



IDHAYA ENGINEERING COLLEGE FOR WOMEN

CHINNASALEM-606 201, KALLAKURICHI DISTRICT, TAMIL NADU, INDIA.

Approved by AICTE, New Delhi, Affiliated to Anna University, Chennai.

2(f) Status of UGC, An ISO 9001: 2015 Certified Institution

A Christian Minority Institution run by the Franciscan Sisters of the Immaculate Heart of Mary Society, Puducherry.

Phone: 04151-258325, 258326

Website: www.iecw.edu.in

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7.1.6 ENVIRONMENT AND ENERGY

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CERTIFICATE OF HEAD OF INSTITUTION



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Approved by AICTE, New Delhi and Affiliated to Anna University, Chennai.
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(A Unit of the Franciscan Sisters of the Immaculate Heart of Mary Society, Pondicherry)

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TO WHOMSOEVER IT MAY CONCERN

This is to certify that the institution has facilities for **Quality Audits on Environment and Energy** is regularly undertaken are listed below:

1. Green audit
2. Energy audit
3. Environment audit
4. Clean and green campus awards
5. Beyond the campus environmental promotion activities

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7.1.6 AUDIT POLICY



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AUDIT

POLICY NUMBER : IECW- AU 07

POLICY NAME : AUDIT

EFFECTIVE DATE FROM : 01.07.2020

PURPOSE

To carry out an Academic, Energy, Green and Environment Audit every year.

POLICY DETAILS

The objectives of the policy:

In general, the objective of audit policy is to evaluate the quality and effectiveness of a system/process practiced to achieve excellence

- ✓ Academic audit should encourage to evaluate the education quality process
- ✓ Energy audit should attempt addressing the following aspects
 - Determine the energy consumption pattern
 - Identify and quantify the energy loss
 - Suggest the methods to reduce the energy consumption
 - Reduce environment damage and pollution
- ✓ Green and environment audit should pave way to improve the environment conditions of the institution.

POLICY SCOPE

The policy is applicable for all the teaching staff, non - teaching staff, menials, security, personnel and students.

RELATED POLICIES

- ✓ Plastic Free Campus
- ✓ Renewable Energy
- ✓ Green and clean environment
- ✓ Water Conservation and management

PROCEDURE

- ✓ Obtain an approval status from the Governing council for the implementation of the policy
- ✓ Communicate the objectives of policy and action plan to staffs and students
- ✓ Clean and green environment audit shall be conducted by the internal experts of the institution
- ✓ The recommendations of the audit report have to be followed

Praveen
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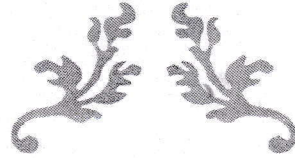
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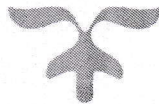
2. REPORTS ON GREEN, ENERGY AND ENVIRONMENT AUDIT



GREEN, ENERGY & ENVIRONMENT AUDIT REPORT

IDHAYA ENGINEERING COLLEGE FOR WOMEN

CHINNASALEM-606202



20th January 2021

IGNITE ENGINEERING

Chennai

R. Gurumani
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Executive Summary

The rapid urbanization and economic development at local, regional and global level has led to several environmental and ecological crisis. On this background it becomes essential to adopt the system of the Green Campus for the institute which will pave way for sustainable development.

Idhaya Engineering College for Women believes that there is an urgent need to address these fundamental environmental problems and reverse the trends. 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.

It works on the several facets of 'Green Campus' including Water Conservation, Tree Plantation, Waste Management, Paperless Work, and Alternative Energy. With this in mind, the specific objectives of the audit was to evaluate the adequacy of the management control framework of environment sustainability as well as the degree to which the Departments are in compliance with the applicable regulations, policies and standards. It can make a tremendous impact on student health and learning college operational costs and the environment. The criteria, methods and recommendations used in the audit were based on the identified risks.

Introduction

Green audit was initiated in the beginning of 1970s with the motive of inspecting the work conducted within the organizations. It is known as the systematic identification, quantification, recording, reporting and analysis of components of environmental diversity.

It is the duty of organizations to carry out the Green Audits of their ongoing processes for various reasons such as; to make sure whether they are performing in accordance with relevant rules and regulations, to improve the procedures and ability of materials, to analyze the potential duties and to determine a way which can lower the cost and add to the revenue.

Green Audit is assigned to the Criteria 7 of NAAC, National Assessment and Accreditation Council which is a self-governing organization of

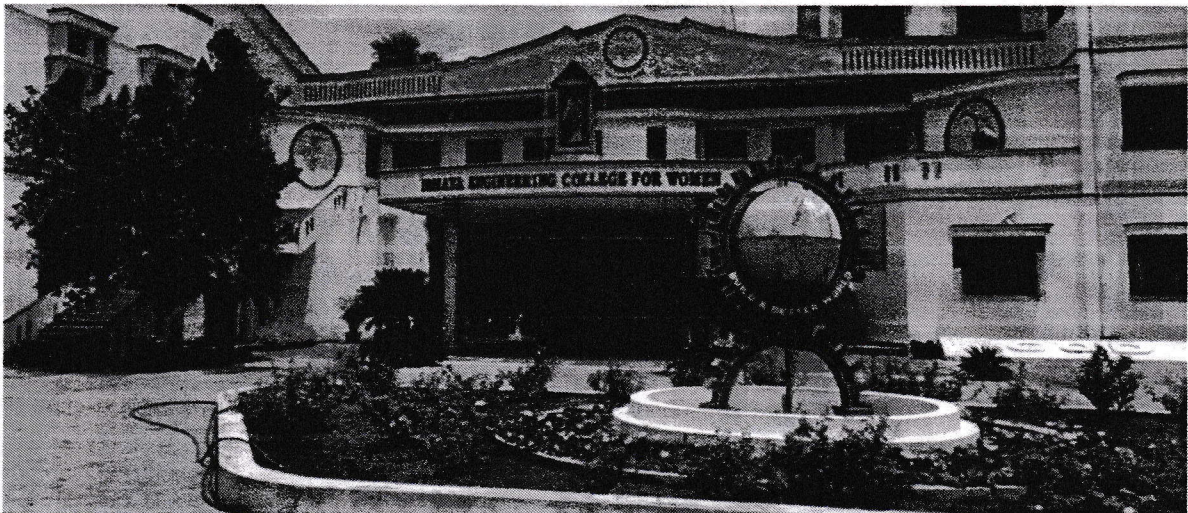
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Idhaya Engineering College for Women-Chinnasalem

India that declares the institution as Grade A, Grade B or Grade C according to the scores assigned at the time of accreditation. The intention of organizing Green Audit is to upgrade the environment condition in and around the institutes, colleges, companies and other organizations. It is carried out with the aid of performing tasks like waste management, energy saving and others to turn into a better environmental friendly institute.

