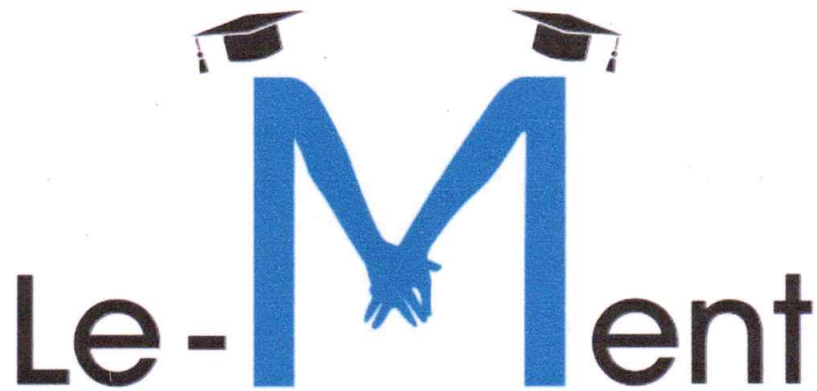


Green Audit Report - 2023
Le-Ment College of Advanced Studies



College Of Advanced Studies
(Affiliated to Calicut University)



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GREEN AUDIT REPORT

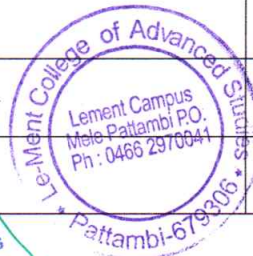


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INTRODUCTION

The green audit aims to analyse environmental practices within and outside the university campuses, which will have an impact on the eco-friendly atmosphere. Green audit can be defined as systematic identification, quantification, recording, reporting and analysis of components of university environment. It was initiated with the motive of inspecting the effort within the institutions whose exercises can cause threat to the health of inhabitants and the environment. Through the green audit, a direction as how to improve the structure of environment and there are include several factors that have determined the growth of carried out the green audit.

1.1. NEED FOR GREEN AUDITING

Green auditing is the process of identifying and determining whether institutions practices are eco-friendly and sustainable. Traditionally, we are good and efficient users of natural resources. But over the period of time excess use of resources like energy, water, are become habitual for everyone especially, in common areas. Now, it is necessary to check whether our processes are consuming more than required resources? Whether we are handling resources carefully? Green audit regulates all such practices and gives an efficient way of natural resource utilization. In the era of climate change and resource depletion it is necessary to verify the processes and convert it in to green and clean one. Green audit provides an approach for it. It also increases overall consciousness among the people working in institution towards an environment.

1.2. GOALS OF GREEN AUDIT

Specific goals as:

1. Identification and documentation of green practices followed in the campus.
2. Identify strength and weakness in green practices.
3. Analyze and suggest solution for problems identified.
4. Assess facility of different types of waste management.
5. Increase environmental awareness throughout campus
6. Identify and assess environmental risk.
7. Motivates staff for optimized sustainable use of available resources.
8. The long-term goal of the environmental audit program is to collect baseline data of environmental

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1.3. OBJECTIVES OF GREEN AUDIT

1. To examine the current practices, which can impact on environment such as of resource utilization, waste management etc.
2. To identify and analyze significant environmental issues.
3. Setup goal, vision, and mission for Green practices in campus.
4. Establish and implement Environment Management in various departments.
5. Continuous assessment for betterment in performance in green.

1.4. BENEFITS OF GREEN AUDIT TO EDUCATIONAL INSTITUTIONS

There are many advantages of green audit to an Educational Institute:

1. It would help to protect the environment in and around the campus.
2. Recognize the cost saving methods through waste minimization and energy conservation.
3. Empower the organization to frame a better environmental performance.
4. It portrays good image of institution through its clean and green campus.

Finally, it will help to built positive impression for through green initiatives the upcoming NAAC visit.

