GREEN AUDIT REPORT
FOR
IDEAL INSTITUTE OF PHARMACY

Elion Technologies & Consulting Private Limited
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Table of Contents

Acknowledgment

Site Information

Name of College	Ideal Institute of Pharmacy
College Address	Plot no 40, Posheri village, Pimplaj road, Taluka Wada, District Palghar - 421303
Execution Partner	ELION Technologies & Consulting Pvt Ltd
Communication Address	307, 3rd Floor DDA Lal Market H-Block Vikas Puri, New Delhi-110018
Date of Audit	20th January 2024
Year of Audit	2023 – 2024
Audit Participants	Ideal Institute of Pharmacy
Total Covered Area of College	60,000 Sq. Feet
Total Green Area	10 Acres

Overview of Institute

IDEAL FOUNDATION is a nonprofit, community-based educational institute is a best private college located at Posheri, Palghar Maharashtra. It owes its genesis to the establishment of the ideal foundation Educational Society in Palghar in the year 2013. Ideal foundation is the best multi-disciplinary, student-eccentric, research-focused college in Maharashtra, India. The Foundation has worked to support the educational and social development of communities throughout Maharashtra. The Ideal Education Foundation aims to enhance the well-being of our communities via educational and leadership development, while also promoting civic engagement. The Foundation collaborates with private and public philanthropic, corporate and community organizations to build individual, family and community capacity among the recipients of its programmatic thrusts.

IDEAL INSTITUTE OF PHARMACY is now a one-of-a-kind center of excellence in Maharashtra for pharmaceutical education and research.

Education opens doors as usual, wherever you go in the world. From our State-recognized college to our innovative teaching approach and the leading minds who deliver it, we have what you need to reach your potential. The Ideal college of Pharmacy has been the preferred choice for most of the important minds in recent years. One in four students has studied in the Ideal institution, so if you're dreaming of achieving big things, you can be sure you're in the right place in the Maharashtra.

Degree from Ideal college of Pharmacy is respected throughout India, and the choice of subjects you can study is extensive. ...our standard is highly regarded, with experts on many academic topics and our college is in top most searched Pharmacy colleges in India.

Mission
To create intellectually stimulating environment, promote excellence in teaching, research and extension activities and facilitate academic freedom, diversity and harmony.

Vision
To be a world class college committed to create and disseminate knowledge for human development and welfare.

List of courses offered by the institute:

- M. Pharmacy
- B. Pharmacy
- D. Pharmacy

Introduction

Green Audit is a process of systematic identification, quantification, recording, reporting and analysis of components of environmental diversity of institute. It aims to analyses environmental practices within and outside of the concerned place, which will have an impact on the eco-friendly atmosphere. Green audit is a valuable means for a college to determine how and where they are using the most energy or water or other resources; the college can then consider how to implement changes and make savings. It can create health consciousness and promote environmental awareness, values and ethics. It provides staff and students' better understanding of green impact on campus. If self-enquiry is a natural and necessary outgrowth of a quality education, it could also be stated that institutional self-enquiry is a natural and necessary outgrowth of a quality educational institution. Thus, it is imperative that the college evaluate its own contributions toward a sustainable future. As environmental sustainability is becoming an increasingly important issue for the nation, the role of higher educational institutions in relation to environmental sustainability is more prevalent.

The rapid urbanization and economic development at local, regional and global level has led to several environmental and ecological crises. On this background it becomes essential to adopt the system of the Green Campus for the institutes which will lead for sustainable development and at the same time reduce a sizable amount of atmospheric CO_2 from the environment. The National Assessment and Accreditation Council, New Delhi (NAAC) has made it mandatory that all Higher Educational Institutions should submit an annual Green Audit Report. Moreover, it is part of Corporate Social Responsibility of the Higher Educational Institutions to ensure that they contribute towards the reduction of global warming through carbon footprint reduction measures.

Advantages of Green Audit:

Green Audit is assigned to the Criteria 7 of NAAC, National Assessment and Accreditation Council which is a self-governing organization of India that declares the institutions as Grade A, Grade B or Grade C according to the scores assigned at the time of accreditation. Some main advantages of green Audit are:
- It helps to shield the environment.
- Minimizing the waste and managing the cost.
- Authenticate conformity with the implemented laws.
- Minimizing the energy consumptions and focus on green and clean energy.
- Ambient Environmental Condition.
- Awareness and Training on Sustainability for Students.
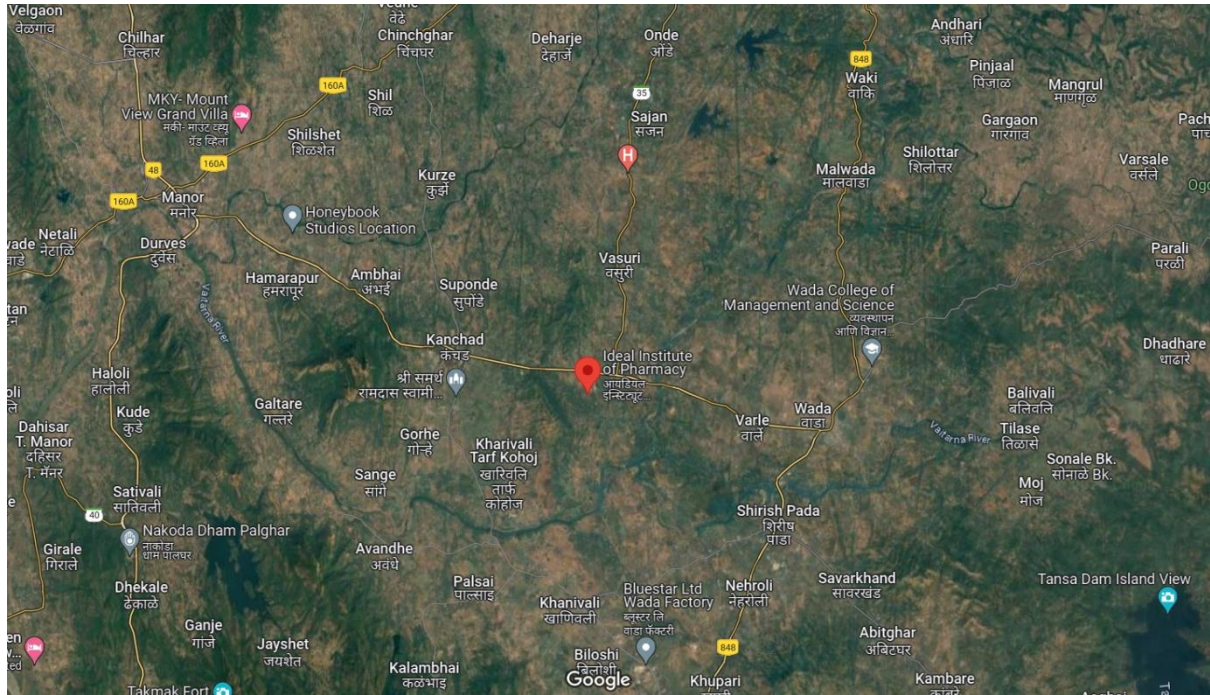- Awareness about environmental guidelines and duties.

Environment Setting

The land use around the campus is mainly comprised of agriculture and green area.
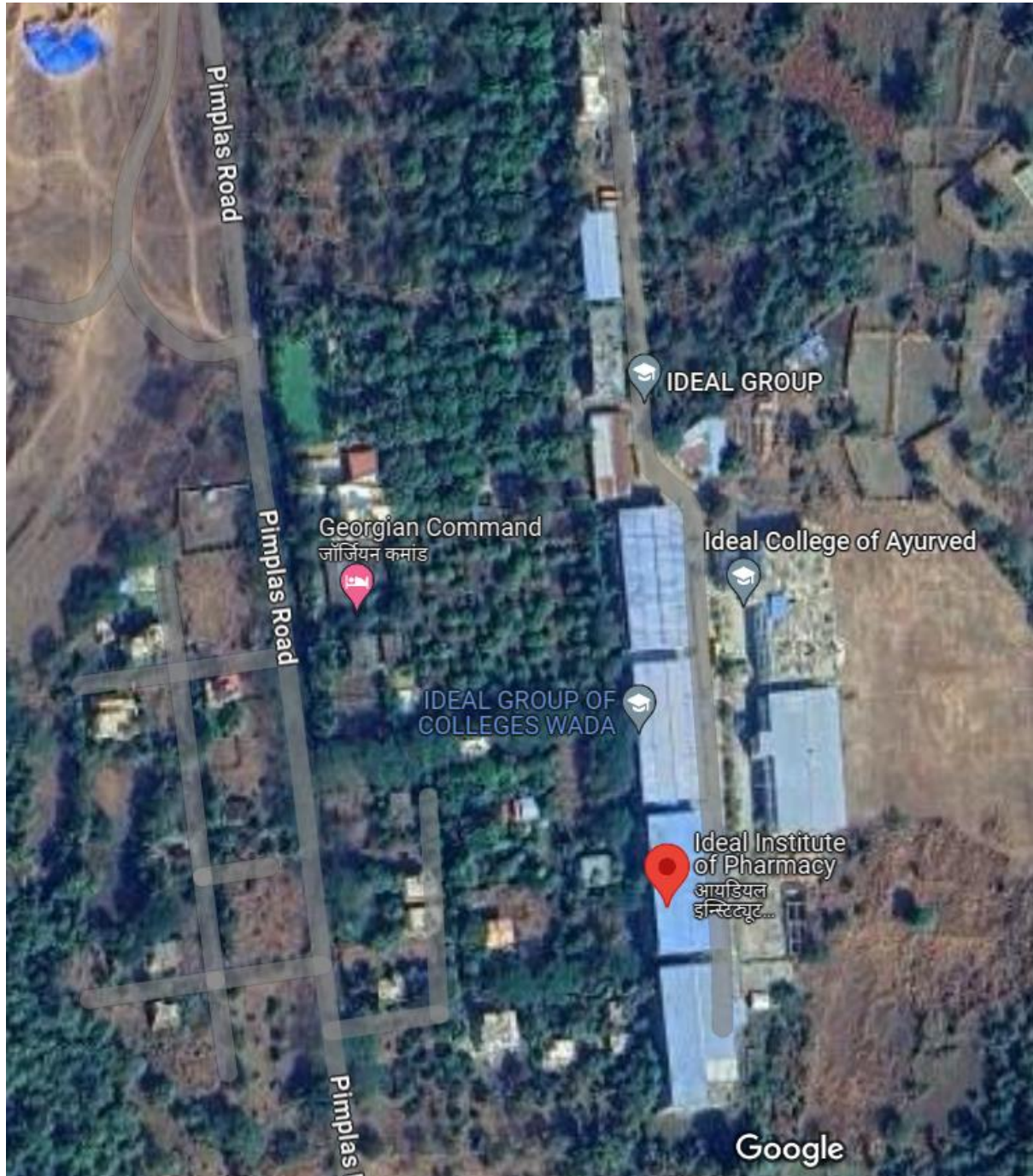
IDEAL INSTITUTE OF PHARMACY