About the College

Idhaya Engineering College for Women is a Self Financing Christian Minority Institution Established in 2001 college affiliated to Anna University with ISO 9001 – 2015 Certified Institution for Quality Management System It has been recognized as a premier institution of higher learning for job-oriented courses.



The campus is spread over an area of more than 30 acres of land and the Green campus situated near to Chinnasalem The college offers 4 Under Graduate Courses and 2 Post Graduate courses and Management Programs There are more than 300 students and 50 teaching faculty in the college which is promising to grow rapidly.

The College offers job-oriented courses, extra-curricular activities and technically advanced facilities accessible to the faculty, the students and the supporting staff. Here, each individual is encouraged to step beyond the confines of academic and administrative disciplines to explore and intervene in the larger

interests of the community that thrives on participation and the desire to venture into newer vistas.

Objectives of the Study

The main objective of the green audit is to promote the Environment Management and Conservation in the College Campus. The purpose of the audit is to identify, quantify, describe and prioritize framework of Environment Sustainability in compliance with the applicable regulations, policies and standards.

The main objectives of carrying out Green Audit are:

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

Benefits of green audit

- Green auditing becomes a valuable tool in the management, by monitoring the environment and its sustainable development
- Impart environmental education through systematic environmental Management approach and improving environmental standards
- To create a green campus.
- To enable waste management through reduction of waste Generation, solid- waste and water recycling.

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:

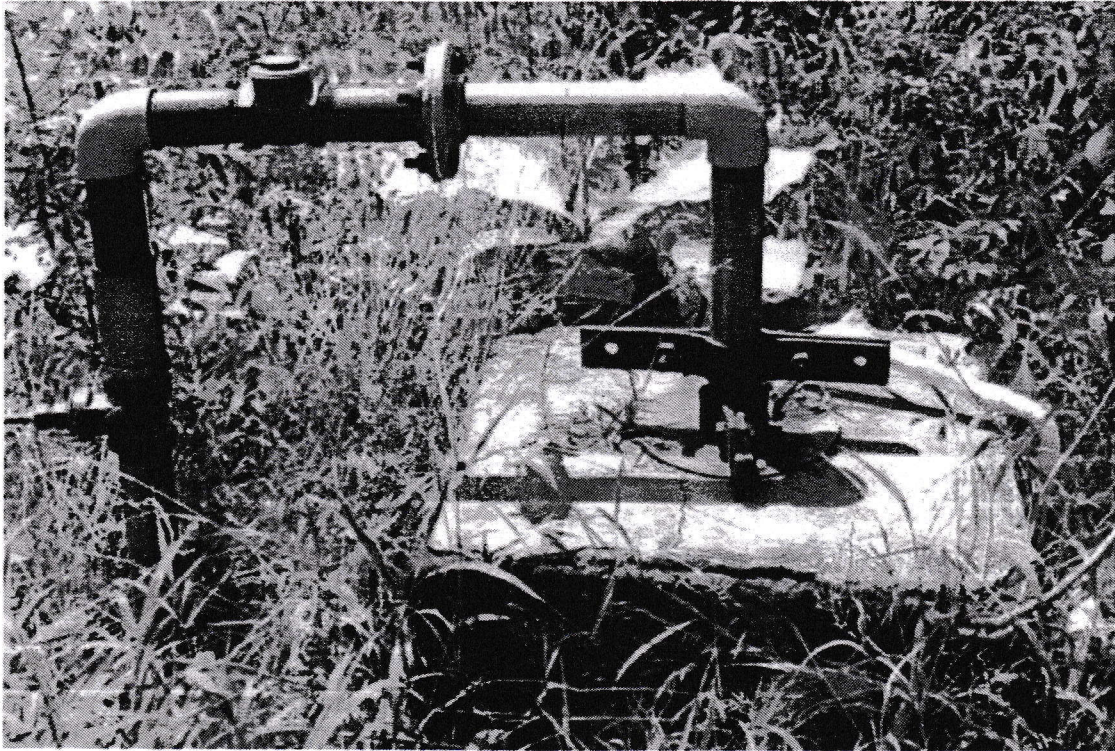
- Water management
- Energy Conservation
- Waste management
- E-waste management
- Green area management
- Environmental Monitoring

Observations and Recommendations

Water Use

The study observed that the main source of water for the institute is received from two bore wells. Water is used for drinking purpose, toilets and gardening. The waste water from the RO water purifier is used for gardening purpose. During the survey, no loss of water is observed, neither by any leakages, or by over flow of water from overhead tanks. The data collected from all the departments is examined and verified. On an average the total use of water in the college is 30000L/day, which include 15,000 L/day for domestic, 10,000 L/day for gardening purposes and, 5000L/day for drinking purpose.

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Bore well inside the campus



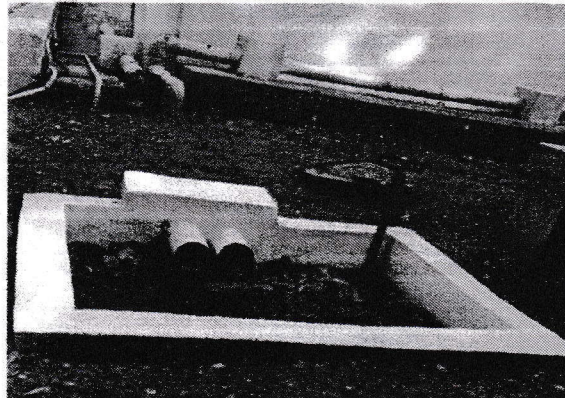
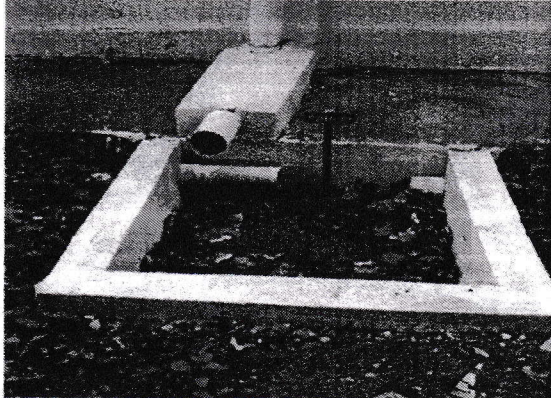
well inside the campus

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Rain water harvesting units are also functioning for recharging ground water level. There are soaking pits available widespread all over the campus.



Soak pits are Around the College Campus

Recommendations

- There is a need for monitoring and controlling overflow and periodically supervision drills should be arranged.
- Minimize wastage of water and use of electricity during the reverse osmosis process and ensure that the equipment used are regularly serviced and in good condition.
- The cleaning products used by staff should have a minimal detrimental impact on the environment. They should be biodegradable and non-toxic.
- Ensure that all cleaning products used by college staff have a minimal detrimental impact on the environment, i.e. they are biodegradable and non-toxic, even when this exceeds the Control of Substances Hazardous to Health (COSHH) regulations.
- Gardens should be watered by using drip/sprinkler irrigation system to minimize water use.

