EXISTING ENVIRONMENTAL AUDIT REPORT





Address:

IDEAS – Institute of Design Education & Architectural Studies

Outer Ring Road — Hudkeshwar Road Junction Point, At Post Pipla, Nagpur — 44003

Email id:

admin@ideasnagpur.edu.in ideasnag@gmail.com Phone: 9890498969

Website:

https://www.ideasnagpur.edu.in



ENVIRONMNTAL AUDIT REPORT 2022-23

Environmental Audit Conducted and Submitted by



Architects, Environmental Architects, Green Building Consultants, Interior Designers, Government Valuers

Plot no. 146,1st floor, Shankar Nagar, Near Dr. Babhulkar Hospital, Nagpur-440010 Maha. India

Email id: architect@gotmare.com

manisha.gotmare@gmail.com

Website: www.gotmare.com

Mobile: 9822739072, 895635381



ENVIRONMNTAL AUDIT REPORT 2022-23

CONTENTS

| Sr.no | Contents | Page no. |
|-------|---|----------|
| 1. | Table of contents | 3 |
| 2. | Acknowledgement | 4 |
| 3. | Certificate | 5 |
| 4. | Disclaimer | 6 |
| 5. | Executive Summary | 7 |
| 6. | Mission; Vision; Goals | 8 |
| 7. | Environmental Audit; | 9 |
| 8. | Objectives of the Audit: Target Areas Of Environmental Auditing | 10 |
| 9. | Methodology adopted | 11 |
| 10. | Campus Area & College Building Area | 12 |
| 11. | NAAC Grading in Assessments | 13 |
| 12. | Environmental Policy of IDEAS college | 14 |
| 13. | Green Initiatives on the Campus | 15-16 |
| 14. | Energy: | 17-26 |
| | 1. Energy Efficiency | |
| | 2. Renewable Energy Utilization | |
| 15. | Water Efficiency: Water Footprint | 27-29 |
| 16. | On-Site Sewage Water Treatment System | 30-31 |
| 17. | Rainwater Harvesting System | 32-33 |
| 18. | Metering & Monitoring | 34 |
| 19. | Water Quality Test Report | 35 |
| 20. | Maintaining Good IAQ | 36-37 |
| 21. | Solid Waste Management | 39-42 |
| 22. | Environmental Awareness | 43-44 |
| 23. | Native Trees; Flora And Fauna In Campus | 45-80 |
| 24. | Routine Green Practices | 81 |
| 25. | Conclusion | 82 |



ENVIRONMNTAL AUDIT REPORT 2022-23

ENVIRONMENTAL AUDIT CERTIFICATE

Project name – ideas-Institute of Design Education & Architecture Studies

Location: Nagpur

This is to certify that Environmental Audit is done for ideas - Institute of Design Education & Architecture Studies, Nagpur and the team ideas has been conducted to assess the institute's environmental policies and objectives, and the effects the institute has on the environment which included waste management, water management, energy management, flora management and fauna as well, and policies and facilities in the institution.



Ar. Manisha Gotmare

Environmental Architect, Green Building consultant, Simulation Expert, IGBC AP, GRIHA EB project in 2019 Auditor

Email id: manisha.gotmare@gmail.com

Phone no. 9822739072

Date - 18-05-2023



ENVIRONMNTAL AUDIT REPORT 2022-23

DISCLAIMER

The environmental architect's team has prepared the report of the environmental audit of ideas college, Nagpur, on the primary data collected from the different areas of college. All the reasonable care has been taken in its preparation; the details contained in this report have been compiled in good faith based on the information gathered.

Prepared by

Ar. Manisha Gotmare

Environmental Architect

Gotmare And Associates



ENVIRONMNTAL AUDIT REPORT 2022-23

EXECUTIVE SUMMARY

In the current context of rapid changes that are taking place in our country, all activities directed towards advancements are required to be addressed with utmost care. In this effort It is also imperative to prepare architects who can contribute to and manage the needs of society with equanimity of mind and an attitude of social responsibility.

IDEAS is rated amongst the top Architecture colleges in the country. Our students top the RTMNU examinations almost every semester. year after year. The college runs B. Arch. undergraduate and M. Arch. post-graduate programs affiliated to RTMNU and recognized by the Council of Architecture.

At IDEAS all faculty are committed to maintaining an academically rich and professionally competent environment by enhancing the creative attitudes as well as technical skills of students. Our teacher mentors play a vital role in the overall development of our students and the institute with the firm belief that in the current era, creativity and innovation are the basis of sustenance. We keep constantly creating new learning opportunities for our students, which the university curriculum cannot otherwise provide.

In a very short span IDEAS have come a long way and have made their impact felt not only in the city. but also, the country. Our students have outperformed professionally in the local and global scenario and in the universities in India and abroad as they pursue their higher education Today, IDEAS is one of the most sought-after institutes for fresh aspiring architecture students. We are sure that the best in infrastructure, a highly qualified faculty, and our motivated group of students coupled with the vibrant environment will continue to drive the growth of IDEAS as a great institution. We firmly believe that we shall be counted amongst the best at the national level in the years to come.

In all our efforts we seek the path of virtue, courage, and wisdom. May we be the catalyst in all our efforts to make better architects and human beings, who can make a positive impact on our society and help build our nation in these ever-changing and challenging times.



ENVIRONMNTAL AUDIT REPORT 2022-23



To generate effective synchronization of academicians, professionals, technocrats, and students to achieve "meaningful architecture" for the development of society.

To sensitize and train the students to develop a sense of commitment, professionalism and inculcate aspiration for continuous update of knowledge to serve the local & global community.



Establishing a center of excellence in the entire spectrum of Design Education and Application from Product Design to Architecture and from Applied Arts to Fashion Design to serve humanity.



The school aims at establishing an Advanced Center of Learning, turning out creative & technical manpower to play a substantial role in nation-building.

The IDEAS- Institute of Design Education and Architecture Studies shall strive to build its image in a way that it acts as a platform of excellent learning at the national level having expertise to mold the students to cater to the needs of the society in various areas of human habitat, technology, leadership, culture, administration while maintaining ethical, moral and social values.



ENVIRONMNTAL AUDIT REPORT 2022-23

Environmental Audit

Environmental audit aims to help protect the environment and minimize the risks of business activities to the environment and human safety and health. Areas examined may include environmental policies and procedures. Then, the audit team can use the results to determine what changes need to be made for compliance.

Ar. Manisha Gotmare

Environmental Architects, Green Building Consultants, Nagpur



ENVIRONMNTAL AUDIT REPORT 2022-23

OBJECTIVES OF ENVIRONMENTAL AUDIT

The objective of this environmental audit is to assess the environmental quality and the management strategies being implemented at IDEAS college, Nagpur.

To assess the quality of the water and its management in college campus

To monitor the energy consumption pattern of the college

To quantify the liquid and solid waste generation and management plans in the campus.

To assess whether the measures implemented by ideas College have helped to reduce the Carbon Footprint.

To impart environment management plans to the college

To assess whether extracurricular activities of the Institution support the collection, recovery, reuse, and recycling of solid wastes.

To identify the gap areas and suggest recommendations to improve the Green Campus status of the ideas College.

TARGET AREAS OF ENVIRONMENTAL AUDITING

Environmental audit forms part of a resource management process. Although they are individual events, the real value of green audit is the fact that they are carried out, at defined intervals, and their results can illustrate improvement or change over time. Eco-campus concept mainly focuses on the efficient use of energy and water; minimize waste generation or pollution and economic efficiency.



ENVIRONMNTAL AUDIT REPORT 2022-23

METHODOLOGY ADOPTED

The methodology adopted to conduct the Environmental Audit of the Institution had the following components.

Onsite Visit: Four day field visit was conducted by the Environmental Audit Team. The key focus of the visit was on assessing the status of the green cover of the Institution, their waste management practices and energy conservation strategies etc. The sample collection of water was carried out during the visits.

Focus Group Discussion: The Focus Group discussions were held with the environmental committee members. The discussion was focused on identifying the attitudes and awareness towards environmental issues at the institutional and local level.

Energy, waste management and water management analysis survey with the help of the environmental committee members and audit team has assessed the energy consumption pattern and waste generation, disposal, and treatment facilities of the college.



ENVIRONMNTAL AUDIT REPORT 2022-23

CAMPUS AREA & COLLEGE BUILDING AREA

| | CATEGORIES OF LAND USE | AREA (M ²) |
|----|-------------------------------|--|
| 1. | Landscaped /Plantation Area | 3998.24 M² |
| 2. | Built Up Area (Include roads) | Ground floor built up = 2545.55 sqm. First floor built up = 2449.82 sqm. |
| 3. | Total Area | 8164.76 M ² |



Google image of ideas college campus



ENVIRONMNTAL AUDIT REPORT 2022-23

NAAC GRADING IN ASSESSMENTS





ENVIRONMNTAL AUDIT REPORT 2022-23

ENVIRONMENTAL POLICY OF IDEAS COLLEGE

The Institute of Design Education and Architectural Studies. Nagpur {IDEAS} understands its responsibility to protect the environment from the impact of its operations and activities. It endeavors to influence its members and the wider community to minimize their impact through its actions. teaching and research. The Institute is committed to meeting the requirements of all relevant environmental guidance and to continually improving its environmental performance.

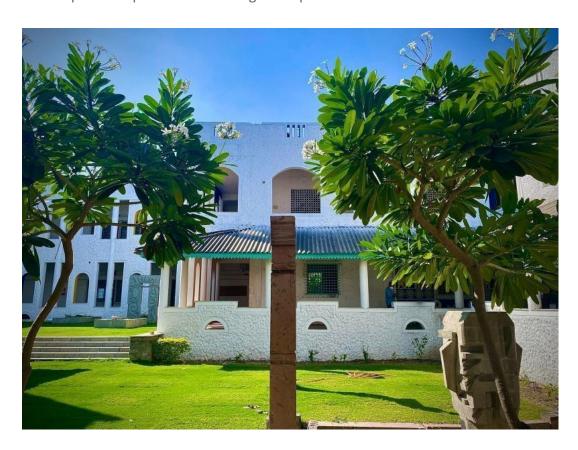
| Sr. No. | Category | Designation | Name |
|------------|----------------------|-------------------------------|---|
| 1 | Presiding Officer | Chairperson | Prof. Ajay Thomare, Programme Coordinator (Environmental Architecture) |
| 2 | Faculty Members | Member Secretary Member | Prof. Rukhsana Badar (Associate Professor) Prof. Ankita Giripunje (Assistant Professor) |
| 3 | Students Nominees | Member | Mr. Subhodh Awari Ms. Divyashree Jain Ms. Tanvi Koche Mr. Siddharth Deshbharatar |



ENVIRONMNTAL AUDIT REPORT 2022-23

GREEN INITIATIVES ON THE CAMPUS

Since its inception IDEAS has been conscious about respecting the environment and conserving natural resources. The campus has been designed with a series of courtyards to provide enough light and ventilation to all spaces and the construction uses appropriate materials where possible to minimize the carbon footprint. The courtyards and surrounding areas are landscaped with preference of indigenous plants.



When it comes to water and waste management the institute believes in reducing use and recycling. A DEWAT system has been constructed on site to handle sewage water from toilets and kitchen. The treated water is reused.

Bio-degradable waste from the canteen and falling leaves are recycled through the process of Composting. Compost thus generated is used in the landscaped areas. A rainwater harvesting system has also been initiated to conserve water for reuse.



