ENVIRONMENT AUDIT REPORT
FOR
JAIPUR ENGINEERING COLLEGE AND RESEARCH CENTRE

Elion Technologies & Consulting Private Limited

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Acknowledgement

Elion Technologies and Consulting Pvt Ltd thanks the management of Jaipur Engineering College and Research Centre, Rajasthan for assigning this important work of Environmental Audit. We appreciate the co-operation to our team for completion of study.

For giving us necessary inputs to carry out this very vital exercise of Environment Audit. We are also thankful to other staff members who were actively involved while collecting the data and conducting field measurements.

Site Information

Name of College	Jaipur Engineering College And Research Centre
College Address	Opp. Epip Gate, Near Sanganer Sadar Thana Tonk Road Jaipur, Rajasthan, 302022
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	15th March 2024
Year of Audit	2023-2024
Audit Participants	Mr. Mukesh Kumar Agrawal Mr. Yogendra Sharma Mr. Neeraj Prakash Shrivastava Mr. Sumit Saini Mr. Rajesh Mr. Ramsevak
Total College Area	10.54 Acre
Total Green Area	5.58 Acre

Concept

The term 'Environmental audit' means differently to different people. Terms like 'assessment', 'survey' and 'review' are also used to describe similar activities. Furthermore, some organizations believe that an 'environmental audit' addresses only environmental matters, whereas others use the term to mean an audit of health, safety and environment-related matters. Although there is no universal definition of Environmental Audit, many leading companies/ institutions follow the basic philosophy and approach summarized by the broad definition adopted by the International Chambers of Commerce (ICC) in its publication of Environmental Auditing (1989).

The ICC defines Environmental Auditing as:
"A management tool comprising a systematic, documented, periodic and objective evaluation of how well environmental organization, management and equipment are performing with the aim of safeguarding the environment and natural resources in its operations/projects."

The European Commission, in its proposed regulation on environmental auditing, has also adopted the ICC definition of Environmental Audit.

Introduction

A clean and healthy environment aids effective learning and provides a conducive learning environment. There are various efforts around the world to address environmental education issues.

Environmental Management Systems (EMS) is very popular in the industrial sector, but the general belief is that EMS is something pertaining to industries only. Other parts of the world have started adopting compatible environmental management systems either voluntarily or for promoting standards by external certification. International environmental standards do not suit the existing Indian educational system.

A very simple indigenized system has been devised to monitor the environmental performance of educational institutions. It comes with a series of questions to be answered on a regular basis. Environmental conditions may be monitored from angles that are relevant to Indian requirements, without stress on legal issues or compliance. This innovative scheme is user- friendly and totally voluntary. The environmental monitoring system helps the institution to set environmental examples for the community and to educate young learners. It can be adapted to urban and / or rural situations.

Overview of Campus

A journey of Two decades for JECRC, having more than 4000 students on campus under 7 UG programs, has earned laurels to their students, faculty members and for the institute in many ways. More than 10000 alumni's spread over the globe has climbed the ladder to leadership positions and providing mentorship to their juniors by way of skill development, incubation, startup, research and angel funding. Faith by government agencies for providing grant of more than 2 crores for setting up centre of excellence, state of art facilities for startup & incubation and providing platform to the students to develop their technical and managerial skills that is helping students to get placement in a reputed organization. Contribution towards International publications, technical activities, co-curricular activities by faculty members, students and delivery of Outcome based education is recognized by National Board of Accreditation and AICTE.

Socially rich atmosphere at the campus enabling fourfold grooming of students that is recognized at National and International level and enabling students to work as interns with personalities recognized in their field of expertise. JECRC has become synonymous to placements and JECRCians have made their presence felt at every reputed company / government organization. To improve the quality of teaching learning, the institute on regular basis is getting the appreciations from Government and Non Government Organizations viz., NITTTR Chandigarh, National Board of Accreditation, Rajasthan Technical University, AICTE, ASSOCHAM, Computer Society of India, The Week, Outlook, India Today etc. and two programs Mechanical Engineering and Electronics & Communication Engineering are accredited by the National Board of Accreditation for providing outcome based education.

Our Vision

Vision To become a renowned centre of outcome based learning, and work towards academic, professional, cultural and social enrichment of the lives of individuals and communities.