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Energy Management

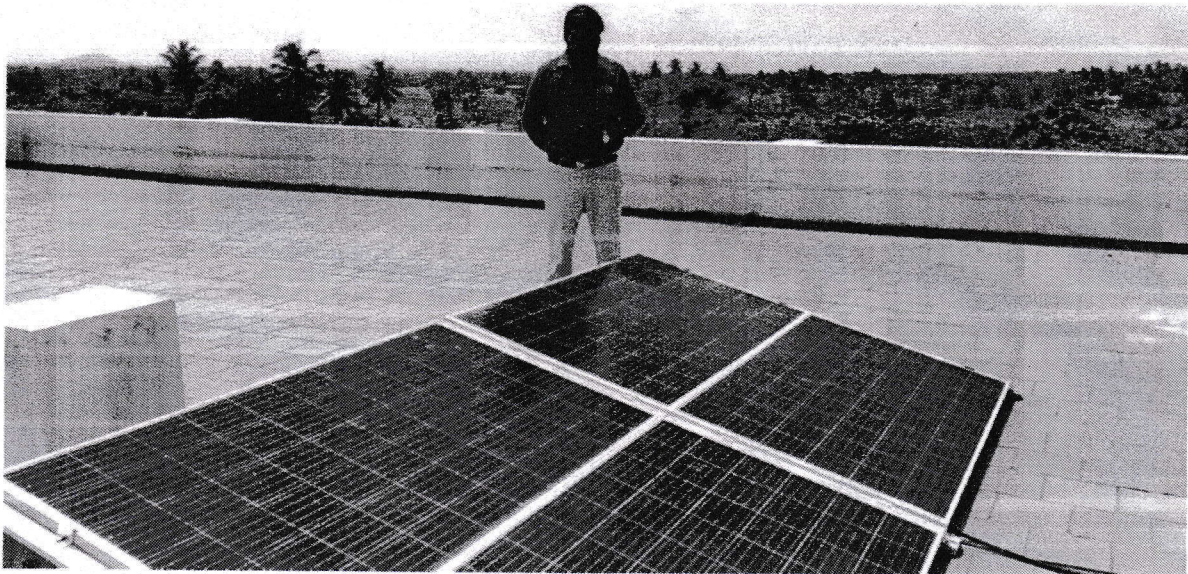
This indicator addresses energy consumption, energy sources, energy monitoring, lighting, appliance, natural gas and vehicles. Energy use is clearly an important aspect of campus sustainability and thus requires no explanation for its inclusion in the assessment. The study carried out also analyzed the use of alternate energy resources that are eco-friendly.

Observations

The source of energy for all the buildings within the campus is through electricity only. The institution consumes about 112kW/day. However off Grid Solar Plant Installed in the Campus 1000Watts of the daily electricity requirement is supplied from solar energy.

The campus contains Lights and fans in use. The entire campus including common facility centers are equipped with LED lamps and LED tube lights, except at few locations. Besides this, photovoltaic cells are also installed in the campus as an alternate renewable source of energy.

Computers are set to automatic power saving mode when not in use. Solar water heaters are installed in hostel buildings to promote renewable energy. Also, campus administration runs on switch-off drill on regular basis.

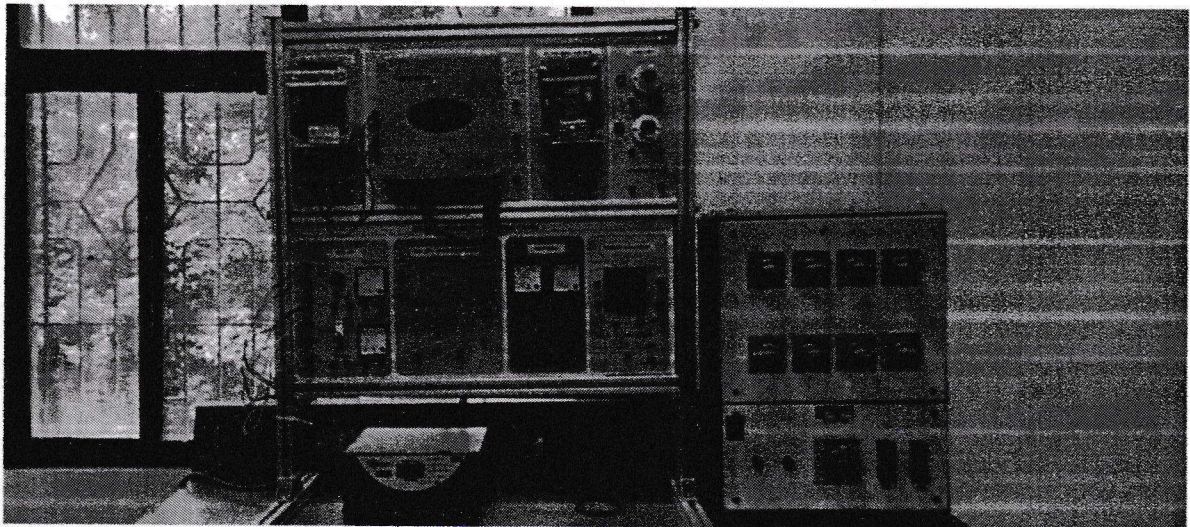


Solar panels in the campus

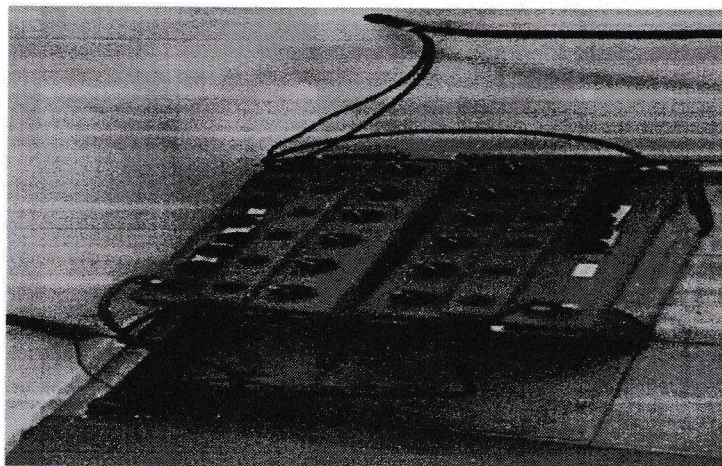
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Solar Water is Installed in College Staff Quarters & Hostel



Solar Control Station & Battery Setup



Biogas Plant

In IECW Engineering College, kitchen waste is used to generate thermal energy for cooking and heating. The bio-gas produced from food waste, decomposable organic material and kitchen waste, consisting of methane and a little amount of carbon dioxide is an alternative fuel for cooking gas (LPG). Kitchen waste is processed and moistened to produce a suspension that subsequently undergoes a fermentation process. Fermentation produces biogas – a valuable energy source – that is desulphurised by biological means. Also, the waste materials can be disposed off efficiently without any odour or flies and the digested slurry from the bio-gas unit can be used as organic manure in the garden. The major components of the bio-gas plant are a digester tank, an inlet for feeding the kitchen waste, gas holder tank, an outlet for the digested slurry and the gas delivery system for taking out and utilizing the produced gas.