ENVIRONMNTAL AUDIT REPORT 2022-23

The campus is self-reliant when it comes to energy needs, generating surplus Solar Power.

An important part of the green initiatives is about spreading Awareness among all the members of the institute and inculcating good habits when it comes to reducing use and recycling.

A Green Audit had been carried out to determine the strengths and lacunas in achieving a green campus.

The **NADEP method** of organic composting has been initiated on the campus using falling leaves from the landscaped areas. The Nadep method of making miracle compost was first invented by a farmer named N.D. Pandharipande (also popularly known as "Nadepkaka") living in Maharashtra (India). The process basically involves placing select layers of different types of compostable materials in a simple, mud-sealed structure designed with brick and mud water. It delivers large amounts of compost with minimum human effort. The first batch of compost was extracted and used on the campus.





The team of Architect from Gotmare and Associates are thankful to the in-house team of ideas for cooperation, furnishing required data, and support offered during our visit.



ENVIRONMNTAL AUDIT REPORT 2022-23

ENERGY

Intent: Building efficiency is key to cutting energy consumption. Improving energy performance in existing buildings

1. Energy Efficiency

Intent: To enable the project to reduce their energy consumption by adoption of energy efficient strategies.

a) Install energy efficient lighting fixtures – Light-Emitting Diode (LED) tubes and light, 54% of lighting on campus is LED



LED lights in Administration



LED lights in Office



LED lights in staffroom



LED lights in Director's Office

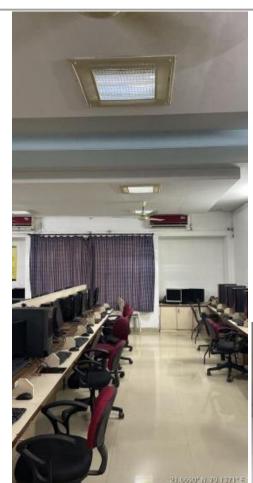


LED lights in Principal's Office



LED lights in Computer room







LED lights in conference room



| SE SAGAR ELEC | TRONICS | 2 - 2540665 |
|--|--------------------|-------------|
| Electronic Market, Telipura. | Sitabuldi, Nagpur. | 12/22 |
| lame: Tashtik of Design I | Education & Archit | C10vac |
| Address: Studies Nappus. | State: | |
| Brechty-t | 250k 130/ | Amount 325w |
| Prof. 18th | . (| |
| 1710 | Total | 32500 = |
| Rs. in Words | IGST% | - |
| Bank Name Nagour Nagarik Sahakari Bank Ltd. | cgst 9 % | 2925 |
| Account No. 004011100003191 Branch Stabuild, Naggur. USSC Code NGSB0000004 | Gr. Total | 38350 |
| IFSC Code NGS80000004 Deconstict: We derive that the invoice shows educe once of the described and that all perfeculars are true and correct E. A. | For SAGAR EL | ECRONICS |
| Receiver's Signatory. | 0. E. | |
| | | |

| # Item name | | | | | Tax Inv | oice | | | Duplicate for 1 | Transporter |
|--|--|--------------------------|----------|--------------|---------------------------|-------------------------------|---|----------|-------------------|--------------|
| S35,SHIVA FULWALE HOUSE,JAGNATH BUDHWARINAGPUR Phone no 8668784944 Email: gkenterprises2434@gmail.com GSTIN: 27IHUPK1801A1ZG, State: 27-Maharashtra Bill To: IDEAS COLLEGE Ring road,Pipla,Nagpur # Item name HSN/ SAC Quantity Unit Price/ Unit Taxable amount ₹ 134.77 Polycab frameless pannel 3 Nos ₹ 499.15 ₹ 1,497.46 ₹ 134.77 (9.0%) 7 Total 3 ▼ 1,497.46 ₹ 134.77 Tax type Taxable amount Rate Tax amount Amounts: SGST ₹ 1,497.46 9.0% ₹ 134.77 CGST ₹ 1,497.46 9.0% ₹ 134.77 Invoice Amount In Words One Thousand Seven Hundred and Sixty Seven Rupees only Terms and conditions: I Goods once sold will not be taken back 2 Subject to nagpur jurisdiction only | | | | | | | | | Triplicate I | for Supplier |
| IDEAS COLLEGE Ring road,Pipla,Nagpur # Item name | | | Phone | HIVA FULWALE | HOUSE,JAG 44 Email: gk | GNATH BUDHW enterprises243 | 84@gmail.com | | | |
| Ring road/Pipla,Nagpur # Item name | Bill | To: | | | | | | | Invoice | e No.: 1485 |
| # Item name | | | | | | | | | | 02-03-2023 |
| Polycab frameless pannel 3 Nos | # | Item name | HSN/ SAC | Quantity | Unit | Price/ Unit | 10.000000000000000000000000000000000000 | CGST | SGST | Amount |
| Tax type Taxable amount Rate Tax amount Amounts: SSST ₹1,497.46 9.0% ₹134.77 Sub Total CGST ₹1,497.46 9.0% ₹134.77 Total Invoice Amount In Words One Thousand Seven Hundred and Sixty Seven Rupees only Terms and conditions: I Goods once sold will not be taken back 2 Subject to nagpur jurisdiction only | 1 | Polycab frameless pannel | | 3 | Nos | ₹ 499.15 | ₹ 1,497.46 | | ₹134.77 (9.0%) | ₹ 1,767.00 |
| SGST ₹ 1,497.46 9.0% ₹ 134.77 Sub Total CGST ₹ 1,497.46 9.0% ₹ 134.77 Total Invoice Amount In Words One Thousand Seven Hundred and Sixty Seven Rupees only Terms and conditions: I Goods once sold will not be taken back 2 Subject to nagpur jurisdiction only | | Total | | 3 | | | ₹ 1,497.46 | ₹ 134.77 | ₹ 134.77 | ₹ 1,767.00 |
| One Thousand Seven Hundred and Sixty Seven Rupees only Terms and conditions: 1. Goods once sold will not be taken back 2. Subject to nagpur jurisdiction only | SGS | ST ₹1,497 | .46 | 9.0% | ₹ 134.77 S | Sub Total | | | | ₹ 1,767.00 |
| 1. Goods once sold will not be taken back 2. Subject to nagpur jurisdiction only | | | | | only | | | | | |
| Bank details: | 1.Goods once sold will not be taken back | | | | | | | | ENTERPRISE | |
| Bank Account No.: 919020076281069 Bank IFSC code: UTIB0001674 | 5000 | | 31069 | 2000000 | Maries | | | | | |

| Date Price Date | | | | | | | | | Triplicate | e for Supplier |
|---|--|-------------------|----------------------|-----------------------------|----------------------------|----------------------|------------|--------------|------------------|--|
| Delivery Date: Delivery Date: Delivery Date: Destination: Date: Da | | | Phone | HIVA FULWAI no.: 8668784 | LE HOUSE,JA 1944 Email: | AGNATH BUDHWA | @gmail.com | | | |
| Delivery Date: Delivery Date: Delivery Date: Description: Date: Date: Date: Description: Date: Date: Date: Description: Date: Description: Date: Description: Description: Date: Description: Description: Description: Date: Description: Date: Description: | Bill 1 | То | | Transp | ortation D | etails | | | | |
| BATTEN-NEO-TS-20W 20 Nos ₹152.54 ₹3,050.80 ₹274.57 ₹274.57 ₹274.57 ₹274.57 ₹274.57 ₹3,050.80 | Ring road,Pipla,Nagpur Destination: | | | | | | | Place o | Invoice | Maharashtr • No. : 151 29-04-202 |
| Total 20 Nos ₹152.54 ₹3,050.80 (9%) (9%) (9%) | 2 | Item name | HSN/ SAC | Quantity | Un | it Price/ Unit | | CGST | SGST | Amour |
| Tax type | 1 | BATTEN-NEO-T5-20W | | 20 | N | os ₹152.54 ₹3,050.8 | ₹ 3,050.80 | | ₹ 274.57 (9%) | ₹ 3,599.9 |
| \$27457 \$3,050.80 9% \$27457 \$2 | | Total | | 20 | | | ₹ 3,050.80 | ₹ 274.57 | ₹ 274.57 | ₹ 3,599.9 |
| Invoice Amount In Words | SGST | ₹ 3,050 | 57 Sub Total ₹ 3,599 | | | | | | | |
| | | | | | | Total ₹ 3,600. | | | | |
| Three modality six numbers only | | | | • | | | | | | |
| Terms and Conditions 1.Goods once sold will not be taken back 2.Subject to nagpur jurisdiction only 3.Cheque bouncing charge rs.500 | 1.Goods once sold will not be taken back 2.Subject to nagpur jurisdiction only 3.Cheque bouncing charge rs.500 | | | | | | For, G | K ENTERPRISE | es . | |
| Bank details: Bank Name : AXIS BANK, GANDHIBAGH Authorized Signatory | Bank details: Bank Name : AXIS BANK, GANDHIBAGH Bank Account No. : 919020076281069 | | | | | Authorized Signatory | | | | |



ENVIRONMNTAL AUDIT REPORT 2022-23

LED lights in Auditorium



LED lights added/replaced in 2022-23

| LIST OF LIGHTS IN CAMPUS 2023 | | | | | | | | | |
|-------------------------------|------------|-------|-------|----------------|------|-------|------|---|-------|
| ROOMS | Tubelights | | | LED Tubeliqhts | | | LED | | |
| | NOS. | WATTS | TOTAL | NOS. | WATT | TOTAL | NOS. | W | TOTAL |
| | | | WATTS | | S | WATTS | | Α | WATT |
| | | | | | | | | Т | S |
| | | | | | | | | Т | |
| | | | | | | | | S | |
| STUDIO 1 | 21 | 36 | 756 | 3 | 20 | 60 | | | 0 |
| STUDIO 2 | 10 | 36 | 360 | 2 | 20 | 40 | | | 0 |
| STUDIO 3 | 11 | 36 | 396 | | | 0 | | | 0 |



Swargiya Jagannath Jattewar Shikshan Sanstha , Nagpur

ideas institute of design education & architectural Studies, Nagpur

| | 1 - | | | REPORT 2022 | | | | | T _ |
|----------------------|-----|----|-----|-------------|----|-----|----|-----|-----|
| STUDIO 4 | 12 | 36 | 432 | 1 | 20 | 20 | | | 0 |
| STUDIO 5 | 10 | 36 | 360 | 1 | 20 | 20 | | | 0 |
| STUDIO 6 | 4 | 36 | 144 | 0 | | 0 | | | 0 |
| STUDIO 8 | 23 | 36 | 828 | 2 | 20 | 40 | | | 0 |
| STUDIO 9 | 13 | 36 | 468 | 1 | 20 | 20 | | | 0 |
| STUDIO10 | 11 | 36 | 396 | 2 | 20 | 40 | | | 0 |
| STUDIO 11 | 12 | 36 | 432 | | | 0 | | | 0 |
| STUDIO 12 | 12 | 36 | 432 | 8 | 20 | 160 | | | 0 |
| STUDIO 13 | 12 | 36 | 432 | | | 0 | | | 0 |
| AV ROOM 1 | 0 | 0 | 0 | 4 | 9 | 36 | 8 | 9 | 72 |
| AV ROOM 2 | 2 | 36 | 72 | 2 | 20 | 40 | | | 0 |
| AV ROOM 3 | 4 | 36 | 144 | | | 0 | | | 0 |
| AV ROOM 4 | 3 | 36 | 108 | | | 0 | | | 0 |
| AV ROOM 5 | 3 | 36 | 108 | 2 | 20 | 40 | | | 0 |
| Auditorium | | | | | | | 24 | 2 | 48 |
| | | | | | | | 26 | 8 | 208 |
| | | | | | | | 12 | 1 | 144 |
| | | | | | | | | 2 | |
| WORKSHOP | 6 | 36 | 216 | | | 0 | 3 | 1 2 | 36 |
| | | | | | | | | | |
| SURVEY Lab | 0 | 0 | 0 | 36 | 20 | 720 | 12 | 2 | 24 |
| | | | 0 | 18 | 2 | 36 | | | 0 |
| GIRLS COMMON ROOM | 4 | 36 | 144 | | | 0 | | | 0 |
| <u> </u> | | | | | | | | | 1 |