**Location of IDEAL INSTITUTE OF PHARMACY**

Green Audit

For Green Audit following 13 major areas (including their subsections) were covered and compliance/ initiatives under these areas were verified/ validated.

a) Good Daylight Design and Ventilation
b) Water Efficiency
c) Wastewater Management
d) Indoor Air Quality
e) Energy Efficiency
f) On-site Energy Generation
g) Temperature and Acoustic Control
h) Paper Waste Management
i) E-Waste Management
j) Canteen and Solid Waste Management
k) Universal Access and Efficient Operation and Maintenance of Building
l) Green Belt
m) Green Programs (Green initiatives)

3.1 Good Daylight Design and Ventilation

a) Corridors are wide with good ceiling height. All the corridors receive good daylight.
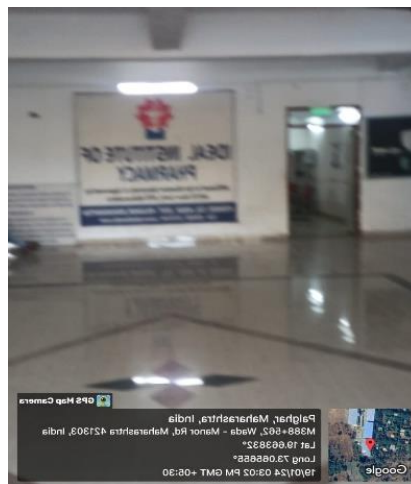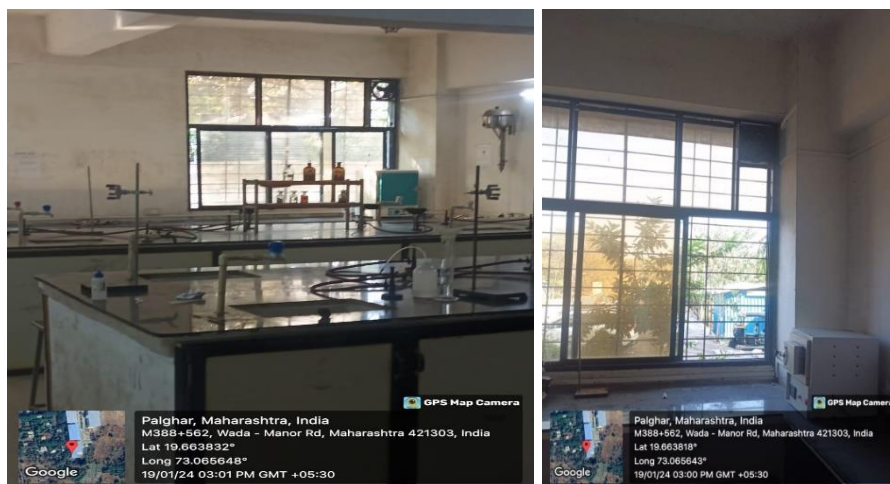

Spacious Corridors

b) Classrooms, Labs and Library have large windows. Adequate daylight is received through the windows during daytime.
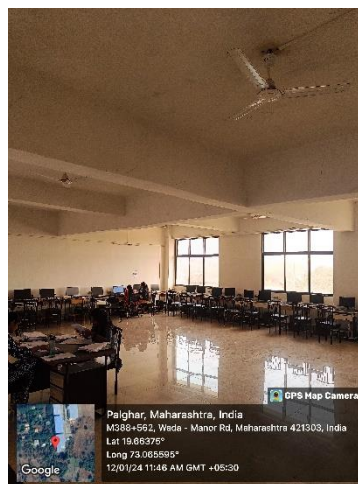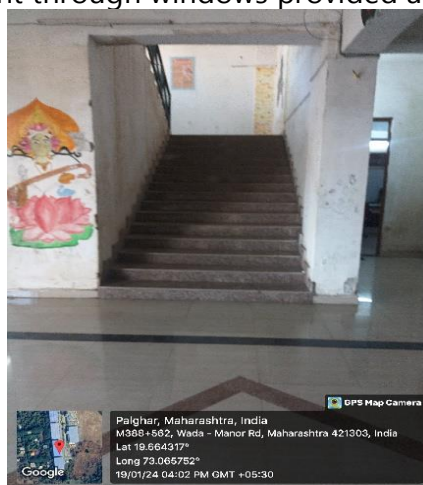

Ventilated & illuminated Classrooms

c) Classroom walls, corridors and labs are white-washed, this enhances the daylight received.

d) Laboratories and washrooms are provided with exhaust fans to disperse heat, fumes and odors.