Our Mission

- Focus on evaluation of learning outcomes and motivate students to inculcate research aptitude by project based learning.
- Identify, based on informed perception of Indian, regional and global needs, areas of focus and provide platform to gain knowledge and solutions.
- Offer opportunities for interaction between academia and industry.
- Develop human potential to its fullest extent so that intellectually capable and imaginatively gifted leaders can emerge in a range of professions.

List of courses offered by the institute:

- B.Tech In Computer Science & Engineering
- B.Tech In AI &DS
- B.Tech In CSE(AI)
- B.Tech In Information Technology
- B.Tech In Mechanical Engineering

- B.Tech In Civil Engineering
- B.Tech In Electronics Engineering
- B.Tech In Electrical Engineering

Audit Objectives

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.
- Reduction in resource use.
- 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 university profile.
- Developing an environmental ethic and value systems in young people.

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 outdated unless there is some mechanism in place to continue the effort of monitoring environmental compliance.

This is second environmental audit of campus for NACC affiliation; QS Program and doing their bid towards environmental protection and environmental awareness at local and global front. Audit criterion is environmental cognizance, waste minimization and management, biodiversity conservation, water conservation, energy conservation and environmental legislative compliance by the campus. A questionnaire is used during audit. This audit report contains observations and recommendations for improvement of environmental consciousness.

Environmental Audit

The areas of eco/environmental/green auditing to be followed/practiced by participating institutions:

I. Waste Minimization and Recycling
II. Greening
III. Energy Conservation
IV. Water Conservation
V. Clean Air
VI. Animal Welfare
VII. Environmental Legislative
VIII. General Practices

Is any Environmental Audit conducted earlier?
Yes (2022-2023)

What is the total permanent population of the Institute?

	Male	Female	Total
Students (Session 2023-24)	794	226	1020
Teachers (Session 2023-24)	130	88	218
Non-Teaching Staff	-	-	-
Sub Total	924	314	1238
Approximate Number of Visitors (Per day)			-
What is the total number of working days of your campus in a year?			-

Where is the campus located?
The campus is Located in Jaipur city.

Which of the following are available in your campus?

1	Garden area	Yes
2	Playground	Yes
3	Kitchen	Yes
4	Toilets	Yes
5	Garbage Or Waste Store Yard	-
6	Laboratory	Yes
7	Canteen	Yes
8	Hostel Facility (Numbers)	Yes
9	Guest House	Yes

Which of the following are found near your campus?

1	Municipal dump yard	No
2	Garbage heap	No
3	Public convenience	Yes
4	Sewer line	No
5	Stagnant water	No
6	Open drainage	No
7	Industry – (Mention the type)	No
8	Bus / Railway station	Yes
9	Market / Shopping complex / Public halls	Yes

I - WASTE MINIMIZATION AND RECYCLING

<table>
<tr><td>1.</td><td>Does your institute generate any waste?
If so, what are they?</td><td>Yes</td></tr>
<tr><td>2.</td><td>What is the approximate amount of waste generated per day? (in Kilograms/month) (approx.)</td><td><table><tr><td>Paper</td><td>Food</td><td>Leaves</td></tr><tr><td>150 Kg.</td><td>450 Kg</td><td>300 Kg.</td></tr></table></td></tr>
<tr><td>3.</td><td>How is the waste generated in the institute managed? By
1 Composting
2 Recycling
3 Reusing
4 Others(specify)</td><td>No
-NA
One sided papers used
STP plant of capacity 125KLD is installed.</td></tr>
<tr><td>4.</td><td>Do you use recycled paper in institute?</td><td>No</td></tr>
<tr><td>5.</td><td>Do you use reused paper in institute?</td><td>Yes</td></tr>
<tr><td>6.</td><td>How would you spread the message of recycling to others in the community? Have you taken any initiatives? If yes, please specify.</td><td>Awareness through posters</td></tr>
<tr><td>7.</td><td>Can you achieve zero garbage in your institute? If yes, how?</td><td>It is under process, not yet achieved.</td></tr>
</table>