Swargiya Jagannath Jattewar Shikshan Sanstha , Nagpur

ideas institute of design education & architectural Studies, Nagpur

| 2 | 36 | 72 | | | 0 | | | 0 |
|----|--|---|---|---|--|---|--|---|
| | | | | | | | | |
| 1 | 36 | 36 | | | 0 | | | 0 |
| 5 | 36 | 180 | 2 | 20 | 40 | | | 0 |
| 0 | 0 | 0 | | | | 8 | 1 2 | 96 |
| 0 | 0 | 0 | | | | 12 | 1 2 | 144 |
| 7 | 36 | 252 | 6 | 20 | 120 | | | 0 |
| 17 | 36 | 612 | 1 | 20 | 20 | 11 | 8 | 88 |
| 21 | 36 | 756 | 0 | | 0 | | | 0 |
| 0 | 0 | 0 | 6 | 18 | 108 | 4 | 9 | 36 |
| 10 | 36 | 360 | | | 0 | | | 0 |
| 7 | 36 | 252 | | | 0 | | | 0 |
| 6 | 36 | 216 | | | 0 | | | 0 |
| 0 | 0 | 0 | 12 | 10 | 120 | | | 0 |
| 0 | 0 | 0 | 8 | 9 | 72 | 5 | 9 | 45 |
| 0 | 0 | 0 | 5 | 20 | 100 | 7 | 9 | 63 |
| 3 | 36 | 108 | 0 | | 0 | 2 | 9 | 18 |
| 0 | 0 | 0 | 1 | 20 | 20 | 2 | 3 | 72 |
| | | | | | | | Ь | |
| | | | | | | 4 | 9 | 36 |
| 0 | 0 | 0 | 1 | 20 | 20 | 2 | 3 | 72 |
| | 2 1 5 0 0 7 17 21 0 10 7 6 0 0 0 | 2 36 1 36 5 36 0 0 7 36 17 36 21 36 0 0 10 36 7 36 6 36 0 0 0 0 0 0 3 36 0 0 0 0 3 36 0 0 0 0 0 0 0 0 | 2 36 72 1 36 36 5 36 180 0 0 0 0 0 0 7 36 252 17 36 612 21 36 756 0 0 0 10 36 360 7 36 252 6 36 216 0 0 0 0 0 0 0 0 0 3 36 108 0 0 0 3 36 108 0 0 0 | 1 36 36 5 36 180 2 0 0 0 0 7 36 252 6 17 36 612 1 21 36 756 0 0 0 0 6 10 36 360 360 7 36 252 6 6 36 216 0 0 0 0 12 0 0 0 8 0 0 0 5 3 36 108 0 0 0 0 1 | 2 36 72 1 36 36 5 36 180 2 0 0 0 0 0 0 0 0 7 36 252 6 20 17 36 612 1 20 21 36 756 0 0 0 0 0 6 18 10 36 360 18 10 36 252 6 6 36 216 10 0 0 0 12 10 0 0 0 8 9 0 0 0 5 20 3 36 108 0 0 0 1 20 | 2 36 72 0 1 36 36 0 5 36 180 2 20 40 0 0 0 0 0 0 0 0 0 0 12 | 2 36 72 0 0 1 36 36 0 0 5 36 180 2 20 40 0 0 0 8 0 0 0 12 7 36 252 6 20 120 17 36 612 1 20 20 11 21 36 756 0 0 0 0 0 0 0 6 18 108 4 10 36 360 0 0 0 0 7 36 252 0 0 0 0 0 0 6 36 216 0 <t< td=""><td>2 36 72 0 0 0 1 36 36 0 12 1 2 0 12 1 2 0 12 1 2 0 1 1 2 1 2 0 1 1 8 1 2 0 1 1 2 0 1 1 2 0 1 1 1 2 0 1 1 2 0 1 1 2 0 1 1 2 0 1 1 3 0 1 1 2 0 1 1 1 2 0 1 1 1 2 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2 0 1 1 2<</td></t<> | 2 36 72 0 0 0 1 36 36 0 12 1 2 0 12 1 2 0 12 1 2 0 1 1 2 1 2 0 1 1 8 1 2 0 1 1 2 0 1 1 2 0 1 1 1 2 0 1 1 2 0 1 1 2 0 1 1 2 0 1 1 3 0 1 1 2 0 1 1 1 2 0 1 1 1 2 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2 0 1 1 2< |



Swargiya Jagannath Jattewar Shikshan Sanstha , Nagpur

ideas institute of design education & architectural Studies , Nagpur

| ENTRANC LOBBY | 0 | 0 | 0 | 4 | 45 | 180 | | | 0 |
|--|-----------|-----------|------------|-------------|-----------|------|-----|-----|------|
| O. A.T. | 0 | 0 | 0 | 10 | 9 | 90 | | | 0 |
| PORCH | 3 | 36 | 108 | 1 | 20 | 20 | | | 0 |
| NAAC ROOM | 0 | 0 | 0 | 0 | 0 | 0 | 19 | 1 2 | 228 |
| IST FLOOR WASHROOM | 0 | 0 | 0 | 6 | 12 | 72 | | | 0 |
| CANTEEN KITCHEN | 3 | 36 | 108 | | | | | | |
| CANTEEN SITTING | 4 | 36 | 144 | 2 | 20 | 40 | | | |
| Tuck Shop | 2 | 36 | 72 | | | | | | |
| Gard Room | | | | 1 | 20 | 20 | 2 | 9 | 18 |
| Campus | 1 | 36 | 36 | 1 | 20 | 20 | 2 | 4 0 | 80 |
| | | | | | | | 2 | 2 0 | 40 |
| | 265 | | 3290 | 149 | | 2334 | 167 | | 1568 |
| | | | | | | | | | |
| TOTAL LIGHTING POV | WER REQUI | REMENT II | N WATTS pe | r HR | | 7192 | | | l |
| TOTAL LIGHTING POV | WER REQUI | REMENT N | MET THROUG | GH LED IN \ | WATTS per | 3902 | | | |
| Percentage of lightening met through LED | | | | | | 54% | | | |



Staff room 1

Swargiya Jagannath Jattewar Shikshan Sanstha, Nagpur ideas institute of design education & architectural studies, Nagpur

ENVIRONMNTAL AUDIT REPORT 2022-23

b) Install energy efficient cooling system and appliances- BEE star rated.

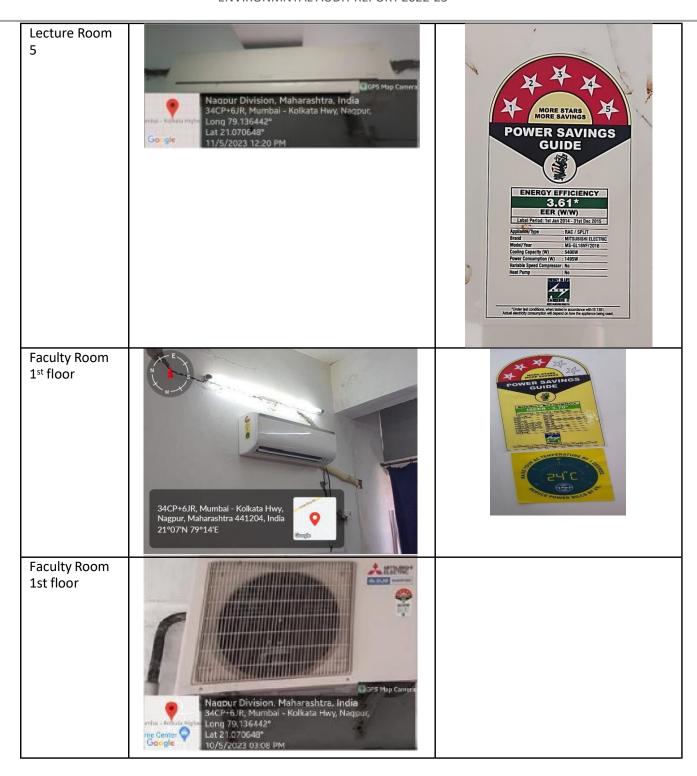
| Sr.no | Location of air conditioners installed | No. of Air conditioners installed |
|-------|--|-----------------------------------|
| 1. | Principal's Cabin | 1 |
| 2. | Director's Cabin | 1 |
| 3. | Computer Lab | 2 |
| 4. | G.F. Staff room | 2 |
| 5. | Auditorium | 3 |
| 6. | AV rooms | 5 |
| 7. | NAAC room | 2 |
| 8. | 1 st floor Staff room | 2 |
| 9. | Total | 18 |

| Stall room 1 | Nagpur Division, Maharashtra, India 34CP+6JR, Mumbai - Kolkata Hwy, Nagpur, Long 79.136442* Lat 21.070648* 11/5/2023 12:21 PM | POWER SAVINGS GUIDE ENERGY EFFICIENCY ISEER - 3.70 Lital rivers It also at the two 218 Energy Experiments Experim |
|--------------|---|--|
| Staff room 1 | 34CP+6JR, Mumbai - Kolkata Hwy. Nagpur, Maharashtra 441204, India 21°07'N 79°14'E | MORE SANINGS POWER SAVINGS GUIDE ENERGY REPEGIENCY 3.65 ELICITY (WW) Literature (WW) L |











ENVIRONMNTAL AUDIT REPORT 2022-23

2. Renewable Energy Utilization

Intent: To promote the use of renewable energy technologies and enable energy generation on site.

The Institute generates and uses 100% renewable energy (solar energy) and sends excess energy to the grid.