Ventilated Labs

e) Stair cases receive daylight through windows provided at various levels.
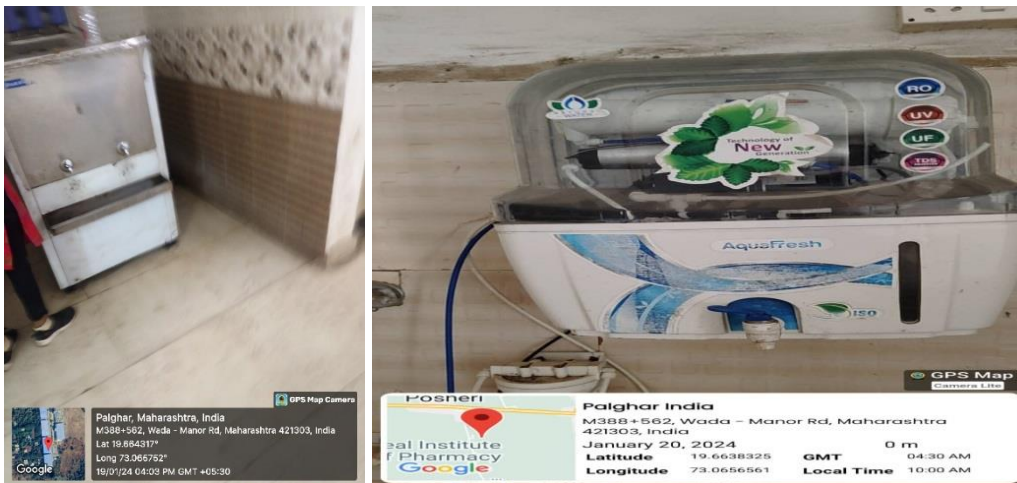

Illuminated Staircases

f) Curtains are provided on some of the windows to avoid glare.

3.2 Water Efficiency:

a) Ground water is the main source for water supply in the campus.

b) Pumps run approximately 4hours/day.

c) Ground water is stored in an overhead tank of 10000 liters.

d) Water coolers are used for drinking purposes.

e) Normally mops are used for floor cleaning.

f) Dual flushing system is provided in the washrooms.

g) Signages are provided in washrooms emphasizing water conservation.

h) Water from air conditioning unit and reject water from water purifiers is re used anywhere.

3.3 Wastewater Management:

a) Sewage treatment plant is available in the campus.
b) Treated water is used for gardening purpose.

Treatment Plant

3.4 Indoor Air Quality;

Indoor Air Quality (IAQ) refers to the air quality within and around buildings and structures, as it relates to the health and comfort of building occupants. Some common indoor pollutants are listed as below:

- Molds and other allergens – This may arise from water seeping into the building envelope or skin, plumbing leaks, condensation due to improper ventilation, or from ground moisture penetrating a building part.
- Carbon monoxide – Sources of carbon monoxide are incomplete combustion of fossil fuels.
- Volatile organic compounds (VOCs) – VOCs are emitted by paints and lacquers, paint strippers, pesticides, office equipment such as copiers and printers, correction fluids and carbonless copy paper, graphics and craft materials including glues and adhesives, permanent markers, and photographic solutions etc.
- Carbon dioxide – Due to human respiration
- Particulate matter – Due to construction and maintenance activities

Major observations under indoor air quality are as below:

a) In classrooms the mode of ventilation is natural (through windows) and is enhanced by fans. Air conditioners are used in some of the rooms.

AC in the rooms

b) Indoor plants are not seen in the College. Indoor plants can be plotted not only for the aesthetic appearance but also for health benefits. Refer Annexure 1 for details.

c) Exhaust fans are provided in the washrooms and labs.
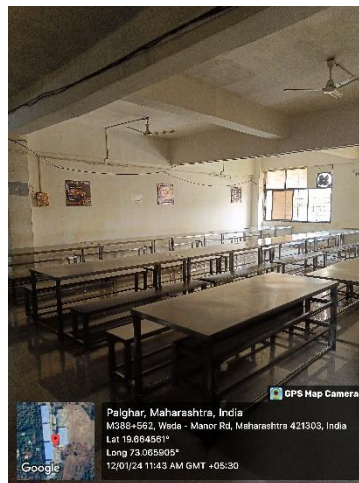
Exhaust provided