2. OBJECTIVE AND SCOPE

The broad aims/benefits of the eco-auditing system would be

- Environmental education through systematic environmental management approach
- Improving environmental standards
- Benchmarking for environmental protection initiatives
- Sustainable use of natural resource in the campus.
- Financial savings through a reduction in resource use
- Curriculum enrichment through practical experience
- Development of ownership, personal and social responsibility for the College campus and its environment
- Enhancement of College profile
- Developing an environmental ethic and value systems in young people

3. EXECUTIVE SUMMARY

An environmental audit is a snapshot in time, in which one assesses campus performance in complying with applicable environmental laws and regulations. Though a helpful benchmark, the audit almost immediately becomes out dated unless there is some mechanism in place to continue the effort of monitoring environmental compliance

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This audit report contains observations and recommendations for improvement of environmental consciousness.

ABOUT THE COLLEGE

The dreams of a group of four persons took concrete shape and became a reality when the Le-Ment College was officially handover to the future leaders on August. 2011 at Manjalungal, Pattambi. The college became fully operational in its new multi storied own campus at Mele-Pattambi with the inauguration by our Hon'ble Minister for Education, Sri Abdu Rabb.

The College is affiliated to University of Calicut and it is run by Le-Ment Foundation, which comprises 15 Board of Directors who determines the College's strategic orientations, ensuring and monitoring their implementation and overseeing the good management thereof. The aim of the College was to impart top class education beyond pure knowledge to experimental learning and personal growth to the aspiring young generation.

HIGHLIGHTS

On the occasion of its 10th Anniversary, we proudly announce that, our college has:

- Well educated and experienced faculties.
- Library with more than 3000 books.
- Fully equipped Computer, Electronic, Chemistry and Physics Labs.
- Fully air-conditioned Seminar hall, administrative block, Auditorium, Digital classroom and Play Ground
- College is very accessible to anyone, as it is located in the heart of the city of Pattambi.
- We impart Joy of Education, by way of correlating Academic with extracurricular activities to strengthen the mind of the youngsters.
- We have Clubs like Sports, Music, Arts, Social, IT and Literary.
- We celebrate all days like Commerce, Science, BA, Arts, Christmas, Onam and Eid

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Figure 1 Campus Building

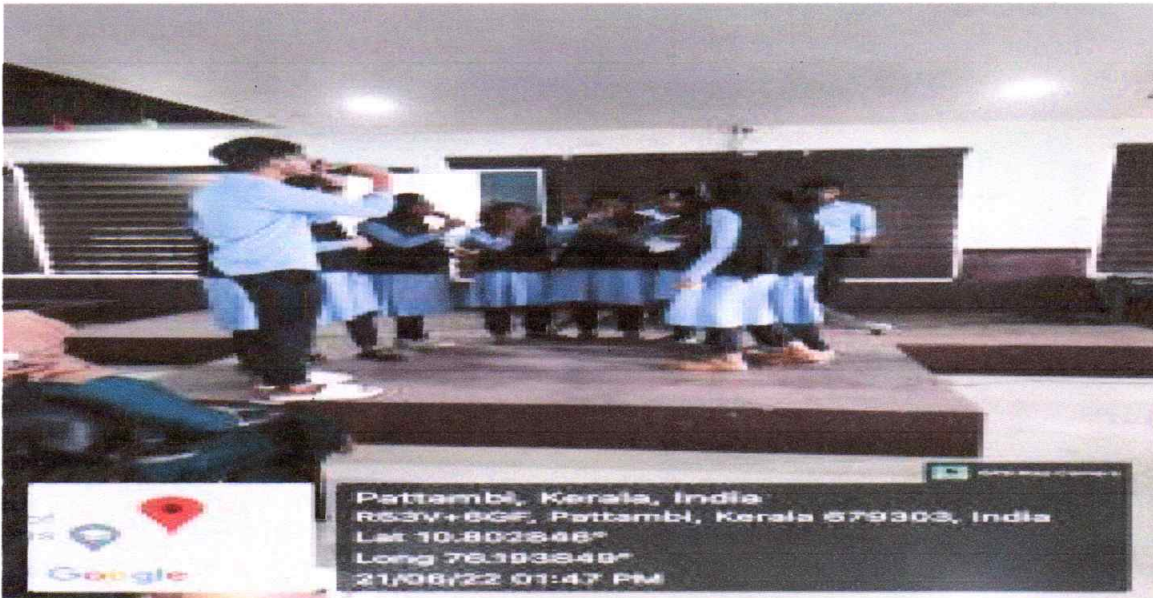


Figure 2 Curricular Activities

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Figure 3 Sports Activities



Figure 4 Tree Plantation Social Activities

The study covered the following areas to summarize the present status of environment management in the campus:

- Water Management
- Energy Use and Conservation
- Waste Management
- E-waste Management
- Green Area Management
- Environmental Monitoring



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Water Management

Water conservation is a key activity as water availability affects on the development of the campus as well as on all area of development such as farming, industries, etc. Keeping this view water conservation activity is carried out.

SOURCES OF WATER

- Bore water

A Main source of water is Ground water is extracted to full the requirement. At present there are 5# wells out of which with 1# has open well structure whereas remaining 04 are bore wells. The college stores the water in overhead tank per day with 100000 LTR.

The source of waste water is Domestic Waste Water i.e., Sewage water. The Sewage water mainly comes from Toilets of college, kitchen and canteen. 3# of Sewage Treatment Plant was installed in the campus of each 100 KLD. Total sewage treatment plant capacity is 10000 LTR.

OBSERVATION

The study observed that the Water tanker supply system, Tube well and Municipal connection are major sources of water in college and the canteen. 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, nor 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 1000 L/day, which include 8,000 L/day for domestic, gardening purposes and 2,000 L/day for drinking purpose. Rain water harvesting units are also functional for recharging ground water level.



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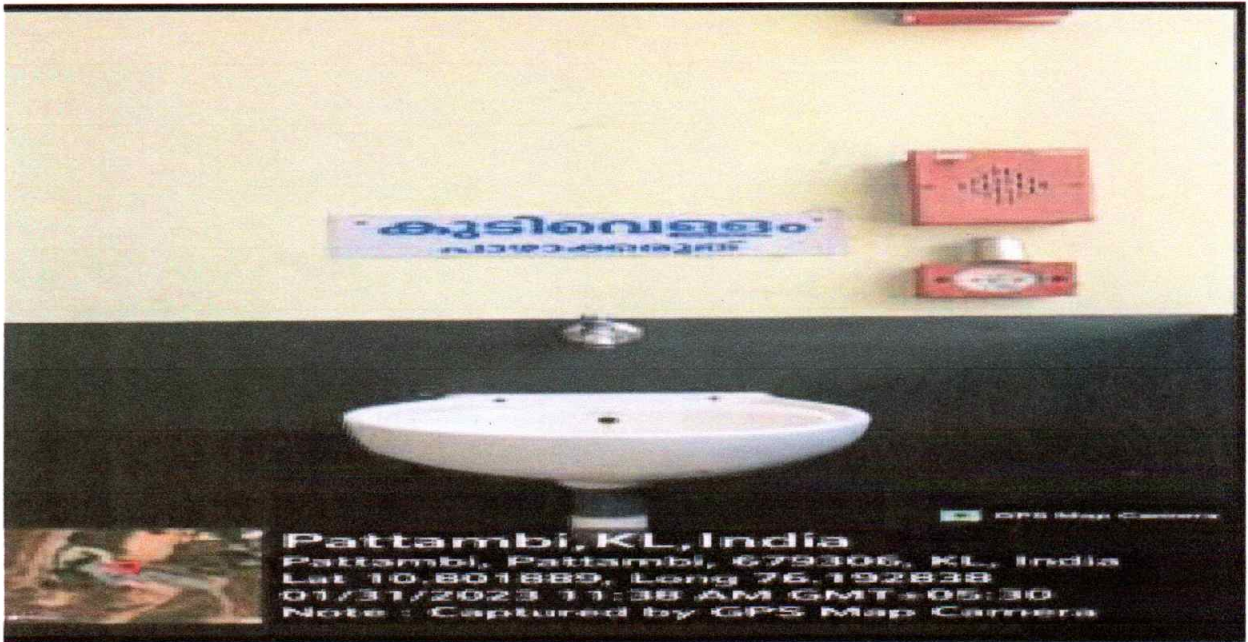