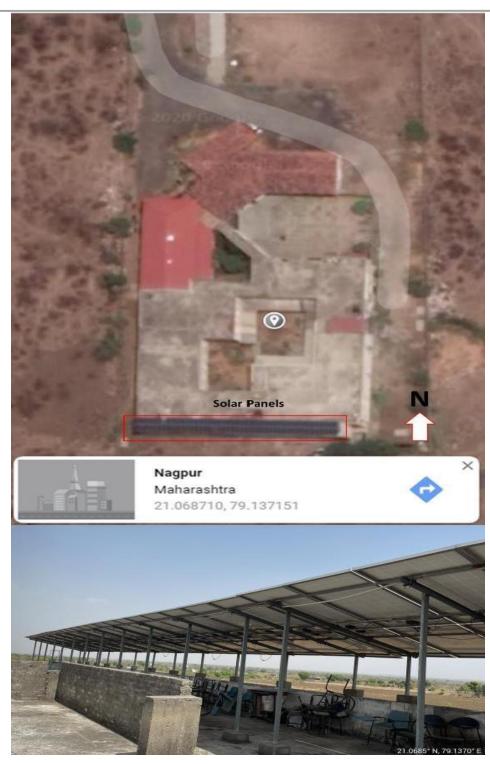
ENVIRONMNTAL AUDIT REPORT 2022-23

| RR | TAX IN | Invoice No | | Dated | |
|--|---|-----------------------------|----------|----------------------------------|------------|
| Plot No. 03, Giddoba Nagar, Near Gopal Krushna | | 20/2022-2023 | | 08-Oct-22 | |
| layout, Nagpur-08. | | Delivery Date | | Mode/Terms of Paymen | |
| GSTIN/UIN: 27 CJRPR5181B 1ZU | | 03/10/2022 | | Mode/ remisorraymen | |
| Contact: 8329786934 | | Supplier's Ref | | Others Reference(s) | |
| Buyer | | o Supplier s Ker | | 19/09/2022 | |
| Ideas Collage of architecture | | Buyer's Order No | | Dated | |
| At Post Hudkeshwar, Outer Ring Road, | | 0 | | 19/09/2022 | |
| Hudkeshwar Road, Nagpur- Maharashtra 440037 | | Despathch Doc. No | | Delivery Note Date 20/09/2022 | |
| Mo.no-Ravi Todkar,9423628721 | | | | | |
| 100.110-Navi 100.Nai,742.302.07.21 | | Despatched through | | Destination Nagpur | |
| | | | | | |
| 1 | Solar System Service Charge Maintenance Visit | 9954 | 2 | 700.00 | 1400.00 |
| | 2 Day | 3334 | _ | 700.00 | 2,0000 |
| 2 | Solar System Service Charge Maintenance Visit | 9954 | 3 | 1000 | 3000.00 |
| - | 3 Day | | | | |
| | Solar System Service Charge Maintenance Visit | 9954 | 1 | 2000 | 2000.00 |
| 3 | 1 Day | | | | |
| 4 | DC MC-4 Connector | 8541 | . 10 | 45 | 450.00 |
| 5 | Cable Tai 250 mm | 8541 | 150 | 2 | 300 |
| 6 | 15 Amp DC Fuse | 8541 | 125 | 2 | 250 |
| | 15 Amp DC Fuse Jan Inwestor working fine For sep- 22 | 520 | | Total Rs. | 7400.00 |
| 50 | alor Im | | | CGST 9% | 666.00 |
| 07 | -sep-22 Bando | | | SGST9% | 666.00 |
| 27 | 12-10-22 | | | IGST 18% | 0.00 |
| | | | | Total Rs. | 8732.00 |
| | | | | Round up | 8732.00 |
| | Total Amount | | 8732.00 | | |
| | otal Amount (in word): Indian Rupees Eight T | housand Se | ven Hund | red and thirt | y two Only |
| 100 | pany's Bank Details | | | | |
| | R Name: State Bank of India Current A/c | | | | |
| | No. : 37856999195 | | | | |
| | ch : Kharbi, Nagpur | For R. R. Enterprises 22-23 | | | |
| fsc (| Code : SBIN0018096 | aterpri | | | |
| | | | | le Condi | 1/2 |

SUBJECT TO NAGPUR JURISDICTION
This is computer generated invoice

Authorised Signatory





Location and photos of solar photovoltaic panels installed on terrace of institute.



ENVIRONMNTAL AUDIT REPORT 2022-23

WATER EFFICIENCY

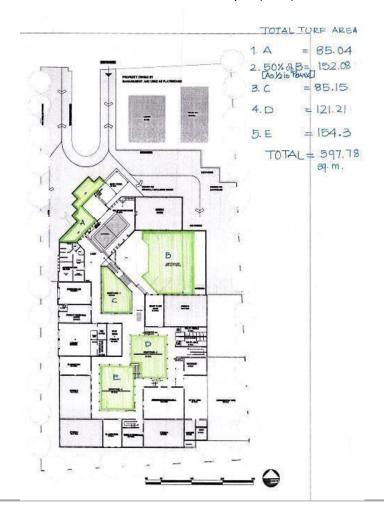
Intent: Reduction in the consumption of potable water supplied by municipal local body through improved practices. It further focusses on implementation of no/low-cost water conservation measures and recycling and reuse of water for overall improvement in the water performance.

1. WATER FOOTPRINT

Intent: To measure water consumption and identify potential areas to optimize water consumption in the project boundary.

a) Reducing Landscape Water Demand – Minimizing lawn area and restricting it to 25% of the total landscaped area.

Total landscape area of the Institute = 4702 sqm Total turf area = 597.78 sqm. (13%)





ENVIRONMNTAL AUDIT REPORT 2022-23





Lawn area inside the campus

Use Of Water-Efficient Irrigation Systems to Reduce the Water Requirement.Sprinklers at lawn area inside the campus





ENVIRONMNTAL AUDIT REPORT 2022-23

b) Reduction In Building Water Consumption By 30% Below the Base Case Through Water Efficient Fixtures.

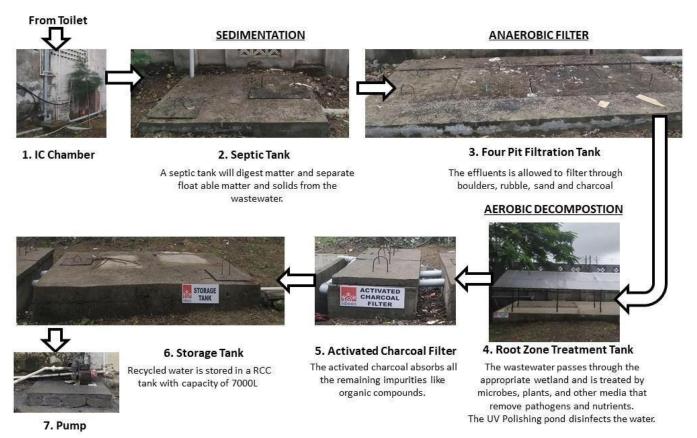






ENVIRONMNTAL AUDIT REPORT 2022-23

c) Provision Of On-Site Sewage Water Treatment System: 100 % of grey water treatment on site



Water is pumped to overhead tank (1000L) for use in flushing

DECENTRALIZED WASTEWATER TREATMENT SYSTEM

Institute of Design Education and Architectural Studies, Nagpur



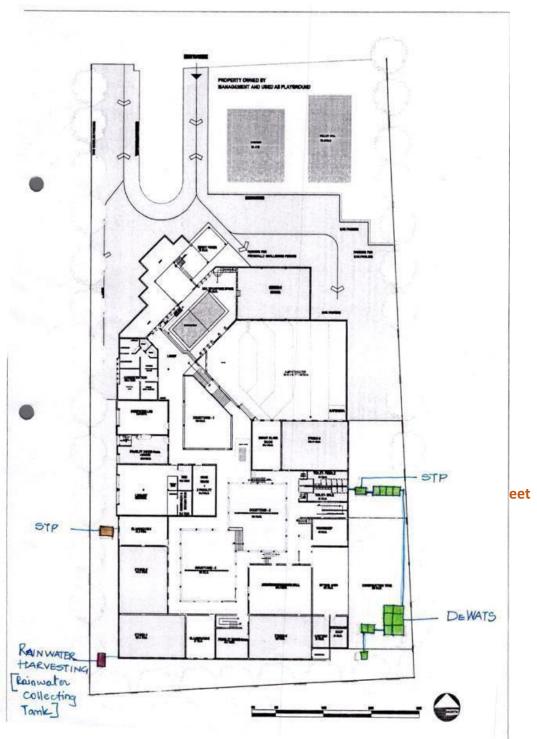






Overhead Storage tank





Plan showing position of STP & different chambers of the DEWAT system



ENVIRONMNTAL AUDIT REPORT 2022-23

e) Provision Of Rainwater Harvesting System:

Only roof rainwater harvesting.

Spouts and rainwater pipes allow the rainwater from the terrace to fall into the courtyard where it is soaked into the ground. Benefits derived through this system are: i) tube well recharging and ii) rise in water table. The institute draws water from the tube well for daily use.

At present a sump tank of capacity 4100 liters is constructed at south west corner of the campus to store rainwater for reuse in watering plants and cleaning. The institute has planned to increase the system in phases.







ENVIRONMNTAL AUDIT REPORT 2022-23

ii) 100% rainwater harvesting of catchment area.

The maximum area around the periphery of the building is softscape i.e 92% and the rest 8% is hardscape(roads) which helps in ground infiltration of ground water.



Plan showing campus softscape in yellow

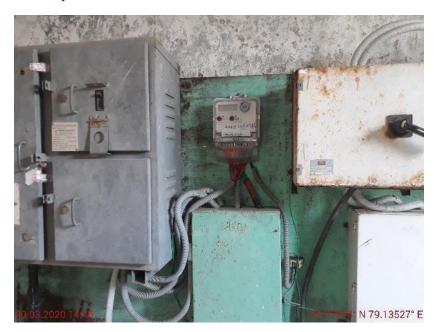


ENVIRONMNTAL AUDIT REPORT 2022-23

METERING & MONITORING

Intent: To promote metering of energy and water consumption of the building to monitor andanalyze the performance of the habitat

a) Installed energy meter at building level to monitor the energy consumption.



b) Install water meter at building level to monitor the water





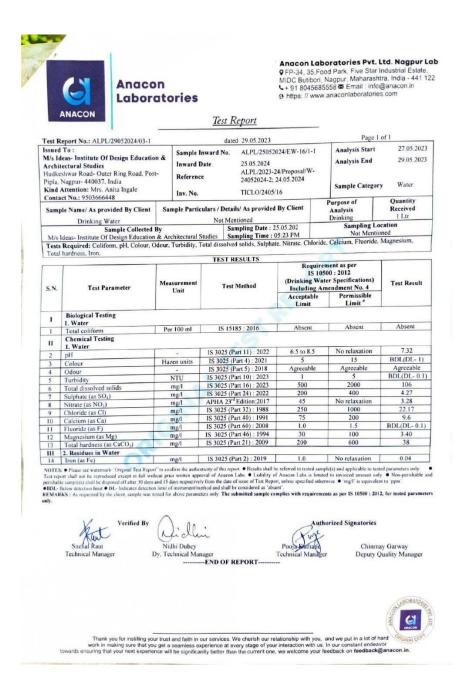
consumption.



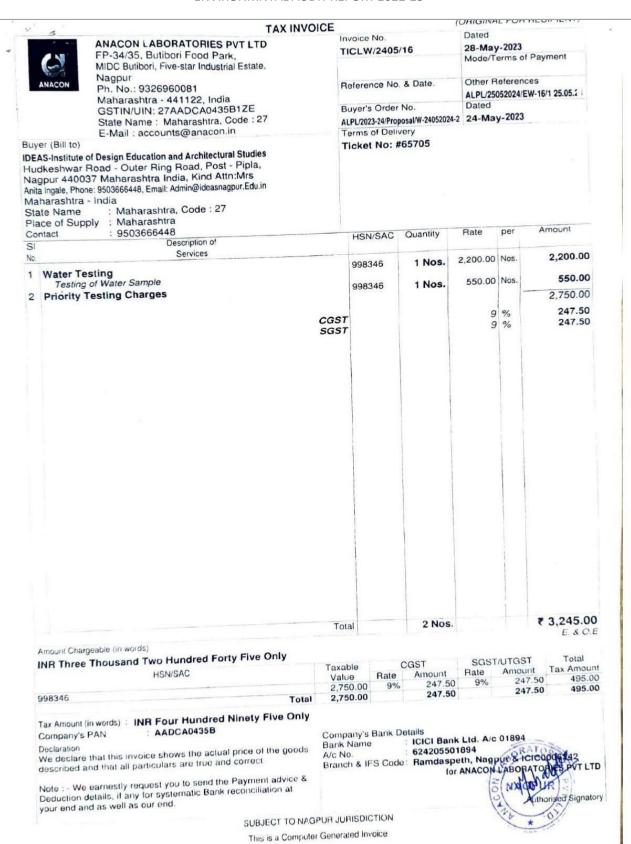
ENVIRONMNTAL AUDIT REPORT 2022-23

c) Conduct water quality test report as per CPCB /BIS Standards.