d) Indoor Air Quality tests have not been carried out. Same needs to be carried out at least once a year.
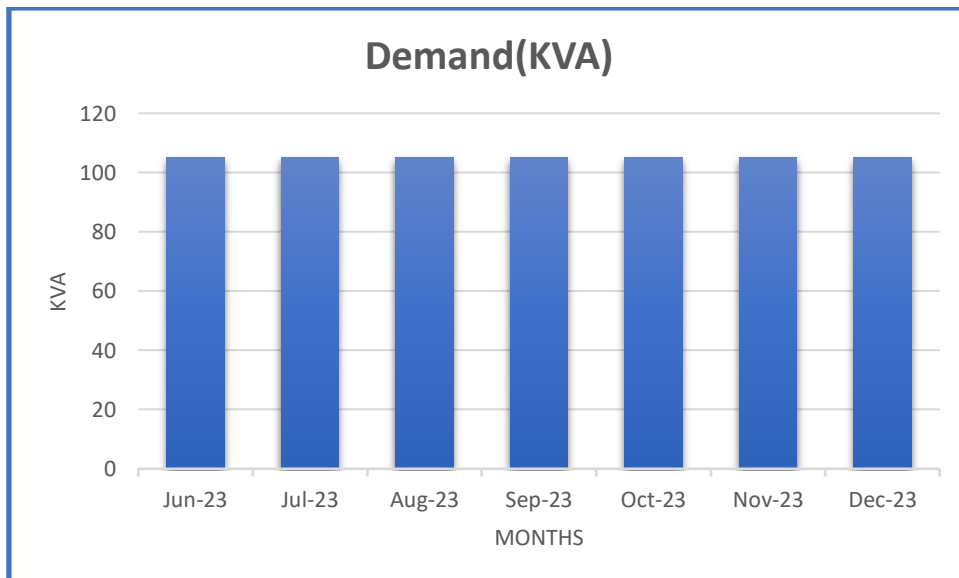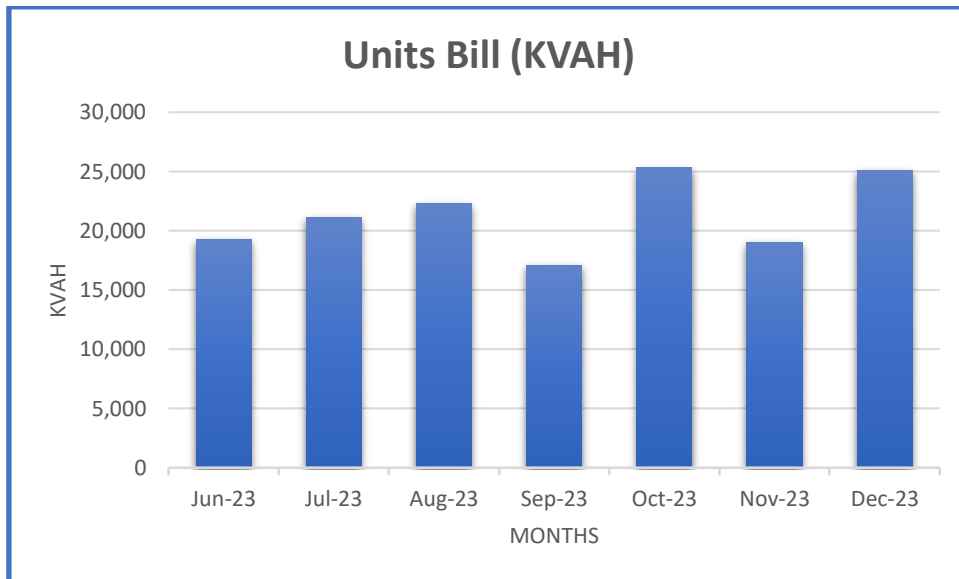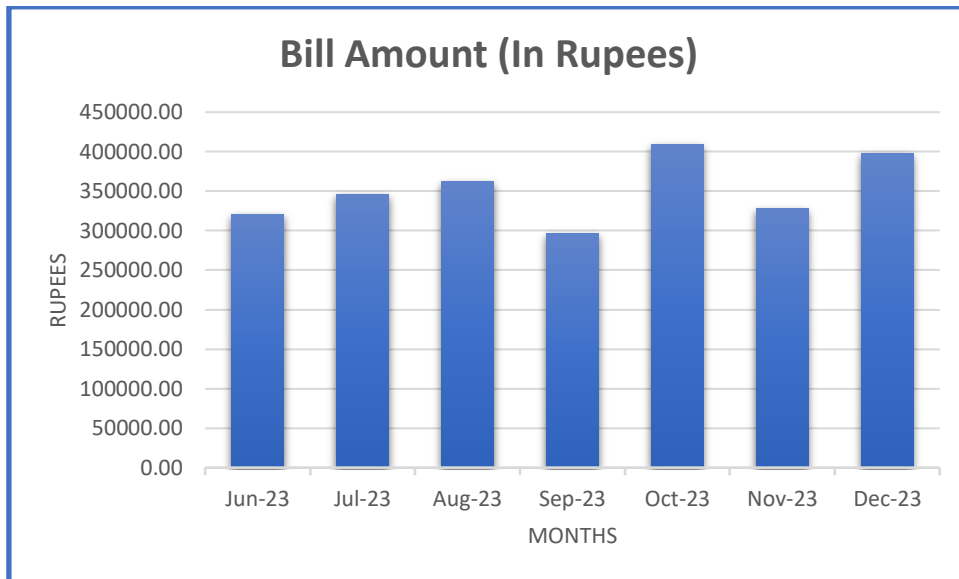
3.5 Energy Efficiency:

Electricity:

Power is supplied by Maharashtra State Electricity Distribution Co. Ltd. The major electricity consuming equipment installed in the campus are Windows and Split AC, Submersible Motor,

Motors, Desktop, Printer, Fan, Tube light, LED Bulb etc.

Following are details of energy consumption:

**Units Bill (KVAH)**

Demand(KVA)

It was observed that:

a) Campus has air conditioners which are in good working condition.

b) Energy efficient LED lights are installed in campus which helps in reducing the energy consumption.

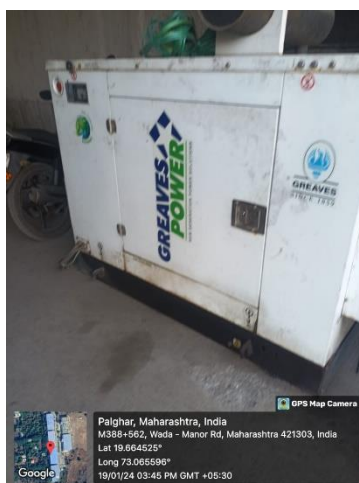c) Power conservation drills and awareness circulars are distributed.

