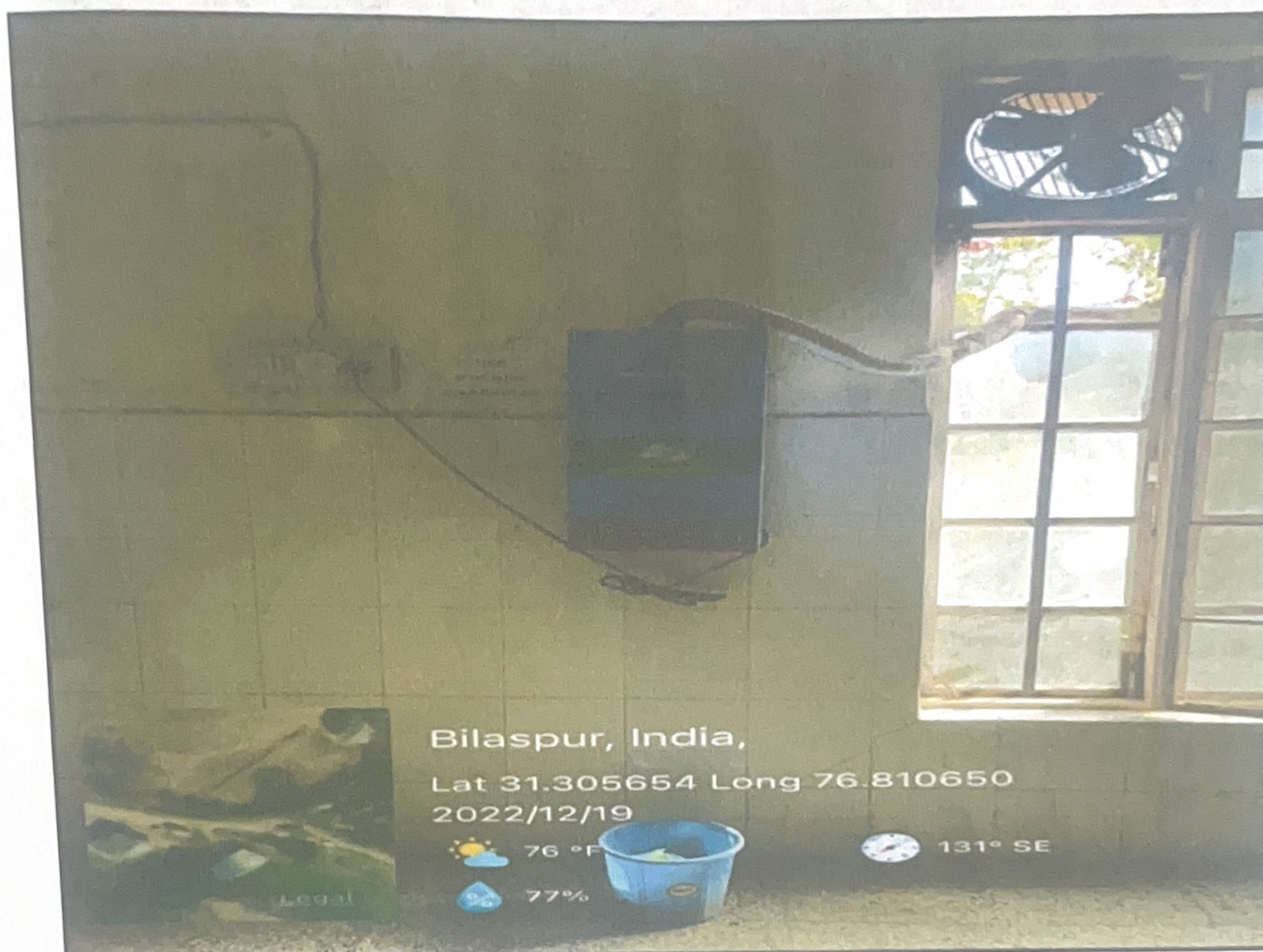


Figure 4: Sanitary Incinerator Machine

(ii) Botanical Garden:

The college has a botanical garden where different types of herbal/ medicinal and ornamental plants have been cultivated. Along with this, there are various species of Hedges have been grown in garden area which helps in purification of air by absorbing large amount of CO₂. Tree plantation drives by NSS, Rovers & Rangers and Eco-club units is practiced every year where students and staff of the college takes part in tree plantation.



Figure 5: Botanical Garden

(iii) Energy Conservation

The institution is using solar energy as a green energy source. For this purpose, Solar panels have been installed in the rooftop of the college building to generate and help conserve electrical energy. It is also a step towards environmental Protection and also to make the institution energy independent.



Figure 6: Solar Panels

After the installation of Solar panels for electricity generation, there has been a reduction in monthly expenditure of the electricity bills and the surplus electricity produced is supplied to HP State electricity Board Grid.