The Water Quality Test report in 2023.











ENVIRONMNTAL AUDIT REPORT 2022-23

MAINTAINING GOOD IAQ

Intent: To ensure good indoor air quality and quantity (IAQ) for all occupants inside the building

a) Smoking must be banned/ prohibited within the building premises.



No Smoking Sign Located at Entrance.



ENVIRONMNTAL AUDIT REPORT 2022-23

b) Make use of environment-friendly cleaning and for housekeeping materials

Environmentally friendly products are used for cleaning to avoid toxins that are present in other cleaning products.







ENVIRONMNTAL AUDIT REPORT 2022-23

SOLID WASTE MANAGEMENT

Intent: to promote the occupants to manage the solid waste at site level sustainably.

a) Garbage Segregation, Collection and Disposal

Wet waste from the kitchen is composted and the manure that it yields is used in landscape

Dry leaves are composted using Nadep method.

Dry waste from classrooms, staff rooms and offices are segregated.

Paper and sheets are sold to identified agencies for recycling.

Single side paper is used for rough work.

The rest of dry waste is sent to landfill.

Sanitary napkins are disposed of in an incinerator.



using the Nadep method in a two chamber pit



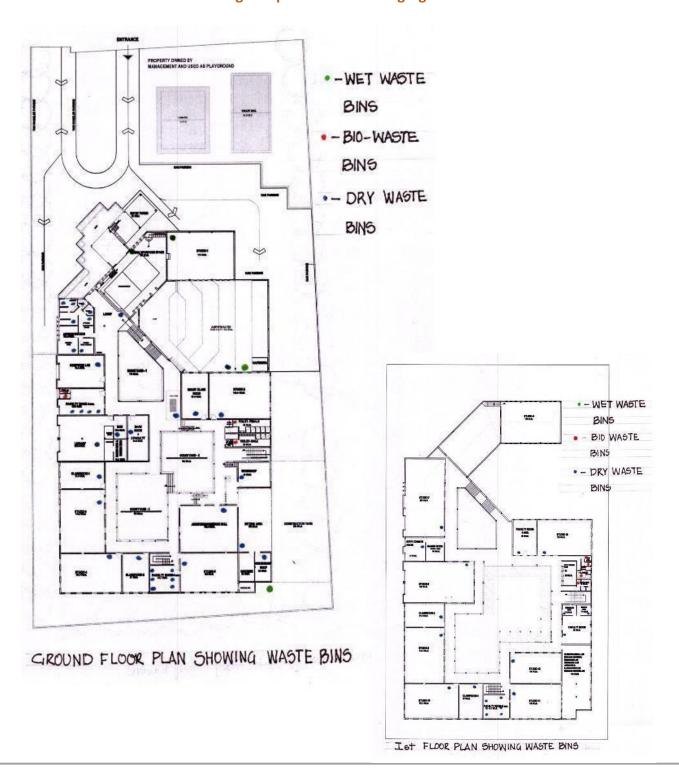
An Incinerator At Girl's Toilet

Used Paper Sent For Recycling



ENVIRONMNTAL AUDIT REPORT 2022-23

a) Provide (multi-colored dustbins/different garbage chutes) to building occupants to ensure segregation of waste at source









Multi-Coloured Bins At Each Floor To Segregate Waste At Site



ENVIRONMNTAL AUDIT REPORT 2022-23

b) Treat organic waste on site

Intent: To promote recycling and reuse of organic waste on site.





composting pit for organic waste or organic waste composter on site.

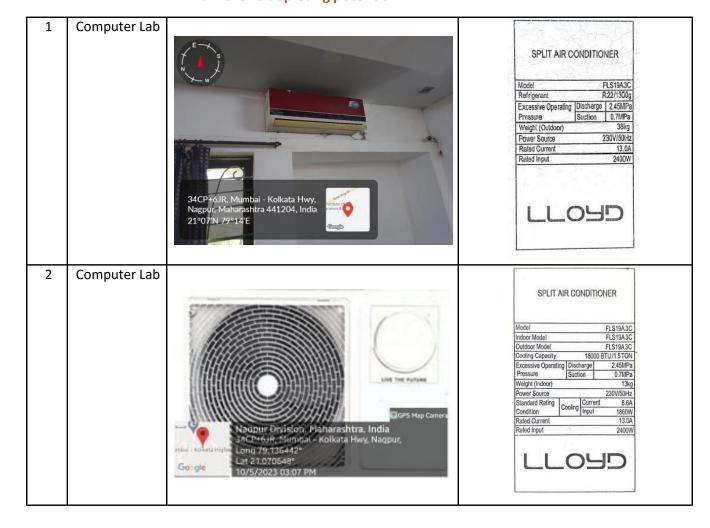


ENVIRONMNTAL AUDIT REPORT 2022-23

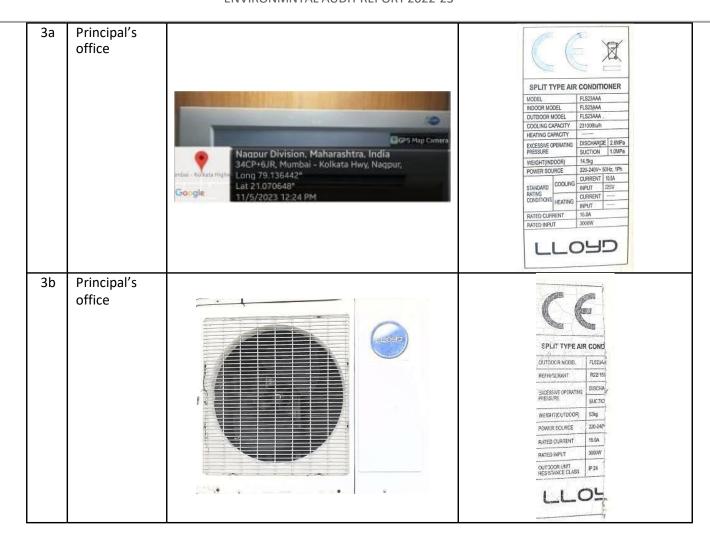
ENVIRONMENTAL AWARENESS

Intent: To increase environmental awareness amongst the building users and visitors.

a) HVAC and other cooling equipment in the building are CFC-free, with low ozone depleting potential.









ENVIRONMNTAL AUDIT REPORT 2022-23

b) Plant native trees on site at the proportion of 1 mature tree per 80sqm of the plot area.

Total area of Institute = 8172 sqm.

No. of trees required @ 1 mature tree per 80sqm = 102 trees

The college has 300 trees.





Photos showing trees on the campus.



ENVIRONMNTAL AUDIT REPORT 2022-23

FLORA AND FAUNA IN COLLEGE CAMPUS

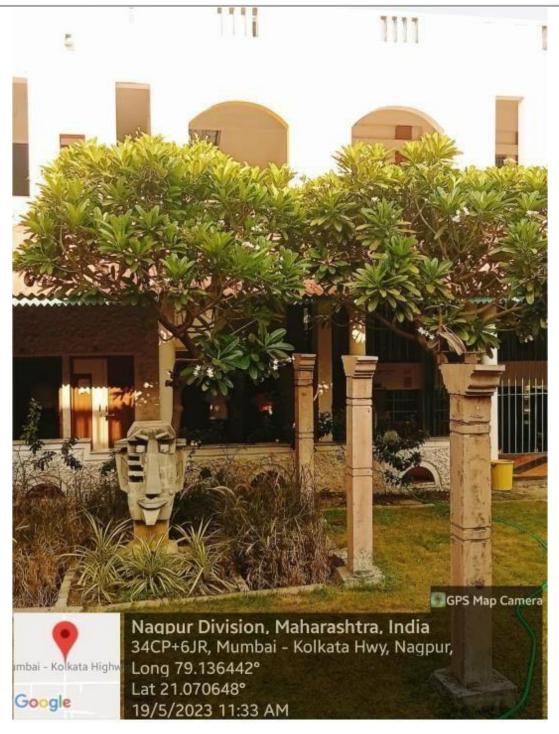






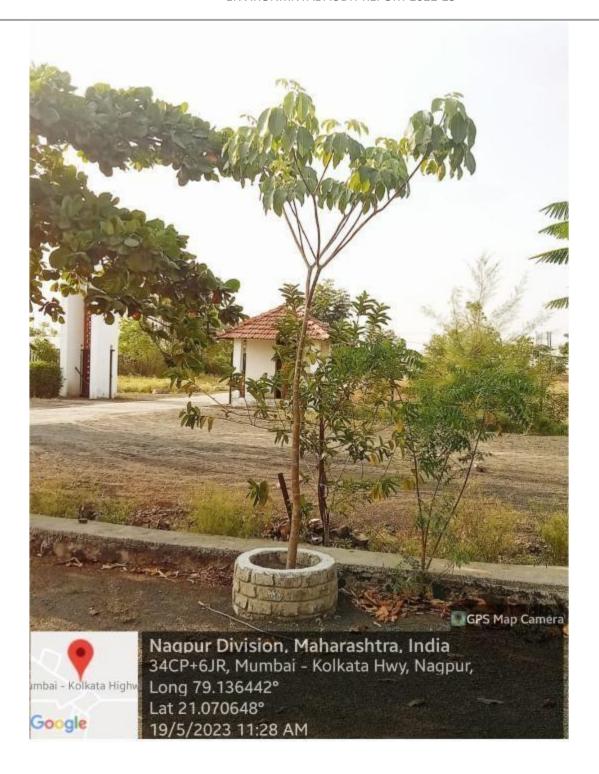






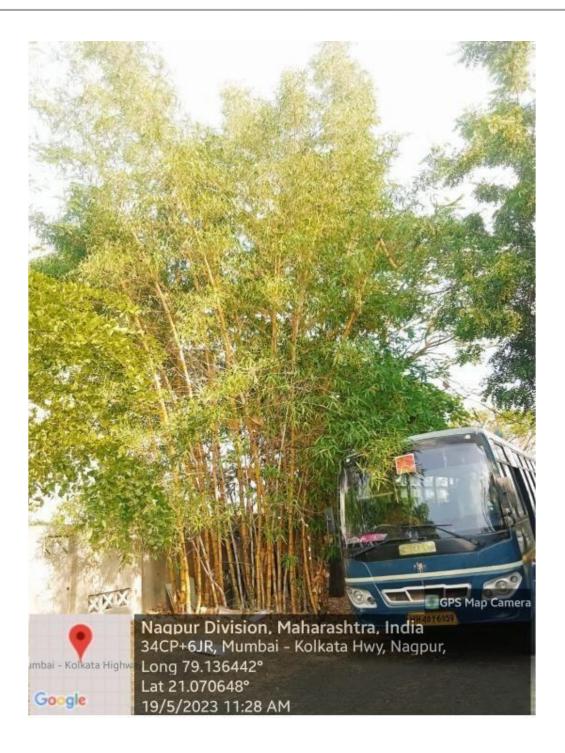
| Common name | Botanical name | No. of trees |
|-------------|----------------|--------------|
| Champa | Plumeria alba | 18 |