3.6 On Site Energy Generation (usage of LPG/ Natural Gas):

a) LPG is provided in the canteen for cooking.
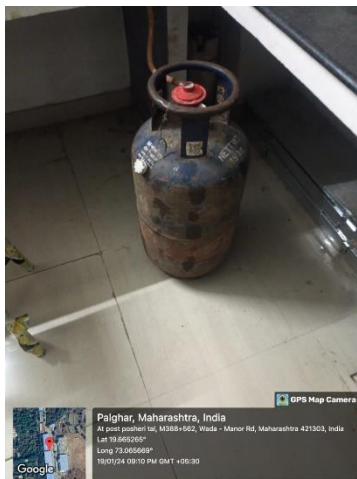
LPG Cylinder

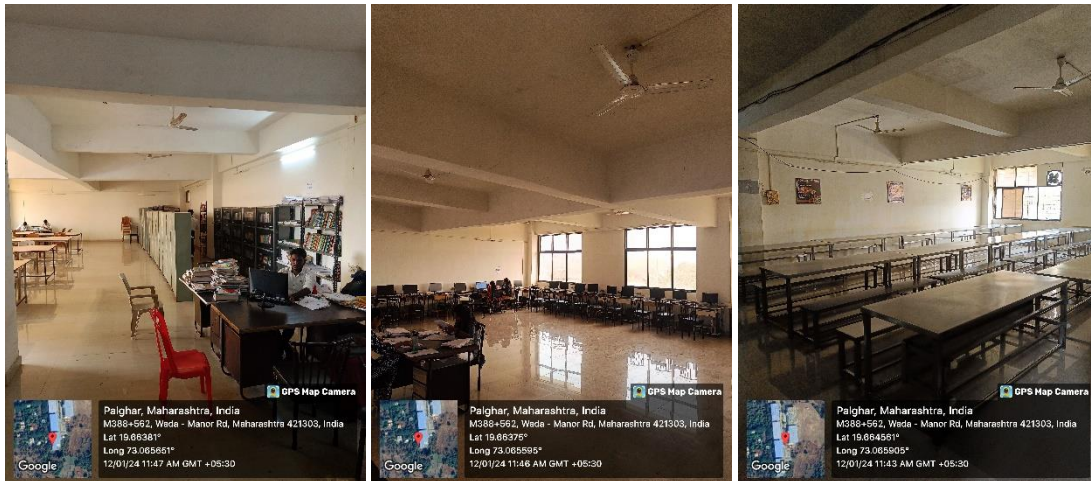b) Back Up diesel generator of capacity 25KVA is available in the campus.

DG Set

c) Solar Power plant of capacity 10KW is provided in the college.

3.7 Temperature and Acoustic Control

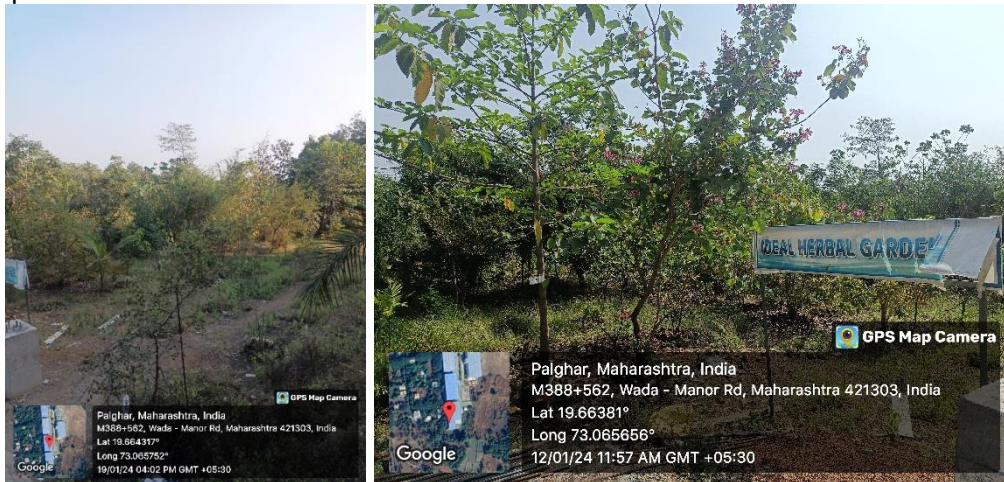a) White washed rooms & corridors and white/ off-white flooring improve the lighting conditions.

b) The entire campus has green area some specific locations are Parking area, Main Gate Area and etc.

Plantation and trees

c) The campus has done tree plantation all around which helps in reducing temperature.

d) There is no noise pollution around the campus.

3.8 Paper Waste Management:

Being academic institution, waste paper is the main solid waste generated in the premises. As per the University prescription, we preserve the answer scripts and assignments papers of the students for a period of 5 years. Then the papers are sold to the local vendors in bulk and in turn they give us fresh A4 size bundles. Some of the Assignment Papers are used as rough papers by using the back side of the papers. Paper notices are filed for documentation purposes.

The College has taken steps to minimize and avoid paper usage.