The College Campus is Equipped With 1m³ Capacity Bio Gas Plant to Promote the Alternate Energy Resources Method.

Eco-friendly technology allows for the production of renewable natural gas in the form of biomethane. The facility processes about 1000kg tons of kitchen waste every day – mainly the contents of organic waste from College Hostels, as well as leftover food from Campus canteens and expired food.


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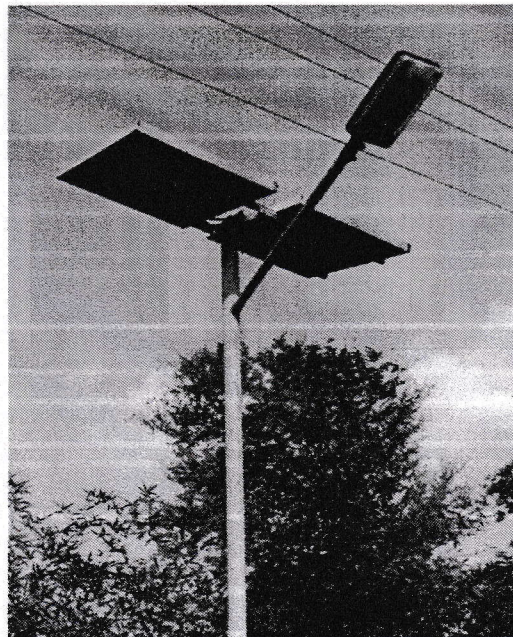
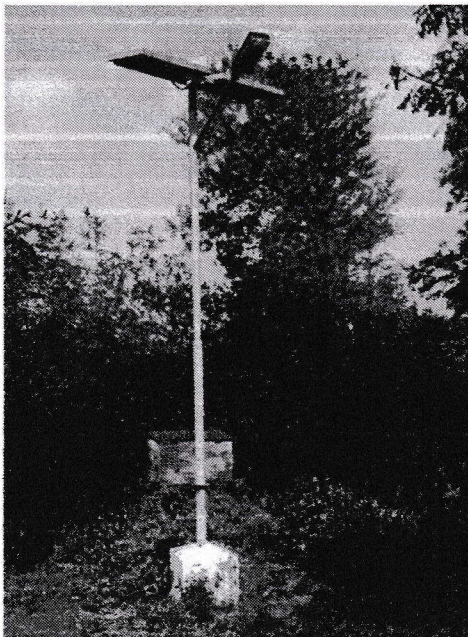
1 MP Capacity Bio Gas Plant Installed inside the Campus

Solar street Lights

A Plenty Of Solar Based Street lights are Installed in around the Colleges to promote alternate Energy resources.

Advantages of LED Solar Street Lighting Projects

1. Lower power consumption
2. Higher power, higher intensity
3. Save all your electricity cost. Save electric transformer and cable cost. Free maintenance
4. Environmental Impact - Eliminate Hazardous Disposal
5. Longer lifetime: Lifespan of solar panel is 20-25 years. Lifespan of LED street lights is 6-8 years. Lifespan of battery is 4-6 years.



Solar Based Street Lights around College

Energy Rating

After the complete survey and analysis of the campus as per ISO 50001:2018 Energy Management System Standards, we rate the campus **Score 4/5**.

Recommendations

- The management should support more for renewable and carbon-neutral electricity options on any energy- purchasing consortium, with the aim of supplying all college properties with electricity that can be attributed to renewable and carbon-neutral sources.
- More LED lights should be installed to reduce power consumed for lighting.
- The campus administration should run switch-off drill on regular basis.
- In campus premises electricity should be shut down from main building supply after occupancy time, to prevent power loss due to eddy current.
- 5-star rated Air Conditioners, Fans and CFLs should be used.
- Cleaning of tube-lights/bulbs to be done periodically, to remove dust over it

Waste Management

This indicator addresses waste production and disposal of different wastes like paper, food, plastic, biodegradable, construction, glass, dust etc. Furthermore, solid waste often includes wasted material resources that could otherwise be channeled into better service through recycling, repair, and reuse. Solid waste generation and management is a burning issue. Unscientific handling of solid waste can create threats to everyone. The survey focused on volume, type and current management practice of solid waste generated in the campus.

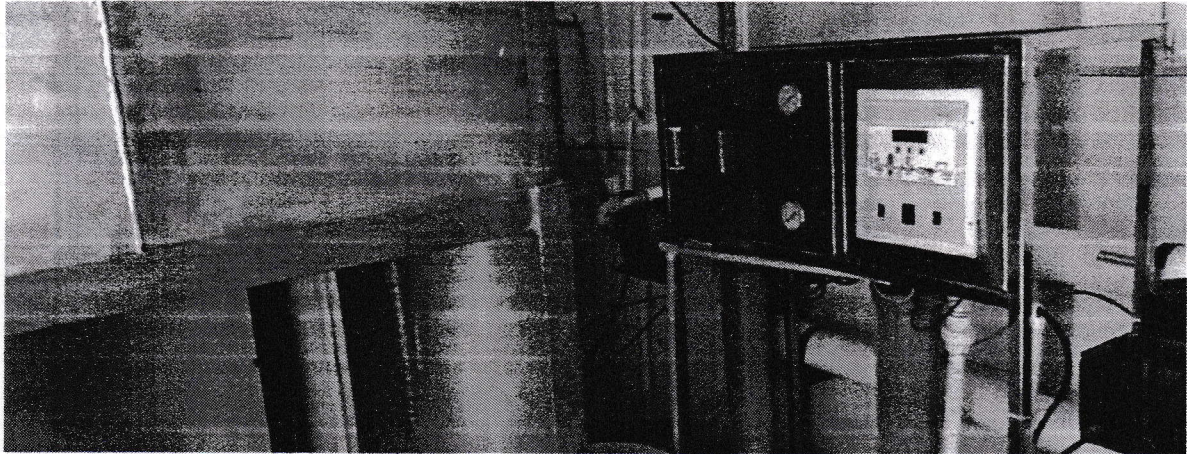
Observations

Liquid waste management

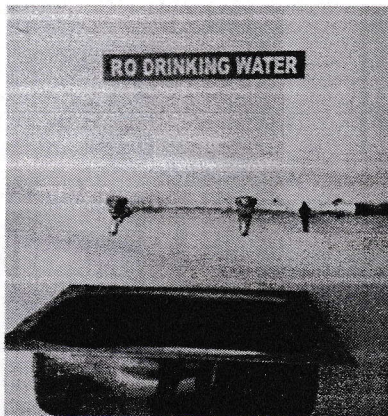
A mini **water treatment plant** is available within the campus. The waste water from domestic usage (grey water) is recycled and used for gardening. This is one of the greening initiatives taken by the management.