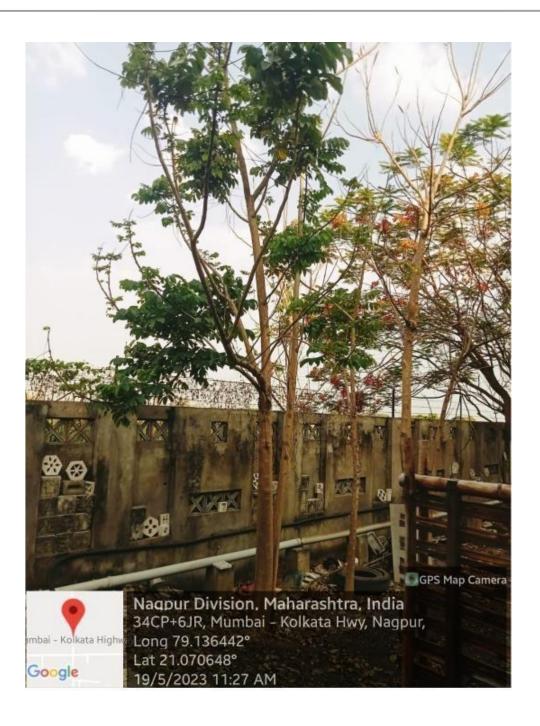
| Common name | Botanical name | No. of trees |
|-------------|------------------------|--------------|
| Kadamb | Anthrocephalus kadamba | 3 |





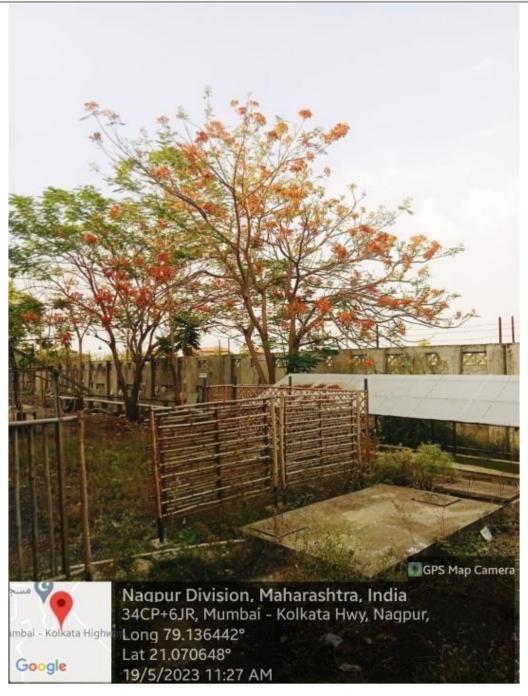
| Common name | Botanical name | No. of trees |
|---------------|------------------|--------------|
| Golden Bamboo | Bambusa vulgaris | 150 |





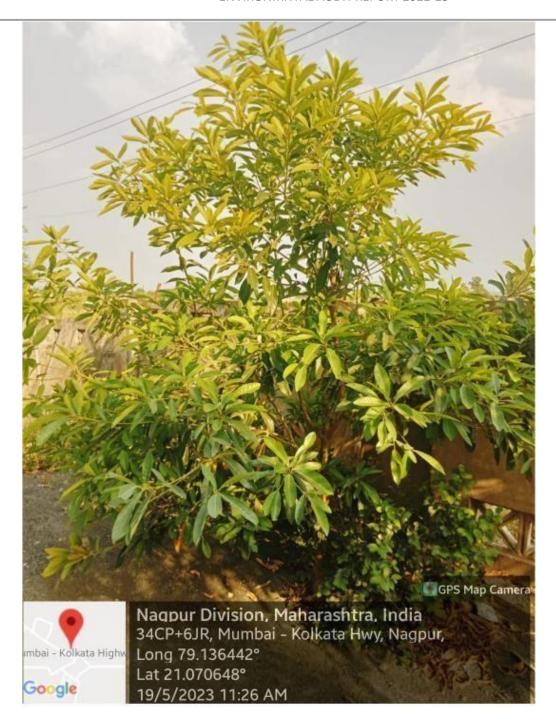
| Common name | Botanical name | No. of trees |
|-------------|-----------------------|--------------|
| spathodia | Spathodia campanulata | 2 |





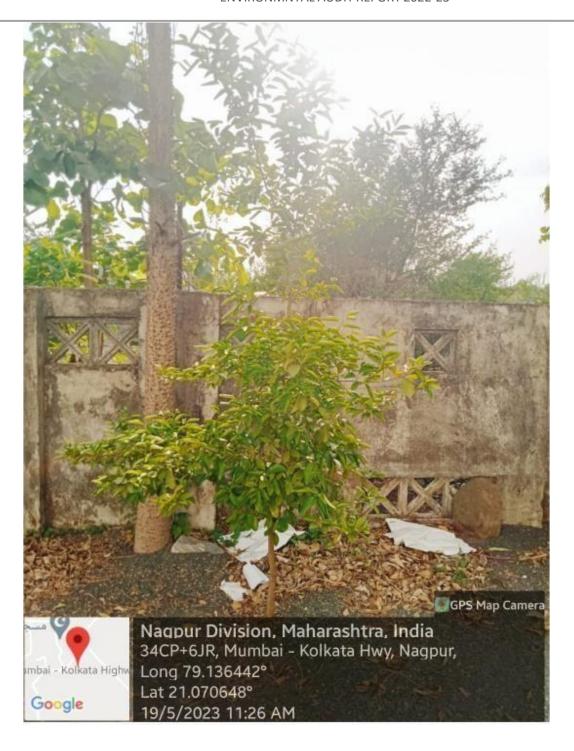
| Common name | Botanical name | No. of trees |
|----------------------|----------------|--------------|
| Gulmohar/ flame tree | Delonix regia | 24 |





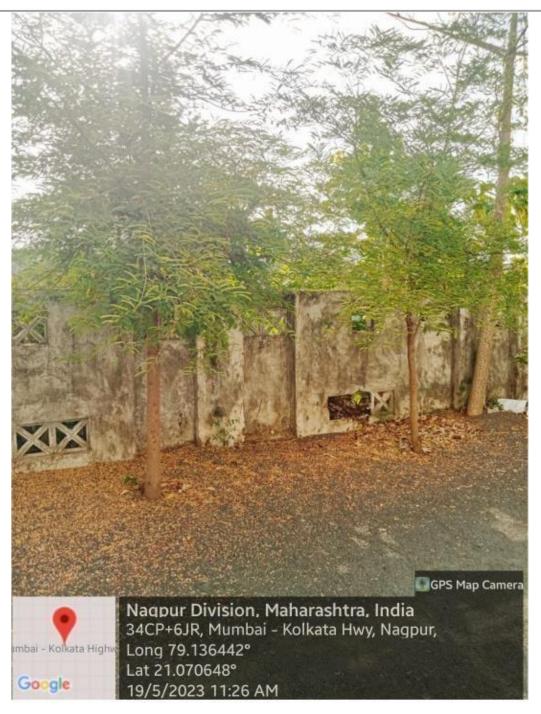
| Common name | Botanical name | No. of trees |
|-------------|--------------------|--------------|
| Mahuaa | Madhuca longifolia | 4 |





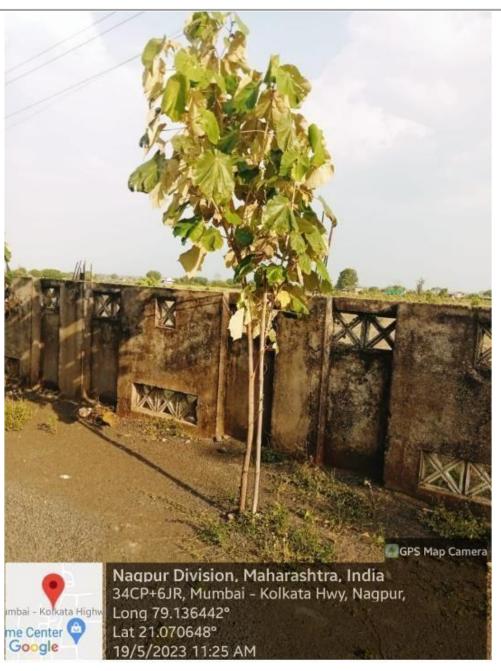
| Common name | Botanical name | No. of trees |
|-------------|------------------------|--------------|
| Nimbu | Citrus limon (Nimbuka) | 4 |





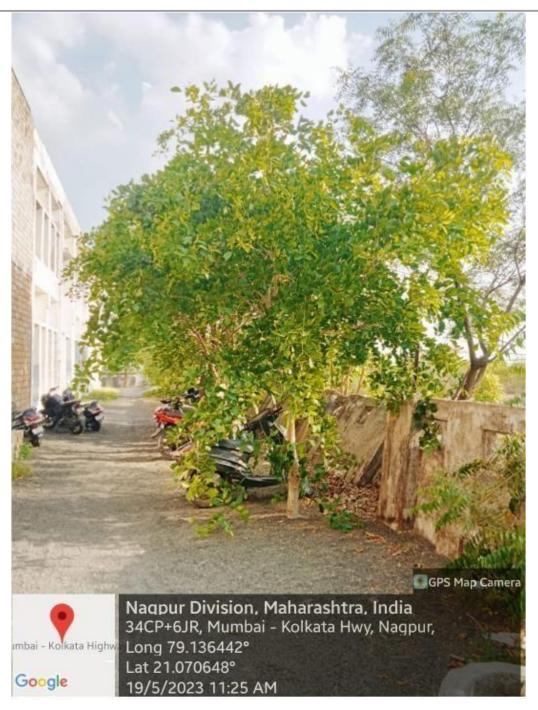
| Common name | Botanical name | No. of trees |
|-------------------|-------------------|--------------|
| Chinch / Tamarind | Tamarindus indica | 4 |





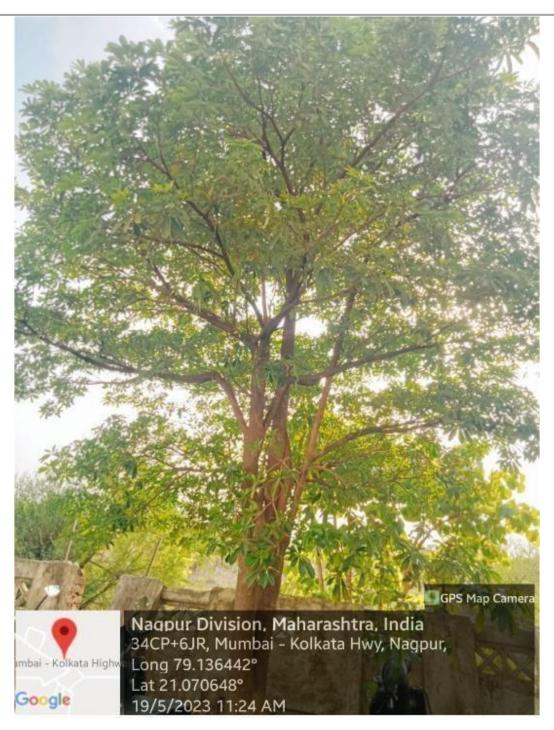
| Common name | Botanical name | No. of trees |
|-------------|--------------------------|--------------|
| Kanak Chafa | Pterospermum acerifolium | 10 |





| Common name | Botanical name | No. of trees |
|-------------|-------------------|--------------|
| Karanja | Millettia Pinnata | 20 |