II – GREENING THE CAMPUS

1.	Is there a garden in your institute?	Yes
2.	Do students spend time in the garden?	Yes
3.	Total number of Plants in Campus	2500
4.	Provide some names of trees and plants in the campus.	Mango, Gooseberry, Guava, lemon, sapodilla, Mulberry, Custard Apple etc. Plants are available in campus.
5.	Is the university campus have any Horticulture Department?	NA
	If yes, number of Staff working in Horticulture Department?	-
6.	Number of Tree Plantation Drives organized by College per annum.(If Any)	220 Plants/Annum
7.	Number of Trees Planted in Last year.	500
	Survival Rate	60% - 70% (Survival rate is less due to high TDS in water and hard soil)
8.	Plant Distribution Program for Students and Community	Yearly once
9.	Plant Ownership Program	-

III – ENERGY

1.	List down ways that you use energy in your institute. (Electricity, LPG, firewood, others). Using this list, try to think of ways that you could use less energy every day.	• Electricity • LPG
2.	Are there any energy saving methods, equipments, techniques employed in your institute? If yes, please specify. If no, suggest some	Yes, All street lights are LED based.
3.	Give an estimate of number of lights installed in your campus along with numbers?	260

4.	Are any alternative energy sources employed/ installed in your institute? (photovoltaic cells for solar energy, windmill, energy efficientstoves, etc.,) Specify.	Solar Energy
5.	Do you run "switch off" drills at institute?	Yes
6.	Are your computers and other equipment's put-on power-saving mode?	Yes (Auto Saving Mode)
7.	Does your machinery (TV, AC, Computer, weighing balance, printers, etc.) run on standby modes most of the time? If yes, howmany hours?	6 hours/day

IV - WATER CONSERVATION

1.	List all the uses of water in your institute?	1. Drinking 2. Flushing 3. Washing clothes 4. Cooking 5. Gardening
2.	How does your institute store water? (mention tanks with capacity) Are there any water saving techniques followed in your institute?	Yes, There are 4 tube wells in institute, all water is collected in underground water tank and then pumped to all academic blocks and hostel blocks.
3.	If there is water wastage, specify why and how can the wastage be prevented/ stopped?	Regular inspection by estate office is being done regarding the same.
4.	Locate the point of entry of water and point of exit of waste water in your institute. Entry- Exit-	UGT Main Gate to road

5.	Write down few ways that could reduce the amount of water used in your institute?	• Reorganize Landscape design • Check for leak in pipes, hoses and coupling • Smart flushing system • Water free urinals
6.	Record water use from the institute water meter for six months (record at the same time of each day). At the end of the period, compile a table to show how many litres of water havebeen used.	-
7.	Does your institute harvest rain water? (Please explain the method and uses)	Yes
8.	Is there any water recycling System.	Yes

V - CLEAN AIR

1.	Are the Rooms in Campus are Well Ventilated?	Yes				
2.	Number of windows per room (aggregate value to be provided)	03				
3.	What is the ownership of the vehicles used by your school? (Please Tick only one)		Yes			
			Operator-owned vehicles			
		√	School-owned vehicles			
			A combination of campus-owned and operator-owned vehicles			
4.	Provide details of school-owned motorized vehicles?	Buses	Cars	Vans	Other	Total
	No. of vehicles	11	6		1	18
	No. of vehicles more than five years old	11	5		1	17
	No. of Air conditioned vehicles	-	6		-	6
	PUC done	Yes	Yes		Yes	Yes

5.	Specify the type of fuel used by your school's vehicles:	Buses	Cars	Vans	Other
	Diesel	√	√		
	Petrol		√		√
	CNG				
	LPG				
	Electric				
6.	Air Quality Monitoring Program (If Any)	Plantation and Green Garden			
7.	Students suffer from respiratory ailments? (If Any)	No			
8.	Details of Diesel/Gas Generator. (Rating & Make)	Two DG set is installed (200KVA and 125 KVA)			

VI – ANIMAL WELFARE

1.	List the animals (wild and domestic) found on the campus (dogs, cats, squirrels, birds, insects, etc.) (if any)	Squirrels, Birds
2.	How many dogs in your area have undergone Animal Birth Control - Anti Rabies (ABC - AR)?	-
3.	Does your institute have a Biodiversity Programme or a KARUNA CLUB?	NA

