



**ENVIRONMENT AUDIT REPORT
FOR
CHHATRAPATI SHIVAJI MAHARAJ
INSTITUTE OF TECHNOLOGY**



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Acknowledgement

Elion Technologies and Consulting Pvt Ltd thanks the management of Chhatrapati Shivaji Maharaj Institute of Technology, Panvel 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	Chhatrapati Shivaji Maharaj Institute of Technology
College Address	92/A Mumbai- Pune old Highway near Shedung Toll Plaza Shedung, Ta- Panvel, Dist.- Raigad - 410206
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	16 th January 2024
Year of Audit	2024 – 2025
Audit Participants	Chhatrapati Shivaji Maharaj Institute of Technology
Total Covered Area of College	6500 Sq. M
Total Green Area	1600 Sq. M



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

Chhatrapati Shivaji Maharaj Institute of Technology, a premier Institute in Mumbai is firmly rooted and has been verdantly bloomed. It adopts an interactive approach in teaching which enhances creative thinking analytical findings and effective communicative skills. Keeping at pace with globalization and resurgence of an open economy, the Institute tries to equip the students with information and training in entrepreneurship skills and communication. We take pride in being a cohesive group who shares the fundamental aims the staff specializes in excellence and high standard achievers.

At Chhatrapati Shivaji Maharaj Institute of Technology, we believe in providing a holistic and enriching experience for our students. Our carefully curated events offer a diverse range of opportunities to explore passions, develop skills, and forge lifelong connections. From thrilling festivals and inspiring speaker series to engaging workshops and impactful social initiatives, we have something for everyone.

Our events foster personal growth, encourage collaboration, and celebrate the spirit of community. Whether it's showcasing talents, gaining practical skills, participating in sports competitions, experiencing cultural exchanges, or preparing for future careers, our event section is a hub of excitement and learning. Join us on this remarkable journey of self-discovery and create memories that will last a lifetime.

Stay tuned to our event section for upcoming events, as we continue to ignite curiosity and shape well-rounded individuals. Welcome to a world of opportunities, connections, and unforgettable experiences at Chhatrapati Shivaji Maharaj Institute of Technology.

Vision

St. Wilfred's is a conscious and thoughtful response to a critical need for excellent and relevant education in a traditional, innovative and creative frame work. We take pride in being a cohesive group who shares the fundamental aims where the staff specializes in excellence and high standards of achievements.

Mission

- To cater to multiple abilities & intelligence present in learners for realization of their true potential and individual needs of developments.
- To instill among the students a sense of responsibilities to participate in citizenship duties and strive towards common welfare.
- To nurture overall development of the students through enrichment and quality education.
- To promote involvement of students with community outside the college and other social concerns through community service program.



List of courses offered by the institute:

- BE Mechanical Engineering
- BE Civil Engineering
- BE Computer 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 - Questionnaire

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?

No

What is the total permanent population of the Campus?

	Male	Female	Total
Students	373	107	480
Teachers	-	-	-
Non-Teaching Staff	-	-	-
Sub Total	-	-	-
Approximate Number of Visitors (Per day)			20
What is the total number of working days of your campus in a year?			220

Where is the campus located?

The campus is located in Panvel, Maharashtra.



Which of the following are available in your campus?

1	Garden area	No
2	Playground	Yes
3	Kitchen	No
4	Toilets	Yes
5	Garbage Or Waste Store Yard	Yes
6	Laboratory	Yes
7	Canteen	Yes
8	Hostel Facility (Numbers)	Yes (02)
9	Guest House	Yes

Which of the following are found near your campus?

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



I - WASTE MINIMIZATION AND RECYCLING

1.	Does your campus generate any waste? If so, what are they?	Yes. Chemical waste, Solid waste, Liquid waste, E-waste
2.	What is the approximate amount of waste generated per day? (in Kilograms/month) (approx.)	30-40 kg/month
3.	How is the waste generated in the campus managed? By 1 Composting 2 Recycling 3 Reusing 4 Others(specify)	Waste generated like paper and scrap are given to the vendors which are then recycled further. Also, old newspapers are used to wrap gifts.
4.	Do you use recycled paper in campus?	Yes
5.	Do you use reused paper in campus?	No
6.	How would you spread the message of recycling to others in the community? Have you taken any initiatives? If yes, please specify.	We conduct NSS activities to spread the message of recycling to others in the community.
7.	Can you achieve zero garbage in your campus? If yes, how?	No, but the institute has taken notable steps towards achieving zero garbage