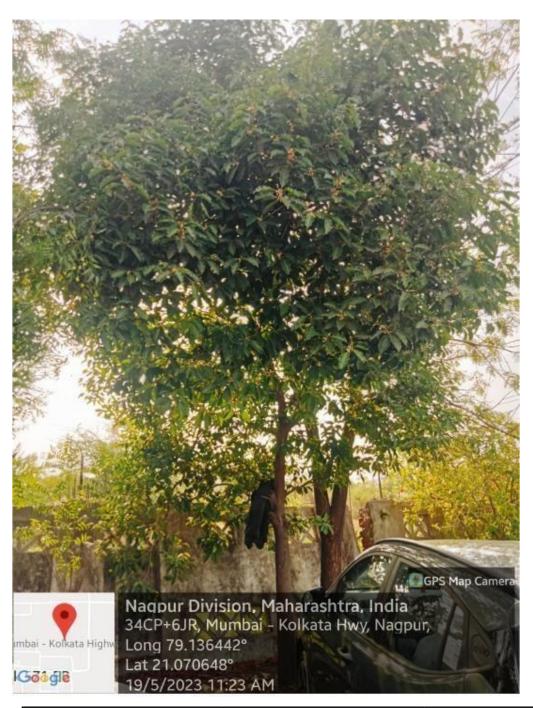
| Common name | Botanical name | No. of trees |
|-------------|--------------------|--------------|
| Saptaparni | Alstonia scholaris | 4 |





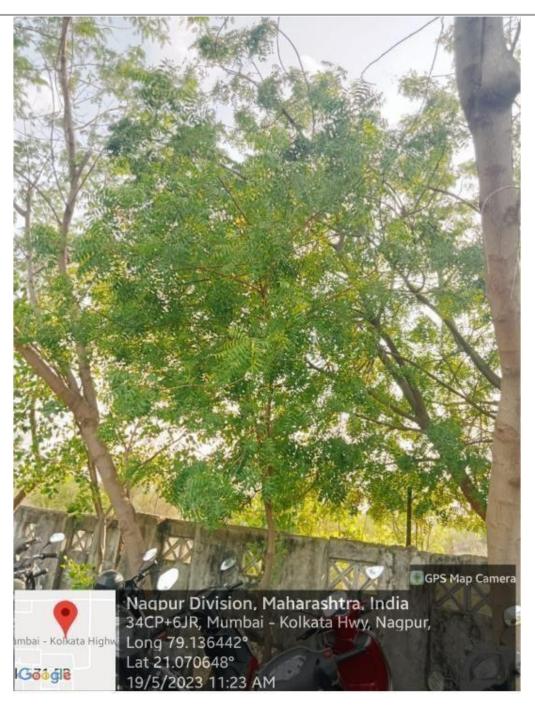
| Common name | Botanical name | No. of trees |
|-------------|----------------|--------------|
| Amaltas | Cassia fistula | 20 |





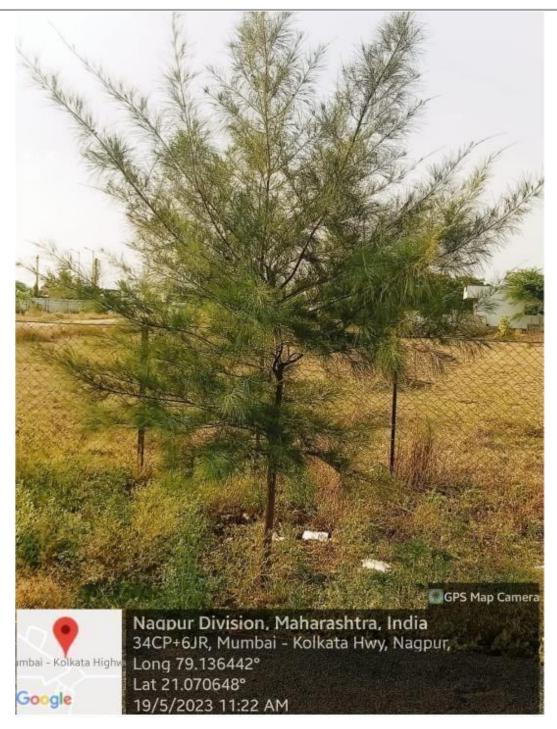
| Common name | Botanical name | No. of trees |
|-------------|-----------------|--------------|
| Bakul | Mimusops elengi | 4 |





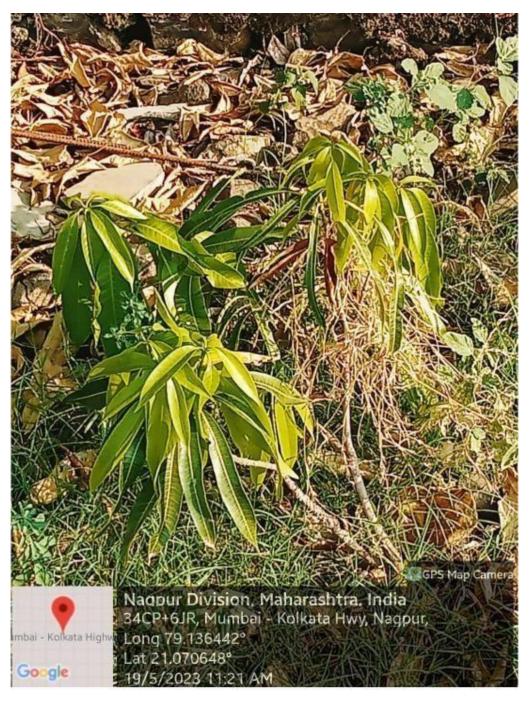
| Common name | Botanical name | No. of trees |
|-------------|--------------------|--------------|
| Neem | Azadirachta indica | 10 |





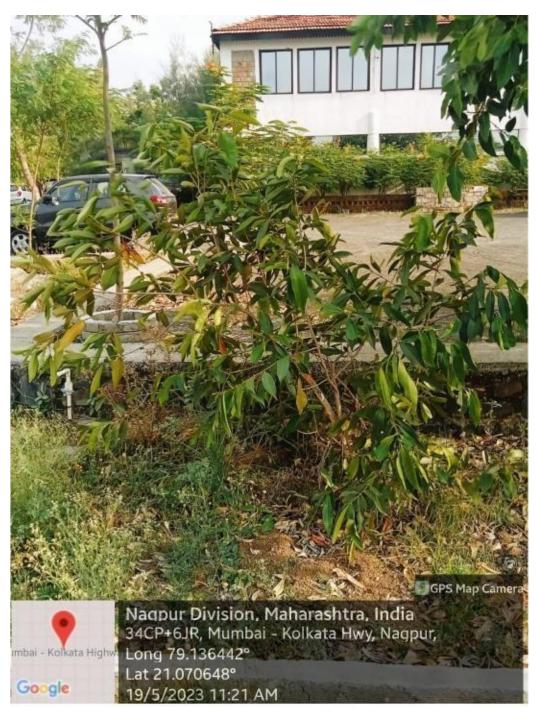
| Common name | Botanical name | No. of trees |
|-------------|-------------------------|--------------|
| Saru | Casuarina Equisetifolia | 10 |





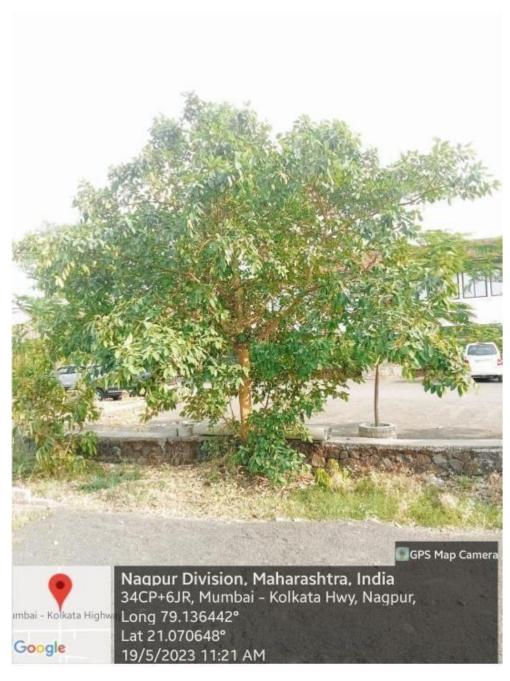
| Common name | Botanical name | No. of trees |
|-------------|------------------|--------------|
| Mango | Mangifera indica | 2 |





| Common name | Botanical name | No. of trees |
|-------------|-----------------|--------------|
| Jamun | Syzygium cumini | 2 |

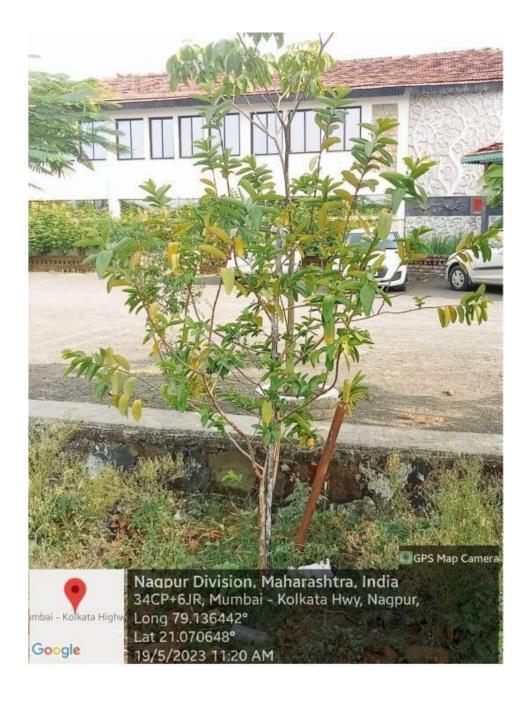




| Common name | Botanical name | No. of trees |
|---------------|----------------|--------------|
| Communication | Botamearname | 1 10 0 0 0 0 |