VII - ENVIRONMENTAL LEGISLATIVE COMPLIANCE

1.	Are you aware of any environmental Lawspertaining to different aspects of environmental management?	Yes
2.	Does your institute have any rules to protectthe environment? List possible rules you could include.	Yes

3.	Does Environmental Ambient Air Quality Monitoring conducted by the Institute?	Yes
4.	Does Environmental Water and Wastewater Quality monitoring conducted by the Institute?	Yes
5.	Does stack monitoring of DG sets conducted by the Institute?	Yes
6.	Is any warning notice, letter issued by state government bodies?	No
7.	Does any Hazardous waste generated by the Institute? If yes explain its category and disposal method.	No
8.	Does any Bio medical waste generated by the Institute? If yes explain its category and disposal method.	No

VIII - GENERAL

1.	Are you aware of any environmental Laws pertaining to different aspects of environmental management?	Yes
2.	Does your institute have any rules to protect the environment? List possible rules you could include.	NA
3.	What is the housekeeping schedule of garden and common areas in your institute?	NA
4.	Are students and faculties aware of environmental cleanliness ways? If Yes Explain	Yes
5.	Does Important Days Like World Environment Day, Earth Day, and Ozone Day etc. celebrated in your Campus?	Yes
6.	Does Institute participated in National and Local Environmental Protection Movement?	-

7.	Does Institute has any Recognition/certification for environment friendliness?	Yes (Green Ranking Award)
8.	Does Institute using renewable energy?	Yes , Solar power plant is installed
9.	Does Institution conducts a green/environmental audit of its campus?	Yes
10.	Has the institution been audited / accredited by any other agency such as NABL, NABET, TQPM, NAAC etc.?	Yes (NAAC Accredited)

Recommendations

- Environment Policy to be adopted by the Campus.
- Waste handling policy shall be prepared and followed.
- Equipment's when not in use shall be switched off and should not run in standby modes or ideal.
- Use of recycled paper shall be encouraged in the campus.
- Arrangement of training programmes on environmental management system and nature conservation for schools and local people.
- Water Meter should be installed at every borewell of institute for monitoring of water consumption.
- Prepared water flow diagram to quantify water use at various locations.

Photographic Evidences

College Main Gate

Garden and Lawn

Trees and Plants

Solar Panel

Water Tank

Rain Water Harvesting Tank

Sewage Treatment Plant

Conclusion

This audit involved extensive consultation with all the campus team, interactions with key personnel on wide range of issues related to Environmental aspects. Overall, a large are of campus is for landscaping. The audit has identified several observations for making the campus premise more environmentally friendly. The recommendations are also mentioned with observations for university campus team to initiate actions.

The audit team opines that the overall site is maintained well from environmental perspective. There are no major observations but recommendation is made in this report which would further strengthen the goal to achieve 100% environment friendly campus.

References

- The Environment [Protection] Act – 1986 (Amended 1991) & Rules-1986 (Amended 2010)
- The Petroleum Act: 1934 – The Petroleum Rules: 2002
- The Central Motor Vehicle Act: 1988 (Amended 2011) and The Central Motor Vehicle
- Rules:1989 (Amended in 2005)
- Energy Conservation Act 2010.
- The Water [Prevention & Control of Pollution] Act – 1974 (Amended 1988) & the Water (Prevention & Control of Pollution) Rules – 1975
- The Water [Prevention & Control of Pollution] Cess Act-1977 (Amended 2003) and Rules- 1978
- The Air [Prevention & Control of Pollution] Act – 1981 (Amended 1987) The Air (Prevention & Control of Pollution) Rules – 1982
- The Gas Cylinders Rules – 2016 (Replaces the Gas Cylinder Rules – 1981
- E-waste management rules 2016
- Electrical Act 2003 (Amended 2001) / Rules 1956 (Amended 2006)
- The Hazardous Waste (Management and Handling and Trans-boundary Movement) Rules, 2008 (Amended 2016)
- The Noise Pollution Regulation & Control rules, 2000 (Amended 2010)
- The Batteries (Management and Handling) rules, 2001 (Amended 2010)
- Relevant Indian Standard Code practices

End of Report

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