II – GREENING THE CAMPUS

1.	Is there a garden in your campus?	Yes
2.	Do students spend time in the garden?	Yes
3.	Total number of Plants in Campus	200+
4.	Provide some names of trees and plants in the campus.	Rose plant, Aloe vera plant, Palm Tree, Lily, Jasmin
5.	Is the university campus have any Horticulture Department?	No
	If yes, number of Staff working in Horticulture Department?	-
6.	Number of Tree Plantation Drives organized by institute per annum. (If Any)	01/Year
7.	Number of Trees Planted in Last year.	30+
	Survival Rate	60%
8.	Plant Distribution Program for Students and Community	Yes
9.	Plant Ownership Program	No



III – ENERGY

1.	List down ways that you use energy in your campus. (Electricity, LPG, firewood, others). Using this list, try to think of ways that you could use less energy every day.	<ol style="list-style-type: none"> 1. Electricity, LPG, solar. 2. Switch off the lights, fans & other electrical appliances when not needed. 3. Keep your electronics on a low brightness setting to save energy
2.	Are there any energy saving methods, equipments, techniques employed in your campus? If yes, please specify. If no, suggest some	<ul style="list-style-type: none"> • Switch off the lights, fans & other electrical appliances when not needed. • Keep your electronics on a low brightness setting to save energy
3.	Give an estimate of number of lights installed in your campus along with numbers?	LED bulbs - 171
4.	Are any alternative energy sources employed/ installed in your campus? (photovoltaic cells for solar energy, windmill, energy efficient stoves, etc.,) Specify.	Solar energy – 80KW Yes. These are solar energy like water heating, water treatment, indoor solar lightning, ventilation.
5.	Do you run “switch off” drills at campus?	Yes
6.	Are your computers and other equipment’s put-on power-saving mode?	Yes
7.	Does your machinery (TV, AC, Computer, weighing balance, printers, etc.) run on standby modes most of the time? If yes, how many hours?	No



IV - WATER CONSERVATION

1.	List all the uses of water in your campus?	<ol style="list-style-type: none"> 1. Drinking & Cooking in canteen 2. Irrigation for Garden 3. Washing & Cleaning 4. Washrooms
2.	How does your campus store water? (mention tanks with capacity) Are there any water saving techniques followed in your campus?	Institute is having Water storage Tanks with storage capacity of 2000 Ltrs.
3.	If there is water wastage, specify why and how can the wastage be prevented/ stopped?	<ul style="list-style-type: none"> • Turning Off the Tap when Not in Use. • Repairing the leakages at the earliest. • Disposing of tissues in the dustbin rather than inside the toilets
4.	Locate the point of entry of water and point of exit of waste water in your campus. Entry- Exit-	<p>Entry – Ground water tank near college main gate.</p> <p>Exit – Sewage outside institute</p>
5.	Write down few ways that could reduce the amount of water used in your campus?	<ul style="list-style-type: none"> • By Detecting and repairing the leaks so that wastage of water will get reduce. • By Avoiding flushing the toilet unnecessarily. • Usage of sprinklers while watering the plants and trees.
6.	Record water use from the campus 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 have been used.	Water meters are currently not installed in the Institute
7.	Does your campus harvest rain water? (Please explain the method and uses)	Yes, ground water recharge through pits and trench for collecting diversion of rain water
8.	Is there any water recycling System.	No



V - CLEAN AIR

1.	Are the Rooms in Campus are Well Ventilated?	Yes				
2.	Number of windows per room (aggregate value to be provided)	02-03 per room				
3.	What is the ownership of the vehicles used by your institute? (Please Tick ✓ only one)	-	Yes			
		✓	Operator-owned vehicles			
		-	Institute-owned vehicles			
		-	A combination of campus-owned and operator-owned vehicles			
4.	Provide details of institute-owned motorized vehicles?	Buses	Cars	Vans	Other	Total
	No. of vehicles	-	-	-	-	-
	No. of vehicles more than five years old	-	-	-	-	-
	No. of Air-conditioned vehicles	-	-	-	-	-
	PUC done	-	-	-	-	-
5.	Specify the type of fuel used by your institute's vehicles:	Buses	Cars	Vans	Other	
	Diesel	-	-	-	-	
	Petrol	-	-	-	-	
	CNG	-	-	-	-	
	LPG	-	-	-	-	
	Electric	-	-	-	-	
6.	Air Quality Monitoring Program (If Any)	Yes (National Clean Air Program)				
7.	Students suffer from respiratory ailments? (If Any)	No				
8.	Details of Diesel/Gas Generator. (Rating & Make)	1 Genset of 125 KVA capacity				



VI – ANIMAL WELFARE

1.	List the animals (wild and domestic) found on the campus (dogs, cats, squirrels, birds, insects, etc.) (if any)	Birds and Squirrels are commonly found in campus.
2.	How many dogs in your area have undergone Animal Birth Control - Anti Rabies (ABC - AR)?	No
3.	Does your campus have a Biodiversity Programme or a KARUNA CLUB?	No

