

**ENVIRONMENT AUDIT REPORT
FOR
Geethanjali College of Engineering and Technology,
Cheeryal(V), Keesara(M),
Medchal(Dist.), Telangana**



For Year 2018

Carried Out By



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ACKNOWLEDGEMENT

Elion Technologies and Consulting Pvt Ltd thanks the management of Geethanjali College of Engineering and Technology, Telangana 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.

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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.


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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.

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OVERVIEW OF INSTITUTE

Geethanjali College of Engineering & Technology has been structured to take head on the changing trends of technology. The idea of setting up the college emerged when no other college could cater to the needs of a student in his/her endeavor to acquire wholesome education. The very strength of Geethanjali lies in its principles of providing the right learning environment for the student who does not have to compromise throughout the learning process of becoming global citizen.

The college recognizes that the rapidly changing technological landscape would require young technocrats with an understanding of evolving technologies, but also with a global perspective. A major goal of Geethanjali is to impart a uniquely broad and interdisciplinary Engineering education of the highest academic quality. This is achieved through an integrated curriculum that consists of a highly diverse set of technical courses, interdisciplinary research projects, day-to-day interaction with industry, and preparation in entrepreneurship and personality development courses.

At Geethanjali learning pushes all boundaries of conventional thought in pursuit of understanding science in relation to the society. Every concept a Geethanjaliite acquires carries the inbuilt awareness of how it can be applied to render human life better.

Over the years since it was established, there has been dynamic progress at Geethanjali in all academic and research activities, and a parallel improvement in facilities and infrastructure, to keep it on par with the best institutions in India. The campus epitomizes the Geethanjali motto, "Striving towards perfection" in providing the best of infrastructure and ambience. Geethanjali keeps a keen eye on the current trends and innovations happening in the industry and offers learning methods, which are designed to meet the evolving requirements of the industry.

Elion Technologies and Consulting Pvt Ltd (Elion) team carried out remote audit of premises. The audit was carried out using online meeting platform google hangout, prior to Audit questionnaire and checklists was shared with the client. During the audit Elion team carried out virtual visit of entire campus i.e. classrooms, library, washrooms, staff rooms, administration department, accounts department and hostels.


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Campus Information

The college is offering courses in following fields:

- Computer Science and Engineering
- CSE – Artificial Intelligence and Machine Learning
- CSE – Data Science
- CSE – Cyber Security
- CSE – Internet of Things
- Information Technology
- Electronics and Communication Engineering
- Mechanical Engineering
- Civil Engineering
- Electrical and Electronics Engineering
- MBA
- M.Tech (Computer Science and Engineering)

Details of the infrastructure of Geethanjali College of Engineering & Technology is as per below:

Total Area: 10 acres

Green Area: 3310 Sq.m

Building Name	Areas	Number of Floors
Block-I	11031 sq.m	G+3
Block-II	5586 sq.m	G+3
Block-III	7434 sq.m	G+3
Block-IV	1951 sq.m	G+3
Sheds	1450 sq.m	


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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 university campus and its environment
- Enhancement of university profile
- Developing an environmental ethic and value systems in young people


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Warangal (D), T.S.R.



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 environmental audit of institute is 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.

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AREA OF IMPROVEMENTS

- Internal inspection system should be developed for monitoring the water usage in the campus and daily records of water meter should be kept.
- Environmental drills for response against electricity conservation such as "Switch Off" should be conducted in the campus.
- Air Quality monitoring programme should be implemented.
- Use of recycled paper should be implemented in the campus.
- Desktop, Printers, TV etc should be turned off when not in use instead of keeping them in standby mode.
- Phase wise replacement of conventional lights such as CFL, Fluorescent Tube lights and Halogens with energy efficient LED lights.



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**ENVIRONMENTAL AUDIT - QUESTIONARE**

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

Dose any Environmental Audit conducted earlier?

No, Environment Audit is not conducted prior to this.