It was observed that:

a) Prints and photocopies are taken on both sides of the pages to avoid excess paper usage. Rather than photocopy, digitalization (scanning) is practiced.

b) Old papers are stored and handed over to NGO for recycling.

c) Faculty and administration staff uses old papers and envelops for internal usages as rough work, file markers, page separators etc.

d) Mostly, the internal communication is done through WhatsApp groups. The college has created a domain mail for all its faculty and staff. The paper notices are used with an intention of documenting the files as per the requirements of the University, NAAC and NBA.

3.9 E-Waste Management:

a) The campus is digitalized to a large extent. This includes classrooms, library, internal mails etc.

b) E-waste Policy is not available in the campus.

3.10 Solid Waste Management:

It was observed that:

a) We have ensured that every classroom contains a dustbin, so as to enable the students to throw the litter into them.

b) Wet waste and dry waste segregation is practiced in the premises. Separate bins are provided for wet biodegradable and dry recyclable waste.

Segregated Dustbin

c) The waste generated is disposed of by Municipal Corporation.

3.11 Universal Access and Efficient Operation and Maintenance of Building:
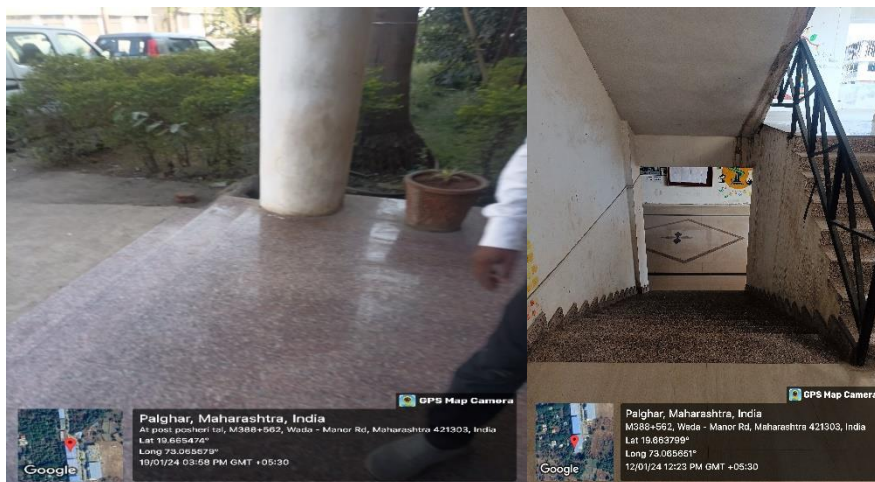
It was observed that:

a) College is easily accessible. Staircase and ramps are provided for staff and students.
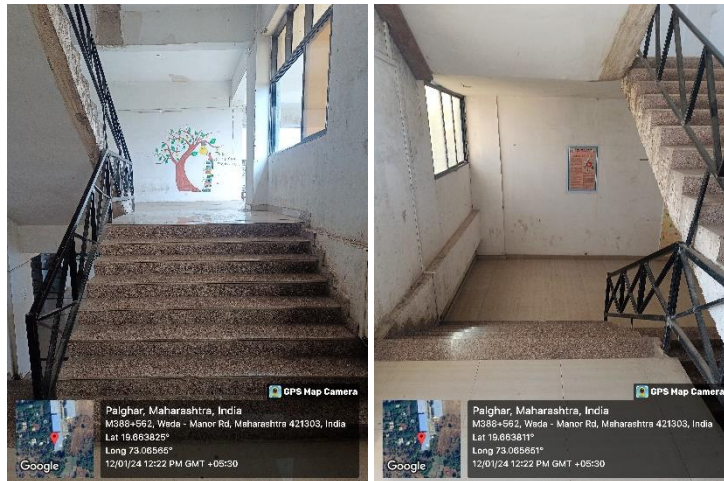
Staircases

b) Since the entrance and staircases are 8 feet wide and uncluttered, it is possible to have a safe evacuation during emergency.

c) Fire Fighting equipment's are provided for emergency. They are inspected and serviced by fire protection Service Company annually.

Fire Fighting System is installed

d) Directional exit signages and floor markings are present on every floor of the campus.

e) Regular Fire Safety Trainings is given to staff of the college on regular basis.

3.12 Green belt/ Landscaping:

a) Large trees and plants are planted in the premises. Plantation also helps maintaining lower temperatures of the area.

Trees

3.13 Green Initiatives:

a) College is regularly celebrating cultural programs along with Environment Day, Yoga Day, Earth Day etc.

Recommendations/Suggestions

For Improving Energy Consumption:

a) Every classroom and lab with central switch board can have a diagram linking location of a tube light, fan etc. with corresponding switch. This will ensure that correct fitting is switched on/ off and can save time & unnecessary operation.

b) Installation of automatic lights with sensors can be considered.

c) Standard Operation Procedures (SOPs) should be prepared and followed for green purchasing. Equipment with star rating, using eco-friendly materials; with safe disposal policy to be preferred. Policy of returning equipment at the end of life span to the supplier to be preferred.

d) For purchasing new electronic appliances, star rating provided by Bureau of Energy Efficiency (BEE) should be considered. The equipment which has maximum star ratings could be purchased, which will consume less energy, ensure environmental sustainability and also operate at low cost.

e) Usage of light reflectors is recommended as the reflectors can spread light to relatively large areas.

f) If possible, computers should be switched off from main power connections.

g) Notices/signages can be put up/displayed near switches and on notice boards, informing students and staff to switch off all electricals when not in use.

h) Control sensors can help to reduce consumption by automatically dimming lights when people are not around, and keeping blinds open to use natural light & reduce energy consumption.

i) Raise awareness:
   - Encourage students to help in monitoring energy consumption & implement corrective actions.
   - Integrate energy education into classroom learning.