VII - ENVIRONMENTAL LEGISLATIVE COMPLIANCE

1.	Are you aware of any environmental Laws pertaining to different aspects of environmental management?	Yes
2.	Does your campus have any rules to protect the environment? List possible rules you could include.	Yes. Rules included to protect the environment are – 1) Conserve water 2) Planting trees 3) Usage of LED bulbs 4) 3 R's – Reduce, Reuse and Recycle
3.	Dose Environmental Ambient Air Quality Monitoring conducted by the Campus?	Yes
4.	Dose Environmental Water and Wastewater Quality monitoring conducted by the Campus?	Yes
5.	Dose stack monitoring of DG sets conducted by the Campus?	Yes
6.	Is any warning notice, letter issued by state government bodies?	No



7.	Dose any Hazardous waste generated by the Campus? If yes explain its category and disposal method.	No
8.	Dose any Bio medical waste generated by the Campus? 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 campus have any rules to protect the environment? List possible rules you could include.	Yes. Rules included to protect the environment are – <ul style="list-style-type: none"> • Conserve water • Planting trees • Usage of LED bulbs • 3 Rs – Reduce, Reuse and Recycle
3.	What is the housekeeping schedule of garden and common areas in your campus?	8:30 am to 5 pm
4.	Are students and faculties aware of environmental cleanliness ways? If Yes Explain	Yes. Environmental cleanliness ways are followed as– <ul style="list-style-type: none"> • No plastic • Segregating waste in blue and green dustbins • Encourage students to compost food waste such as fruits and vegetables scraps instead of throwing them in the trash.
5.	Does Important Days Like World Environment Day, Earth Day, and Ozone Day etc. celebrated in your Campus?	Yes
6.	Does Campus participate in National and Local Environmental Protection Movement?	Yes



7.	Does Campus have any Recognition/certification for environment friendliness?	Yes
8.	Does Campus use renewable energy?	YES, 80KW Solar Energy
9.	Does Institution conduct 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.?	No



Recommendations

- Air Quality monitoring Programme should be implemented and Indoor air Quality Tests shall be carried out yearly.
- Water meters shall be installed for better monitoring of water usage in the college
- Environmental Water and wastewater quality monitoring shall be carried out yearly.
- Water recycling system shall be installed in the campus.
- Water efficient taps shall be used in the campus for saving the water.
- Paper shall be used reused in the campus



Photographic Evidences



College Main Gate



College Main Gate

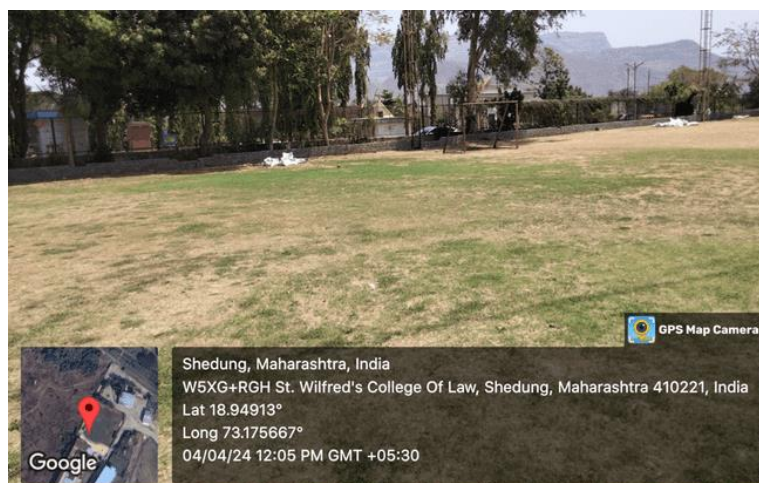




Garden Area



Garden Area



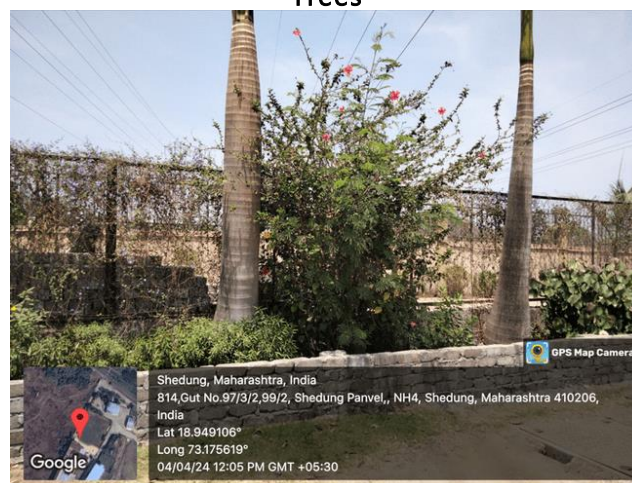
Garden Area



Trees



Trees



Trees and Plantation



Solar Panel



Solar Plant



Overhead Water Tank



Overhead Water Tank



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, large amount 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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DISCLAIMER

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