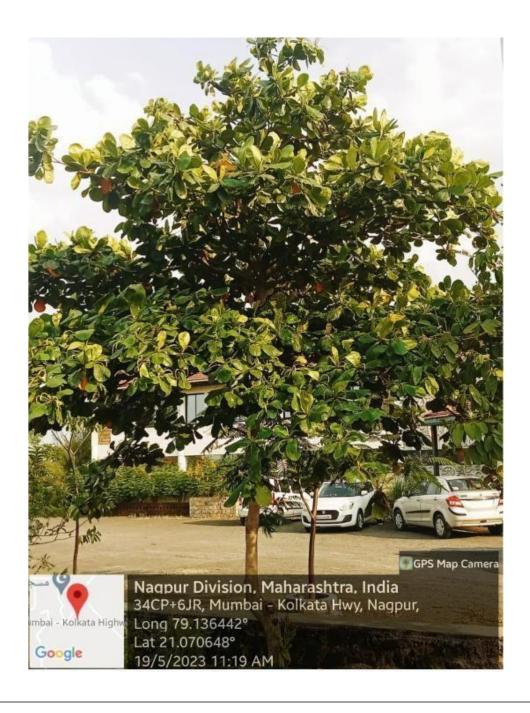


|--|



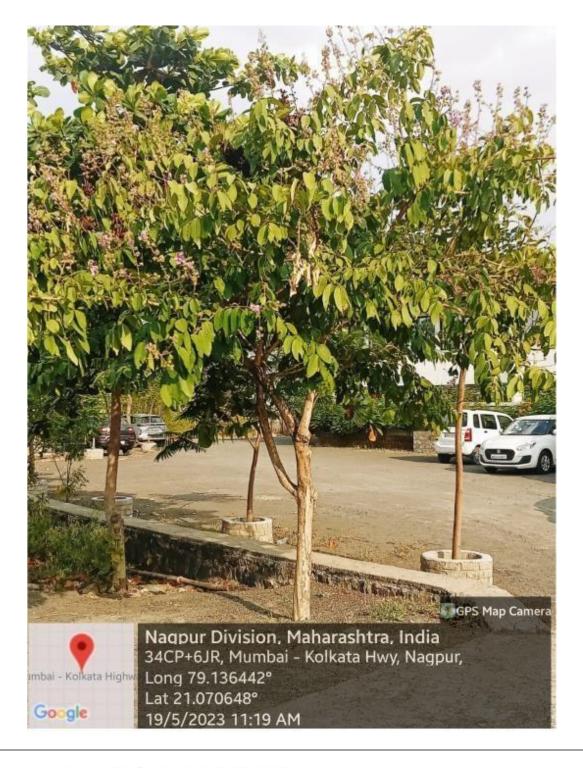


| Common name | Botanical name | No. of trees |
|-------------|-----------------|--------------|
| Peru/Guava | Psidium guajava | 12 |



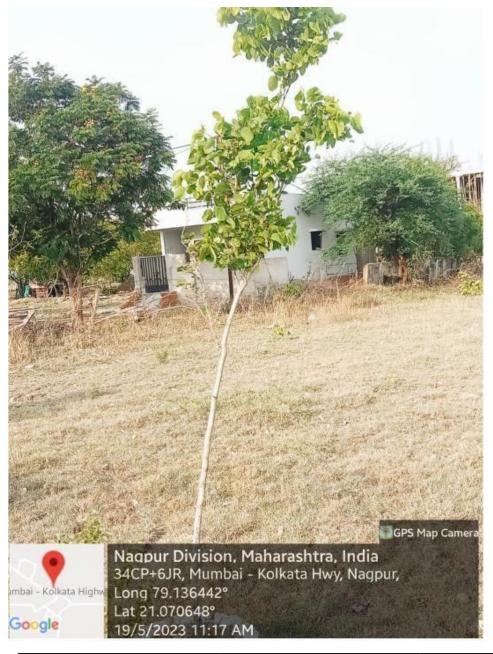


| Common name | Botanical name | No. of trees |
|-------------|----------------|--------------|
| Badam | Prunus dulcis | 2 |



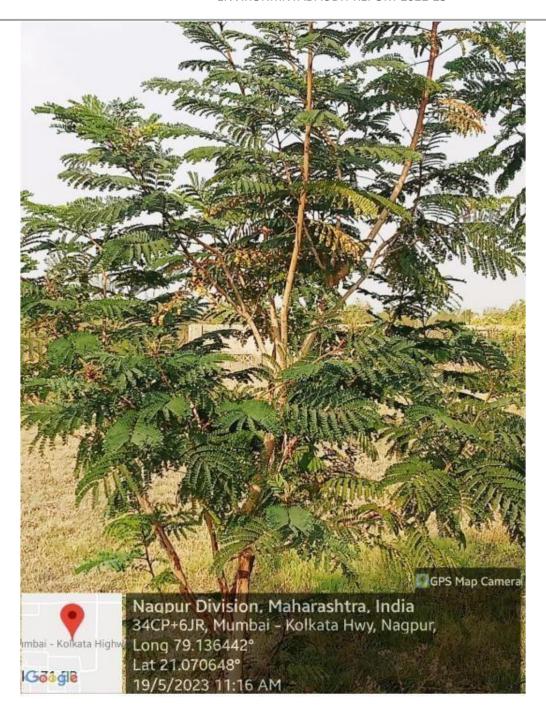


| Common name | Botanical name | No. of trees |
|----------------|------------------------|--------------|
| Pride of India | Lagerstroemia speciosa | 2 |



| Common name | Botanical name | No. of trees |
|-------------|--------------------|--------------|
| Bauhinia | Bauhinia variegata | 4 |





| Common name | Botanical name | No. of trees |
|--------------|-------------------|--------------|
| Pelto forrum | Pelto ferrugeniun | 9 |





| Common name | Scientific name |
|-------------|-----------------|
| Snake | Naja naja |

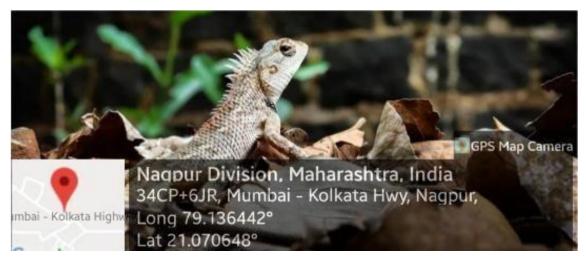


| Common name | Scientific name |
|--------------|-----------------------|
| House Lizard | Hemidactylus frenatus |





| Common name | Scientific name |
|-------------|-----------------|
| Scorpion | Scorpiones |



| Common name | Scientific name |
|-------------|-----------------|
| chameleon | Chamaeleonidae |





| Common name | Scientific name |
|----------------|--------------------|
| Yellow Sunbird | Cinnyris jugularis |



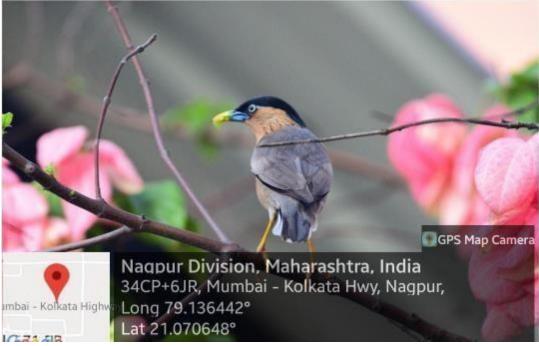


| Common name | Scientific name |
|-------------|------------------|
| House crow | Corvus splendens |



| Common name | Scientific name |
|-------------|--------------------|
| Toad | Bufo melanostictus |





| Common name | Scientific name |
|-------------------|-------------------|
| Brahminy starling | Sturnia pagodarum |



| Common name | Scientific name |
|-------------|---------------------|
| Squirrel | Funambulus palmarum |





| Common name | Scientific name |
|----------------------------|-----------------------|
| Yellow footed green pigeon | Treron phoenicopterus |

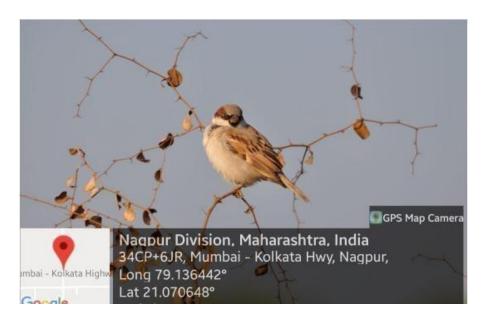


| Common name | Scientific name |
|-----------------------|---------------------|
| purple-rumped sunbird | Leptocoma zeylonica |





| Common name | Scientific name |
|-------------|----------------------|
| Mayna | Acridotheres tristis |



| Common name | Scientific name |
|-------------|-------------------|
| Sparrow | Passer domesticus |



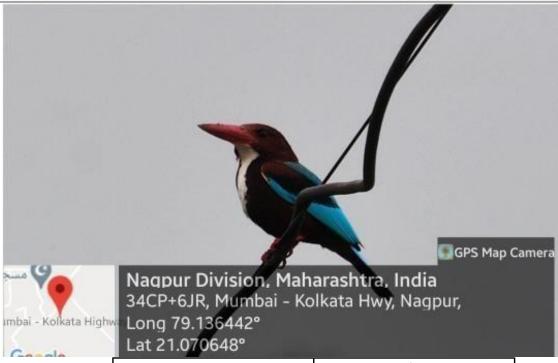


| Common name | Scientific name |
|-------------|------------------|
| shikara | Accipiter badius |



| Common name | Scientific name |
|-------------|------------------------|
| Robin | Saxicoloides fulicatus |





| Common name | Scientific name |
|-------------|-----------------|
| King fisher | Alcedo atthis |



| Common name | Scientific name |
|-------------|-----------------|
| Babbler | Timaliidae |





| Common name | Scientific name |
|-------------|--------------------|
| Parrot | Psittacula krameri |



| Common name | Scientific name |
|---------------------|------------------------|
| Indian Spotted dove | Streptopelia chinensis |





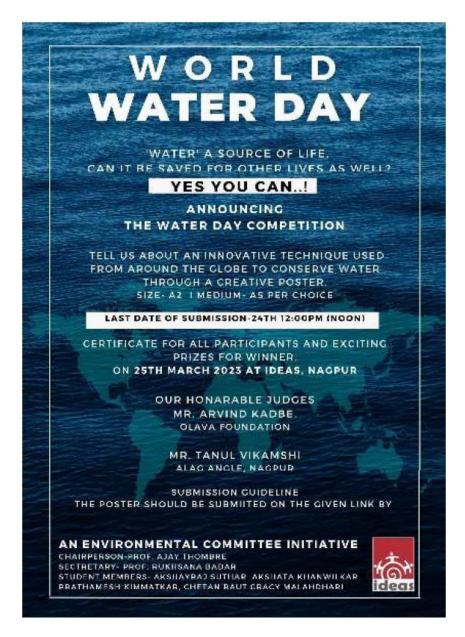
| Common name | Scientific name |
|-------------|-----------------|
| Owlet | Strigiformes |



ENVIRONMNTAL AUDIT REPORT 2022-23

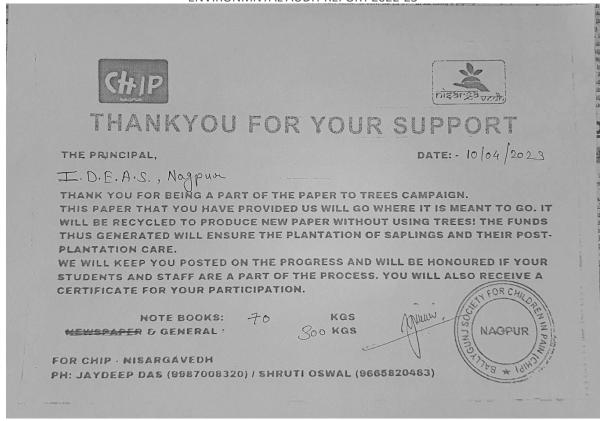
ROUTINE GREEN PRACTICES

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





ENVIRONMNTAL AUDIT REPORT 2022-23



Paper waste is donated to recycler during 2022-23 period.



ENVIRONMNTAL AUDIT REPORT 2022-23

CONCLUSION

This audit involved extensive consultation with all the environmental college team, interactions with key personnel on wide range of issues related to Environmental aspects. The audit has identified several observations for making the campus premises more environmentally friendly. The audit team opines that the overall site is maintained well from an environmental perspective. There is no major observations but a few things that are important to initiate urgently are phaseout air conditioners with eco-friendly refrigerants and periodic inspection of buildings housekeeping and environment policy.