- The college has installed a solar power plant of capacity 56 kWp, A/C No: 100008002068 and Installation No: 1321511212 on dated 17.01.2023.
- Total units of energy generated 92000 kWh whereas, energy consumed in the campus since commissioning to 20-08-2024 (19 months) = 76000 kWh (Approx.) with a net export to HPSEB Grid=12838 kWh (Approx.) [$4000 \times 5.20 = \text{Rs. } 20,800/-$]
- Saving per month (upto next 14 months) [$4000 \times 6.12 = \text{Rs. } 24,480/-$]
- Total savings since commissioning up to October, 2025 (33 months) = $(20,800 \times 19) + (24,480 \times 14) = \text{Rs. } 7,37,920/-$

The college has also installed street lights which also utilizes solar energy.



Figure 7: Solar Street Light

(iv) Water Conservation

Rain Water harvesting: The college campus has a water tank to harvest the rain water. The water stored in this tank can be used for gardening purposes and in toilets. The institution adopts sprinkler system to water its lawns and garden and the supply to these sprinklers is from the rain water harvesting tank. This tank not only caters our water needs but saves our valuable soil from erosion.



Figure 8: Rain Water Harvesting Tank

(v) **E-Waste management**

Reuse is the most eco-friendly and cost-effective method for e-waste disposal. The college has a separate storeroom for the safe storage of electronic waste. The college periodically disposes off the unserviceable electronic and electrical equipment bought. The process of writing off and safe disposal is diligently followed. All departments and sections using electronic equipment make a list of unserviceable items, giving the details regarding procurement and reasons for write-off. After a certain interval of time college disposes of the E-waste to concerned agencies through the auction process. Whereas, defected systems are upgraded by replacing their parts.

(vi) **Laboratory Waste Management**

- ❖ The Department of Chemistry adopts safe and green practices in the laboratory and strictly adhere to SOPs to ensure safe handling of chemicals.
- ❖ The chemistry lab has mounted a fire extinguisher, maintained in working conditions and ready for use in any eventuality.
- ❖ There is a practice of collecting all broken glass apparatus in separate bins which is sent to glass recyclers after specific time period.
- ❖ Radioactive elements are not used for undergraduate classes in the college.
- ❖ Care is taken that acids and bases are disposed in their diluted forms.

Conclusion

The college makes a significant effort to act in an environmentally responsible manner and takes into account the environmental effects of the majority of its activities. The recommendations in this report suggest some more ways in which the college can work to improve its practices and develop into a more sustainable institution.

Green Audit Committee Report

Recommendations:

- A. During the audit, the Committee observed that the college premises adjoin the local crematorium. As a result, ashes and smoke generated during cremation activities often drift towards the classrooms located on the backside of the college building. This not only affects the cleanliness of the campus but also poses concerns regarding air quality and the overall well-being of students and staff.

To address this issue and strengthen the green buffer of the institution, the Committee recommends the following:

1. **Development of the Backyard Area:**

The backyard area should be systematically developed as a green zone to serve as a natural barrier against external environmental pollution.

2. **Plantation of Pseudo Ashoka Trees:**

It is proposed that *Polyalthia longifolia* (commonly known as Pseudo Ashoka) trees be planted along the boundary of the backyard. These trees are known for their tall, dense, and vertically growing foliage, which effectively helps in reducing dust, ashes, and smoke from entering the campus.

3. **Improvement of Green Cover:**

Additional ornamental and air-purifying plants may also be included to enhance aesthetic appeal and improve air quality.

- B. The committee observed that sanitary vending machine in girl's common room is not functioning properly and needs to be repaired.

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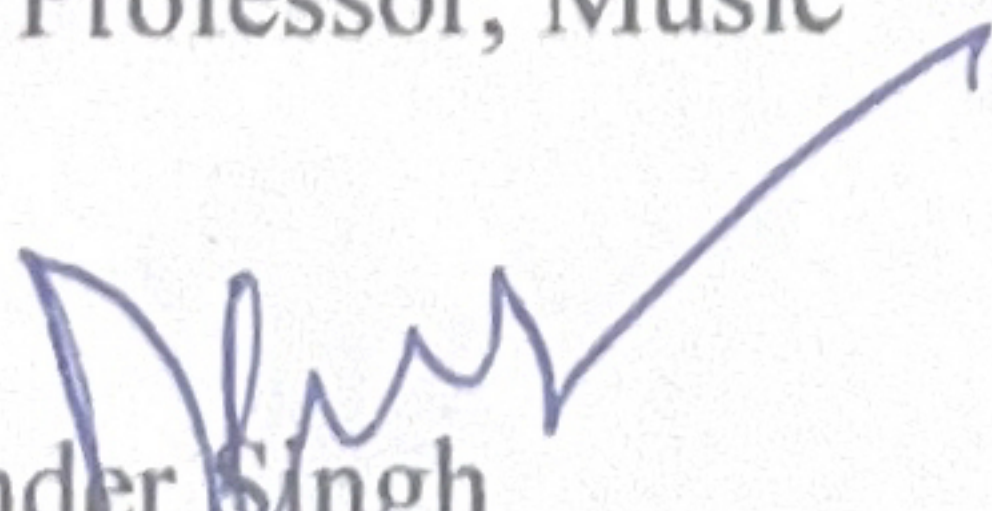
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