Figure 5 Drinking Water



Figure 6 Bore Well

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RECOMMENDATIONS

- In campus small scale/medium scale/ large scale reuse and recycle of water system is necessary.
- Minimize wastage of water and use of electricity during water filtration process, if used, such as RO filtration process and ensure that the equipment's used for such usage are regularly serviced.
- 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 where this exceeds the Control of Substances Hazardous to Health (COSHH) regulations.
- Gardens should be watered by using drip/sprinkler irrigation system to minimise water use.

ENERGY USE AND CONSERVATION

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.

OBSERVATIONS

Energy source utilized by the campus is electricity only. Total average energy consumption is determined as 17000 UNIT /Year. The entire campus including common facility centres are equipped with LED lamps and LED tube lights, except at few locations. Computers are set to automatic power saving mode when not in use. Also, campus administration runs switch-off drill on regular basis.



Figure 7 Diesel Power Generator



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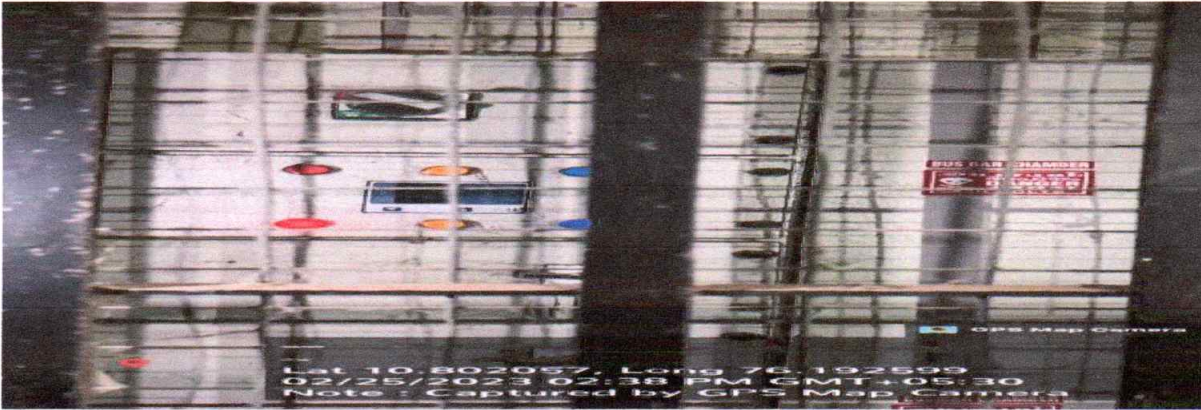


Figure 8 EB ROOM

RECOMMENDATIONS

- In campus premises electricity should be shut down from main building supply after occupancy time, to prevent power loss due to eddy current.
- Support 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.
- It is preferable to purchase electricity from a company that invests in new sources of renewable and carbon-neutral electricity.
- Installation of LED lamps instead of CFL and replacing the old tube lights with the new LED tubes.
- 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. and recycling. Furthermore, solid waste often includes wasted material resources that could otherwise be channelled 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.

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OBSERVATIONS

Waste generation from tree droppings and lawn management is a major solid waste generated in the campus. The waste is segregated at source by providing separate dustbins for Bio-degradable and Plastic waste. Single sided used papers reused for writing and printing in all departments and recently both side printing is carried out as per requirements. The waste generated by newspapers 300kg/year, magazine 280kg/year and of cartons is 20kg/year. Very less plastic waste (0.1Kg/day) is generated by the department, office, garden etc. but it is neither categorized at point source nor sent for recycling. Metal waste and wooden waste is stored and given to authorized scrap agents for further processing. The solid waste is collected approximately 15,000 kg by the municipal corporation and disposed by their methods.