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They have a Central **RO unit** installed in the Campus for Capacity of **1000Ltrs/Day** which is easily accessible to students.



RO SYSTEM INSTALLED IN CAMPUS



Purified Water Unit Installed In all Blocks

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Solid waste management

Waste generated from tree droppings and lawn management are major solid wastes generated in the campus. Separate dustbins are provided for Bio-degradable and Plastic waste in order to segregate them at the source itself. Single sided used papers are reused for writing and printing in all the departments to minimize the usage of papers. Important and confidential reports/ papers are sent for pulping and recycling after completion of their preservation period.

Chemical waste generated in laboratories that are potentially hazardous are segregated. Very less plastic waste (0.1Kg/day) is generated by some departments, office, garden etc Metal waste and wooden waste is stored and sent to authorized scrap agents for further processing. Glass bottles are reused in the laboratories.

The college has separate bins to collect biodegradable and non-biodegradable waste generated in the campus.



Proper waste management Practices are followed in campus

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Green
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Separate bins Degradable & Bio Degradable Waste

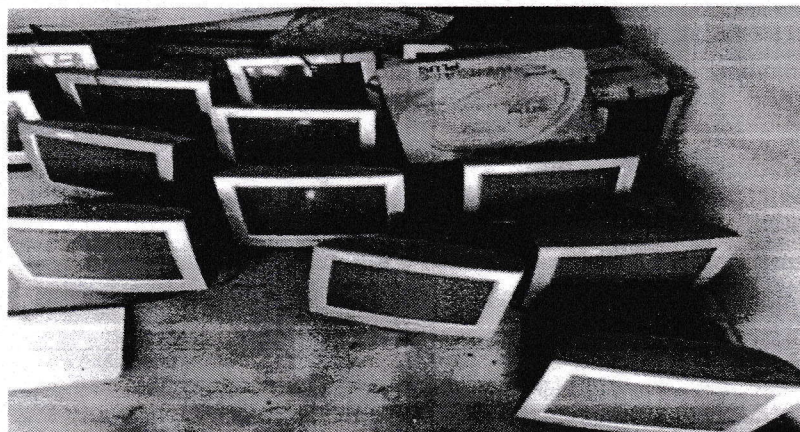
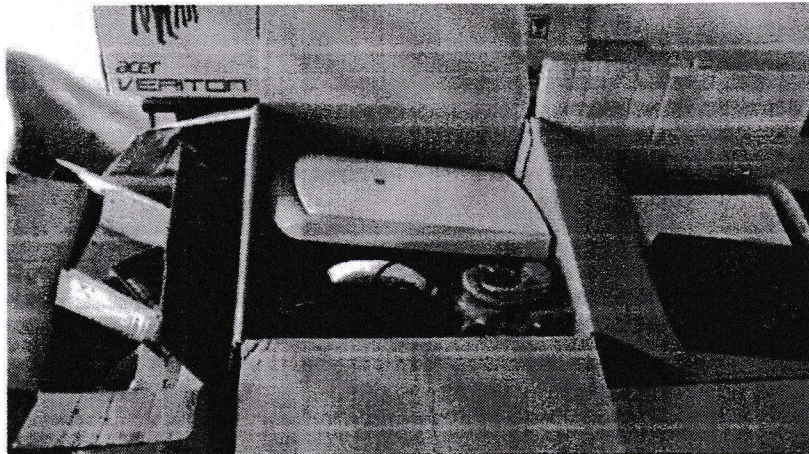
Recommendations

- The amount of waste generated from classrooms and staff rooms can be minimized.
- Full use of all recycling facilities provided by City Municipality and private suppliers can be utilized for waste disposal.
- Sufficient, accessible and well-publicized collection points can be made available for recyclable waste, with responsibility for recycling .

E-waste Management

E-waste is a consumer and business electronic equipment that is near or at the end of its useful life. This waste makes up about 5% of all municipal solid waste worldwide. It is hazardous than other waste because electronic components contain cadmium, lead, mercury, and Polychlorinated biphenyls (PCBs) that can damage human health and the environment.

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E Waste Materials are Properly Stored in Store

Observations

E-waste generated in the campus is of minimal quantity. It is being effectively managed, keeping in mind the environmental hazards that may arise if not disposed properly.

The cartridges of laser printers are refilled outside the college campus. Administration Awareness programmes are being conducted regarding E-waste Management in various departments. The E- wastes and defective items from computer laboratories are being stored properly and recycled in effective Manner

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The dismantled hardware of personal computers are used in PC trouble shooting lab. This is put to use to conduct practical courses for B.E (Computer Science). The dismantled electronic spare parts are immediately sold for reuse. The minimal amount of e-waste that is generated is taken by external vendor with Proper MOU.

Recommendations

- Use reusable resources and containers and avoid unnecessary packaging wherever possible.
- The management should take an initiative to purchase recycled resources when they are available.
- Recycle or safely dispose of white goods, computers and electrical appliances.

Green Area Management

This includes the plants, greenery and sustainability of the campus to ensure that the buildings conform to green standards. This also helps in ensuring that the Environmental Policy enacted, enforced and reviewed using various environmental awareness programmes.

Observations

Campus is located in the vicinity of many trees (species) to maintain the bio-diversity. Various tree plantation programs are being organized at college campus and surrounding villages through NSS (National Service Scheme) unit. This program helps in encouraging eco-friendly environment which provides pure oxygen within the institute and create awareness among villagers. The plantation program includes various types of indigenous species of ornamental and medicinal

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wild plant species. The college cultivates vegetables for its own use through organic farming initiatives.