Water Conservation:

a) Provide information on water usage and savings to students/ staff through notices, screen savers in computer labs.

b) Dry sweep or use a sponge broom, when possible, instead of using a hose to clean floors, sidewalks, or other hard surfaces.

c) Minimize/ reduce water usage by installing water saving faucets such as pressmatic taps, tap aerators, jet sprays etc.

d) Installation of waterless urinals can be considered to reduce water consumption.

e) Water balance diagram can be prepared to quantify the water consumption by installing water meters at key points. Based on data gathered, appropriate measures can be taken to reduce the water consumption.

Paper and other Solid Waste Reduction:

a) Inventories of all solid waste generated in the premises must be maintained.

b) Enhance recycling. This can be done by creating a group where students can recycle books, personal clothes and other material to needy students. This can be an initiative under green program.

c) Standard Operating Procedures (SOP) for Solid and E-waste management and for recycling of waste should be prepared & practiced. The SOP's may include collection, segregation and reuse of different types of wastes, if any (e.g. biodegradable waste for composting). This will help in safe disposal of waste to recycle agencies.

d) Training as well as awareness programs should be organized on segregation of biodegradable waste and recycling of waste. Efforts should be taken to inform students about recycling options and signs should be posted on appropriate bins indicating what could be dumped in each bin.

e) The college can introduce online app, which can be useful for conducting internal exams, assignment/ reports submission. This system can also be used for displaying important notices, timetables.

f) Paper usage shall be monitored to understand the impact of digitization in the facility.

Others:

a) Water from air conditioning unit and reject water from water purifiers is not used anywhere, same should be utilized.

b) Indoor Air Quality tests have not been carried out. Same needs to be carried out at least once a year.

c) Environmental advisory committee could be formed. The discussions/ information sharing among different departments can generate lot of ideas and awareness on green issues.

d) Maintain minutes of meetings of environmental committees; evaluate the effectiveness of various environmental programs conducted by the institutes. Set annual targets for Green Initiatives & monitor them closely. Create 'Green Champions'.

e) Since each student uses computer lab, the screen savers can be set up for creating environmental awareness. (Ergonomics, water conservation etc.). Short 30 second pop up can be displayed on computer screens when they are on standby mode. Or wallpapers informing students about environment conservation can be created.

f) Consider detailed energy audit (energy consumption, thermal emission, visual comfort) and water audit.

g) Adopt environmentally responsible purchasing policy, and work towards creating and implementing a strategy to reduce environmental impact of its purchasing decision.

Annexure 1 – Indoor Gardening Details

Indoor plants are commonly used for their aesthetics benefits but they also have vital role reducing airborne pollution. The right choice of plants can be an excellent way of improving indoor air quality and general health. Local landscape contractor can be contacted for supply and rotation of these plants.

Plants	VOC it removes	Indoor source of VOC's	Plant care
Aloe Vera	Formaldehyde, Trichloroethylene and Benzene	Chemical based cleaners and paints	Easy to grow with enough sunlight
Bamboo Plant	Formaldehyde, Trichloroethylene and Benzene	Paints, Plastics, Wood products etc.	Thrives under low light conditions as well as easy to maintain
Chinese Evergreen	Benzene	Paints	Low maintenance plant that prefers low light conditions.

English Ivy	Formaldehyde, Benzene, Air borne fecal matter particles	Wood, Paper products, Air borne fecal – matter particles from pests	Easy to maintain
Janet Craig	Formaldehyde, Benzene and Trichloroethylene	Paints, Plastics, Wood products etc.	Medium to low light tolerant plant. Requires little water for growth.
Golden Pothos or Devils Ivy	Formaldehyde, Cleanses air	Exhaust fumes, carpeting materials, panelling and furniture products made with particle board	Extremely easy to maintain under low to bright light conditions. Fast growing and grows well under Fluorescent light.
Mass Cane	Formaldehyde, benzene and trichloroethylene	Paints, Plastics, Wood products etc.	Medium to low light tolerant plant. Requires little water for growth.

\n\nSnake plant	Formaldehyde and trichloroethylene	cooking fuels, wood products, facial tissues, personal care products and waxed papers	Drought resistant and Tolerates a variety Of light conditions. Hard to damage or kill.
\n\nPeace Lily	Formaldehyde, benzene and trichloroethylene	Paints, Plastics, Wood products etc.	Relatively easy to maintain. Survives in low light conditions.
\n\nRed-edged Dracaena	Formaldehyde and trichloroethylene	cooking fuels, wood products, facial tissues, personal care products and waxed papers	Drought resistant and Tolerates a variety of light conditions. Hard to damage or kill.
\n\nSpider Plant	Formaldehyde, benzene, carbon monoxide and xylene	cooking fuels, wood products, Printing	Easy to maintain under medium to bright light condition.

Parlor Palm	Purifies indoor air	-	Easy to maintain

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