RECOMMENDATIONS

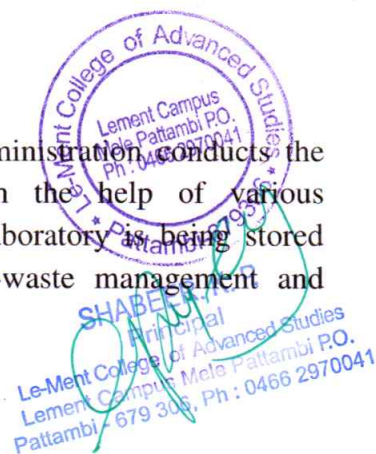
- Reduce the absolute amount of waste that is produced from college staff offices.
- Make full use of all recycling facilities provided by City Municipality and private suppliers, including glass, cans, white, coloured and brown paper, plastic bottles, batteries, print cartridges, cardboard and furniture.
- Provide sufficient, accessible and well-publicized collection points for recyclable waste, with responsibility for recycling clearly allocated.
- Important and confidential papers are sent for pulping after their validity.
- Vermicomposting should be adopted on at least 300 sq. ft. of land.

E-WASTE MANAGEMENT

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

OBSERVATIONS

E-waste generated in the campus is very less in quantity. Administration conducts the awareness programmes regarding E-waste Management with the help of various departments. The E-waste and defective item from computer laboratory is being stored properly. The institution has decided to contact approved E-waste management and disposal facility in order to dispose E-waste in scientific manner.



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RECOMMENDATIONS

- Recycle or safely dispose of white goods, computers and electrical appliances.
- Use reusable resources and containers and avoid unnecessary packaging where possible.
- Always purchase recycled resources where these are both suitable and available.

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 is enacted, enforced and reviewed using various environmental awareness programs.

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 awareness among villagers. The plantation program includes various types of indigenous species of ornamental and medicinal wild plant species.



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Figure 9 Plants in the campus



Figure 10 Trees in the campus



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Figure 11 Trees in the campus