Ornamental flowers are around the college campus

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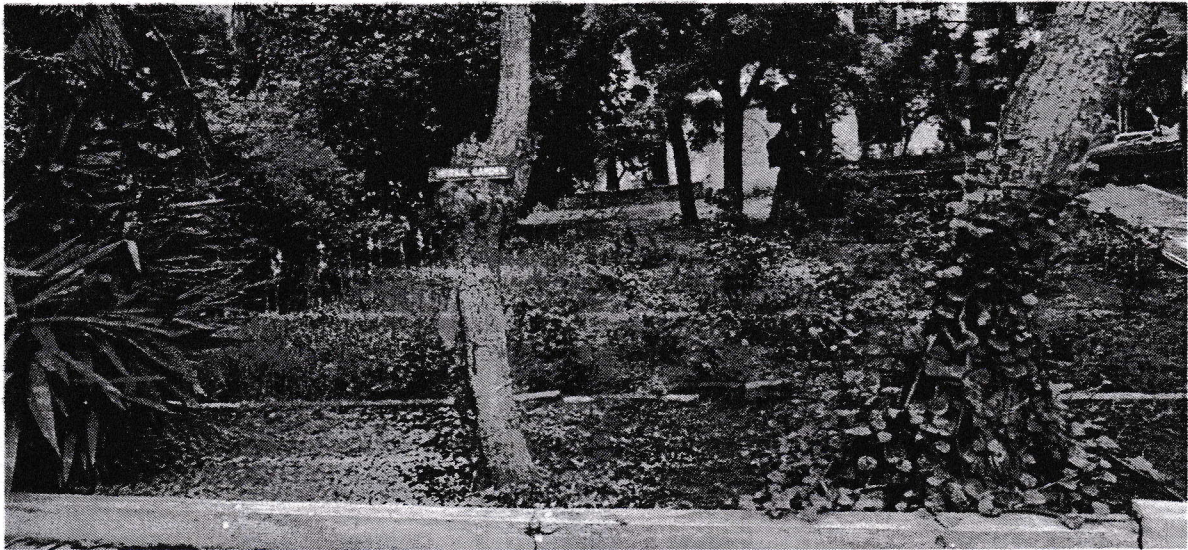
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Green Practices maintained in and around the College Campus

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Herbal garden installed in the college campus



Organic farming

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Organic cultivation



Student involvement in green area management

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Tree plantation on world environment day Celebrations

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Use of Bicycles:

The Non teaching staff residing in and around the campus commutes to college by bicycles. The college has constructed a cycle shed for such employees to safeguard their vehicles. This also motivates the staff to come to the college by bicycle.

Public transport:

All the students make use of the college bus facility provided by the college. Approximately 90% of students and 80% of staff use the college bus. The students do not use personal transport to attend the college. This transport pooling is a greening initiative by college to avoid environmental pollution.

Mud Roads:


All the roads in college are natural mud road allowing rainwater to seep through easily. This enables the easy recharge of ground water.

Plastic free campus

The usage of plastics in college is minimal. The staff and the students are not encouraged to use impermissible size plastic bags throughout the campus.

Paperless office

The college administration follows paperless office system. The principal's office, all the Departments of the college, controller of examination office, and laboratories are very well connected with a good and efficient LAN network. Hence all the inter office correspondence is done through email. This reduces the usage of papers.


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Recommendations

- Review periodically the list of trees planted in the garden, allot numbers to the trees and keep records. Assign scientific names to the trees.
- Promote environmental awareness as part of course work in various curricular areas, independent research projects, and community service.
- Create awareness of environmental sustainability and take actions to ensure environmental sustainability.
- Establish a College Environmental Committee that will hold responsibility for the enactment, enforcement and review of the Environmental Policy.
- Environmental Committee shall be the source of advice and guidance to staff and students on how to implement this Policy.
- Ensure that an audit is conducted annually and action is taken on the basis of audit report, recommendation and findings.
- Indoor plantation to inculcate interest in students, Bonsai can be planted in corridor to bond a relation with nature.
- Green library should be established.
- Establish Herbal Garden inside the college campus.

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Environmental Monitoring

As part of green audit of campus, the Green Audit Assessment Team has carried out the environmental monitoring of campus. This includes Illumination, Noise level, ventilation and indoor air quality of the class rooms. It was observed that illumination and ventilation is adequate considering natural light and air velocity present. Noise level in the campus is well below the limit.

The following surveys were conducted:

1. Ambient Air Quality monitoring – Annexure 1
2. Lux monitoring – Annexure 2
3. Noise Monitoring-Annexure 3
4. Drinking Water Analysis-Annexure 4


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Ambient Air Quality Monitoring

Ambient air quality monitoring can help in providing a strategic solution towards air purification and help lead a safer life. Also, air quality monitoring in the college campus not only develops trust among the parents but ensures that the administration cares about their Students and Staff

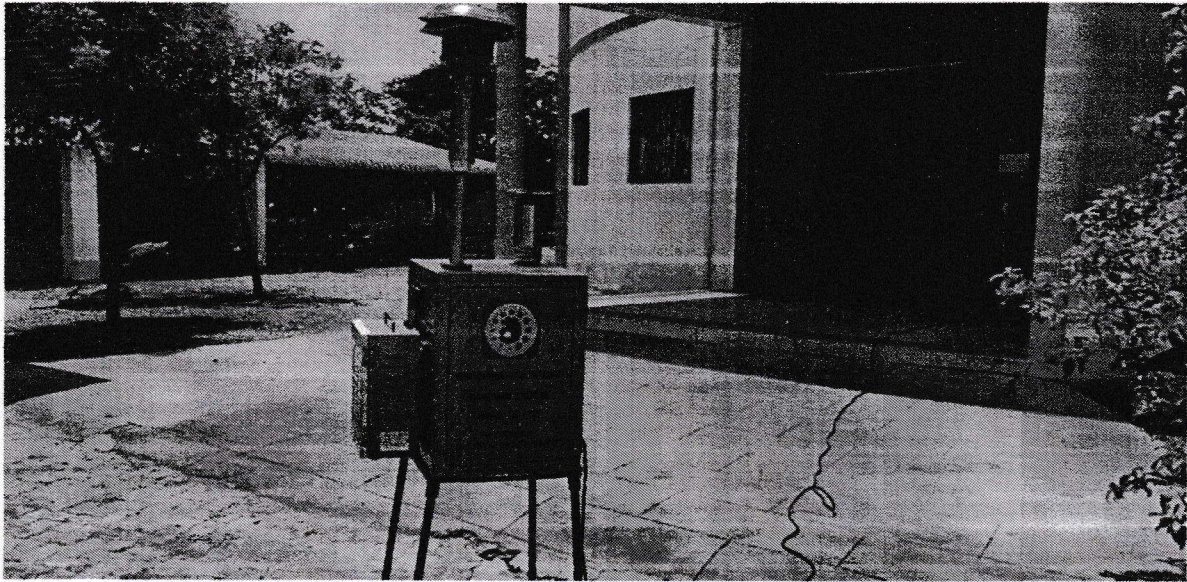


Fig 1-Ambient Air Quality monitoring at Canteen

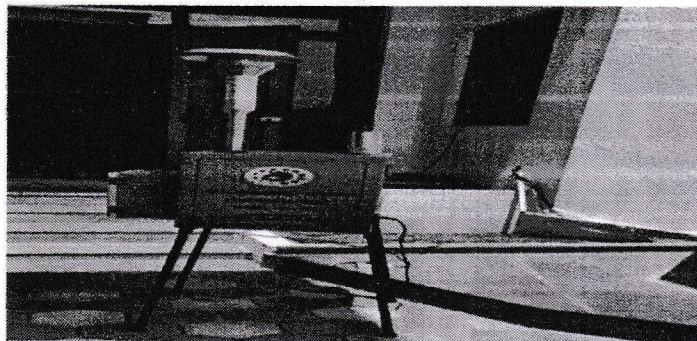


Fig 2-Ambient Air Quality monitoring at Main Block

Lux Monitoring

Illumination is one of the most important environmental factors in the classroom. Many Doctors have discovered that lighting settings have significant impact on students' performance. so Lux monitoring can help in providing a Comfort Vision Environment to Students.


Noise Monitoring

When assessing noise exposure in campus environments, it can be difficult to determine whether the level of sound has reached a point where it interferes with student learning and staff productivity, or worse, becomes a threat to their health and well-being.

Ramani
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Conclusion

Though the institution is predominantly an Engineering college, there is significant environmental research both by faculty and students. The environmental awareness initiatives taken by the management are substantial. The installation of solar system, paperless work system and organic farming practices and Herbal Garden are remarkable. Besides, environmental awareness programmes initiated by the administration proves that the campus is going green. Few recommendations are added for waste management and waste reduction using alternate eco-friendly and scientific techniques. This may lead to the prosperous future in context of Green Campus and thus aid in a sustainable environment and community development.


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Acknowledgement

We are grateful to the management and committee members of Idhaya Engineering College for Women to award this prestigious project on green auditing. Further we sincerely thank the college staff for providing us the necessary facilities and co-operation during the audit. This ample co-operation helped us a lot in making this audit possible and successful.

FOR IGNITE ENGINEERING



ER.P.VIVEK M.E

LEED GREEN ASSOCIATE

CHARTERED ENGINEER


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AMBIENT AIR MONITORING

Report No	IES-NO-AR-72-93-2021	Report Date:	19.01.2021
Customer Name & Address M/s. IDHAYA ENGINEERING COLLEGE FOR WOMEN, CHINNASALEM	Sample Reference No:	IES-NO-AR-72-93-2021	
	Sample Description:	Ambient Air	
	Sample Drawn by:	Laboratory	
	Sample Collected Date:	11-01-2021	
	Qty of sample Received:	Filter Paper(2nos) & Approx 25ml Solution(4nos)	
	Sample Received On:	11-01-2021	
	Test Commenced On:	12-01-2021	
	Test Completed On:	19.01.2021	
	Sampling Method:	IES-SOP-ARS-01 to 11	
	Sample Mark:	Near to Entrance	

S.No	Name of the Test	Test Method	Units	Results	Max. Annual Average Limits Of NAAQs
1.	Ammonia (as NH ₃)	CPCB Guidelines, Volume I, NAAQMS/36/2012-13	µg/m ³	<5.0	100
2.	Arsenic (as As)	CPCB Guidelines, Volume I, NAAQMS/36/2012-13	µg/m ³	<0.1	6.0
3.	Benzene (as C ₆ H ₆)	IS 5182 (Part 11): 2006 (Reaffirmed 2017)	µg/m ³	<0.5	5.0
4.	Benza (α) Pyrene(as C ₂₀ H ₁₂)	CPCB Guidelines, Volume I, NAAQMS/36/2012-13	µg/m ³	<0.5	1.0
5.	Carbon Monoxide (as CO)	Instruments Manual Based SOP No.EL-SOP-ARS-17	µg/m ³	<1.2	2.0
6.	Lead (as Pb)	IS 5182 (Part 22): 2004 (Reaffirmed 2014) Clause No.5	µg/m ³	<0.5	0.5
7.	Nickel (as Nil)	CPCB Guidelines, Volume I, NAAQMS/36/2012-13	µg/m ³	<1.0	20
8.	Oxidants (as Ozone O ₃)	IS 5182 (Part IX)- 19747 (Reaffirmed 2014)	µg/m ³	<10.0	100
9.	Oxidants of Nitrogen (as Ozone NO ₂)	IS 5182 (Part 6): 2006 (Reaffirmed 2017)	µg/m ³	18.1	40
10.	Particulate Matter (as PM ₁₀)	IS 5182 (Part 23): 2006 (Reaffirmed 2017)	µg/m ³	32.1	60
11.	Particulate Matter (as PM _{2.5})	EPA 40 CFR Part 50- Appendix L	µg/m ³	25.1	40
12.	Sulphur Dioxide (as SO ₂)	IS 5182 (Part 2): 2001 (Reaffirmed 2017)	µg/m ³	9.3	50

← END OF REPORT →

NOTES:

The Concentrations of the parameters tested in the above Location are within the prescribed annual average limits of NAAQs tolerance limits.

Report Confirmed by



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Authorized Signatory

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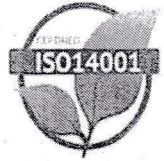


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AMBIENT AIR MONITORING

Report No	IES-NO-AR-72-94-2021	Report Date	19-01-2021
Customer Name & Address M/s IDHAYA ENGINEERING COLLEGE FOR WOMEN, CHINNASALEM	Sample Reference No:	IES-NO-AR-72-94-2021	
	Sample Description:	Ambient Air	
	Sample Drawn by:	Laboratory	
	Sample Collected Date:	11-01-2021	
	Qty of sample Received:	Filter Paper(2nos) & Approx 25ml Solution(4nos)	
	Sample Received On:	11-01-2021	
	Test Commenced On:	12-01-2021	
	Test Completed On:	19-01-2021	
	Sampling Method:	IES-SOP-ARS-01 to 11	
	Sample Mark:	Near to canteen	

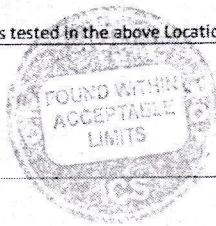
S.No	Name of the Test	Test Method	Units	Results	Max. Annual Average Limits Of NAAQs
1.	Ammonia (as NH ₃)	CPCB Guidelines, Volume I, NAAQMS/36/2012-13	µg/m ³	6.3	100
2.	Arsenic (as As)	CPCB Guidelines, Volume I, NAAQMS/36/2012-13	µg/m ³	<0.1	6.0
3.	Benzene (as C ₆ H ₆)	IS 5182 (Part 11): 2006 (Reaffirmed 2017)	µg/m ³	<0.5	5.0
4.	Benza (α) Pyrene (as C ₂₀ H ₁₂)	CPCB Guidelines, Volume I, NAAQMS/36/2012-13	µg/m ³	<0.5	1.0
5.	Carbon Monoxide (as CO)	Instruments Manual Based SOP No.EL-SOP-ARS-17	µg/m ³	<1.1	2.0
6.	Lead (as Pb)	IS 5182 (Part 22): 2004 (Reaffirmed 2014) Clause No.5	µg/m ³	<0.5	0.5
7.	Nickel (as Nil)	CPCB Guidelines, Volume I, NAAQMS/36/2012-13	µg/m ³	<1.0	20
8.	Oxidants (as Ozone O ₃)	IS 5182 (Part IX)- 19747 (Reaffirmed 2014)	µg/m ³	<10.0	100
9.	Oxidants of Nitrogen (as Ozone NO ₂)	IS 5182 (Part 6): 2006 (Reaffirmed 2017)	µg/m ³	24.2	40
10.	Particulate Matter (as PM ₁₀)	IS 5182 (Part 23): 2006 (Reaffirmed 2017)	µg/m ³	42.1	60
11.	Particulate Matter (as PM _{2.5})	EPA 40 CFR Part 50- Appendix I	µg/m ³	21.0	40
12.	Sulphur Dioxide (as SO ₂)	IS 5182 (Part 2): 2001 (Reaffirmed 2017)	µg/m ³	12.3	50

←-----END OF REPORT-----→

NOTES:

The Concentrations of the parameters tested in the above Location are within the prescribed annual average limits of NAAQs tolerance limits.