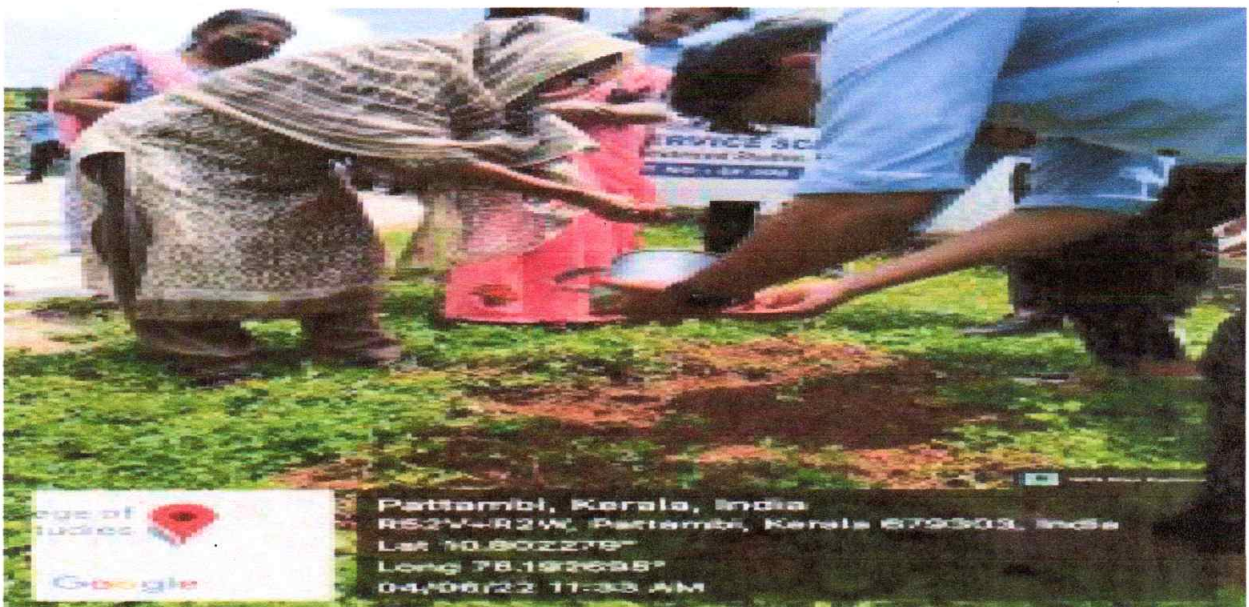


Figure 12 Planting sapling in the campus



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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 a 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. The 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.
- Celebrate every year 5th June as 'Environment Day' and plant trees on this day to make the campus more Green.
- Indoor plantation to inculcate interest in students, Bonsai can planted in corridor to bond a relation with nature.
- Green library should be established.

ENVIRONMENTAL MONITORING

Green audit is one of the important tools to check the balance of natural resources and its judicious use. Green auditing is the process of identifying and determining whether institutional practices are eco-friendly and sustainable. It is a process of regular identification, quantification, documenting, reporting and monitoring of environmentally important components in a specified area.

The main objective to carry out green audit is to check the green practices followed by LEMENT and to conduct a well-defined audit report to understand whether the mite is on the track of sustainable development.



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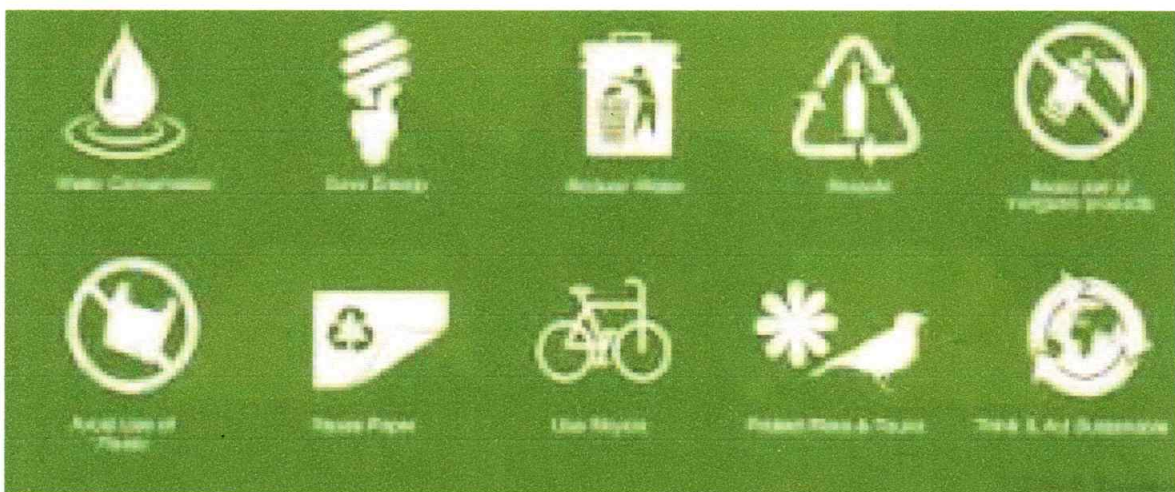
RECOMMENDATIONS

Following are some of the key recommendations for improving campus environment:

- 1) An environmental policy document has to be prepared with all the recommendations and current practice carried by LEMENT.
- 2) A frequent visit should be conducted to ensure that the generated waste is measured, monitored and recorded regularly and information should be made available to administration.
- 3) The solid waste should be reused or recycled at maximum possible places.
- 4) Install a water meter to record water usage in the college LEMENT premises.

CONCLUSION

Considering the fact that the institution is predominantly an Arts and Science College, there is significant environmental research both by faculty and students. The environmental awareness initiatives are substantial. Besides, environmental awareness programmes initiated by the administration shows how the campus is going green. Few recommendations are added to curb the menace of waste management using eco-friendly and scientific techniques. This may lead to the prosperous future in context of Green Campus & thus sustainable environment and community development. As part of green audit of campus, we carried out the environmental monitoring of campus including Illumination and Ventilation of the class room. It was observed that Illumination and Ventilation is adequate considering natural light.



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