Report Confirmed by



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Authorized Signatory

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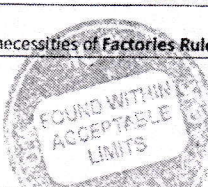
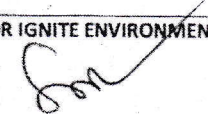
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ILLUMINATION MONITORING

Report No	IES-NO-IN-23-80-2020	Report Date:	19.01.2021			
Customer Name & Address M/s. IDHAYA ENGINEERING COLLEGE FOR WOMEN, CHINNASALEM		Sample of Reference No:	IES-NO-IN-23-80-2020			
		Sample Description:	Light			
		Monitoring By:	Laboratory			
		Monitoring Date:	11.01.2021			
		Data Received On:	11.01.2021			
		Sampling Method:	IS 3646 (part1):1992 (Reaffirmed 2003)			
		Monitoring unit:	Lux			
S.no	Name of the Location	Monitoring Distance In m	Monitoring Time	Day Time (6.00 a.m -10.00 p.m)		
				Minimum	Maximum	L Equivalent
1.	PRINCIPAL ROOM	0.9	11 AM -12PM	355	432	409
2.	CONFERENCE HALL	0.9	11 AM -12PM	226	238	242
3.	CANTEEN	0.9	11 AM -12PM	304	362	320
4.	CLASS ROOM-1	0.9	11 AM -12PM	533	612	212
5.	CLAS ROOM-II	0.9	11 AM -12PM	420	448	434
Permissible Limit For Light as Per The Factories Rules, 1950				Maximum 65		
<-----End of Report----->						
NOTES:						
The above Location Light levels are fulfill the necessities of Factories Rules 1950 standard.						
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 			 Authorized Signatory			

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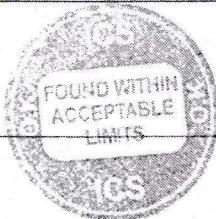
Regional Office : Pondicherry, Coimbatore & Andra Pradesh

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NOISE MONITORING

Report No	EL-NO-NE-21-81-2021		Report Date:	19.01.2021		
Customer Name & Address			Sample of Reference No:	IES-NO-NE-21-81-2021		
M/s. IDHAYA ENGINEERING COLLEGE FOR WOMEN, CHINNASALEM			Sample Description:	Sound		
			Monitoring By:	Laboratory		
			Monitoring Date:	11.01.2021		
			Data received On:	11.01.2021		
			Sampling Method:	IS:9989- 1981 (Reaffirmed 2001)		
			Monitoring unit:	Db (A)		
S.no	Name of the Location	Monitoring Distance In m	Monitoring Time	Day Time (6.00 a.m -10.00 p.m)		
				Minimum	Maximum	L Equivalent
1.	PRINCIPAL ROOM	Site	11 AM -12PM	58.9	60.2	57.3
2.	CONFERENCE HALL	Site	11 AM -12PM	60.9	65.4	62.1
3.	CANTEEN	Site	11 AM -12PM	57.1	59.0	55.6
4.	CLASS ROOM-1	Site	11 AM -12PM	59.3	61.5	60.0
5.	CLAS ROOM-II	Site	11 AM -12PM	55.2	62.1	57.3
Permissible Limit For Noise as Per The Factories Rules 1950				Maximum 90.0		
←-----End of Report----->						
NOTES:						
The sound levels tested in the above locations are within the prescribed limits of Factories rules 1950 Standard Limits						
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			Authorized Signatory			



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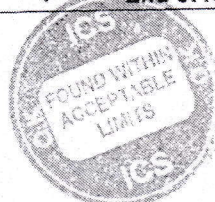


DRINKING WATER TEST REPORT

Report No	IES-NO-NE-106-11-2021		Report Date:	19.01.2021		
Customer Name & Address M/s. IDHAYA ENGINEERING COLLEGE FOR WOMEN, CHINNASALEM			Sample of Reference No:	IES-NO-NE-106-11-2021		
			Sample Description:	RO Water		
			Monitoring By:	Laboratory		
			Monitoring Date:	11.01.2021		
			Data received On:	11.01.2021		
S.no	Test Parameters	Test Method	Unit	IS 10500:2012 Drinking Water		
				Results	Acceptable Limit	Permissible Limit
1.	Colour	IS 3025 PART 4	Hazen	<5	5	15
2.	Odour	IS 3025 PART 5	-	Agreeable	Agreeable	Agreeable
3.	Taste	IS 3025 PART 7	-	Not Agreeable	Agreeable	Agreeable
4.	pH	IS 3025 PART 11	-	7.4	6.5-8.5	No Relaxation
5.	Electrical Conductivity	IS 3025 PART 14	µS/cm	77	-	-
6.	Turbidity	IS 3025 PART 10	NTU	<1	1	5
7.	Total Dissolved Solids	IS 3025 PART 16	Mg/l	71	500	2000
8.	P.Alkalinity	IS 3025 PART 23	Mg/l	5	-	-
9.	Total Alkalinity	IS 3025 PART 23	Mg/l	29	200	600
10.	Total Hardness as CaCO ₃	IS 3025 PART 21	Mg/l	23	200	600
11.	Calcium as Ca	IS 3025 PART 40	Mg/l	6	75	200
12.	Magnesium as Mg	IS 3025 PART 46	Mg/l	2.4	30	100
13.	Chloride as Cl	IS 3025 PART 32	Mg/l	18	250	1000
14.	Sulphate as SO ₄	IS 3025 PART 24	Mg/l	9.4	200	400
15.	Iron as Fe	IS 3025 PART 53	Mg/l	BDL (DL:0.1)	0.3	No Relaxation
16.	Sodiun as Na	IS 3025 PART 45	Mg/l	6.0	-	-

<-----End of Report----->

Report Confirmed by



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Handwritten signature in green ink.

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