What is the total permanent population of the Institute?

Participating institutions:	Male	Female	Total
Students	2308	1313	3621
Teachers	131	101	232
Non Teaching Staff	35	8	43
Sub Total	2474	1422	3896
Approximate Number of Visitors (Per day)			15 to 20
What is the total number of working days of your campus in a year?			294

Where is the campus located?

The campus is Located in Cheeryal Village, Keesara Mandal, Hyderabad, Telangana 501301.

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**Which of the following are available in your institute?**

1 Garden area	3310 sq.m
2 Playground	8674 sq.m
3 Kitchen	41 sq.m
4 Toilets	613 sq.m
5 Garbage Or Waste Store Yard	75 sq.m
6 Laboratory	8078 sq.m
7 Canteen	523 sq.m
8 Hostel Facility(numbers)	-
9 Guest House	69 sq.m

Which of the following are found near your institute?

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

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**I WASTE MINIMIZATION AND RECYCLING**

1.	Does your institute generate any waste? If so, what are they?	Yes Solid Waste Liquid Waste E-Waste
2.	What is the approximate amount of waste generated per day? (in Kilograms/month) (approx.)	20 to 25kgs
3.	How is the waste generated in the institute managed? By 1 Composting 2 Recycling 3 Reusing 4 Others(specify)	Recycling Reusing
4.	Do you use recycled paper in institute?	No
5.	Do you use reused paper in institute?	Yes
6.	How would you spread the message of recycling to others in the community? Have you taken any initiatives? If yes, Please specify.	Yes NSS Camps
7.	Can you achieve zero garbage in your Institute? If yes, how?	No


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**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	350
4.	Suggest plants for your campus. (Trees, vegetables, herbs, etc.)	1.Peltophroum 2.Jacaranda 3.Mango 4.Tamarind
5.	Is the university campus have any Horticulture Department	No
	Number of Staff working in Horticulture Department	10
6.	Number of Tree Plantation Drives organized by College per annum.(If Any)	1
7.	Number of Trees Planted in Last FY.	170
	Survival Rate	70%
8.	Plant Distribution Program for Students and Community	Yes <i>Harithaharam</i>
9.	Plant Ownership Program	-


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**III ENERGY CONSERVATION**

1. List ten 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 Diesel Petrol Batteries.
2. Are there any energy saving methods employed in your institute? If yes, please specify. If no, suggest some	Installed Solar Power Plant Of Capacity 250 KW Replaced Old Tubelights With Modern Led Tube Lights/Led Lights. Replaced Old Computer Systems With High Energy Efficient Computer Systems, Saving Lot Of Electricity. Replaced Old Air Conditioners With High Energy Efficient Modern Systems. Installed Automatic Power Factor Control
3. How many CFL/LED bulbs has your institute installed?	CFL/Tube light - 1600 Led Lights - 100 Led Tube Lights - 100
4. Are any alternative energy sources employed / installed in your institute? (photovoltaic cells for solar energy, windmill, energy efficient stoves, etc.,) Specify.	Installed Solar Power Plant Of Capacity 250 KW
5. Do you run "switch off" drills at institute?	No

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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?	Yes

IV WATER CONSERVATION

1. List four uses of water in your institute	1. Drinking 2. Gardening 3. Washing 4. Washrooms
2. How does your institute store water? Are there any water saving techniques followed in your institute?	Yes Overhead tank
3. If there is water wastage, specify why and How can the wastage be prevented / stopped?	1. Check for leaks in pipes, faucets. 2. Water the lawn only when it needs.
4. Locate the point of entry of water and point of exit of waste water in your institute. Entry- Exit-	Entry-Bore water Exit-Septic tank

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5. Write down four ways that could reduce the amount of water used in your institute	1.Constant monitoring of leakages 2.Use of recycled waste water to flush tank after preliminary treatment 3. Install low flow taps. 4. Installation of rainwater harvesting system.
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 have been used.	
7. Does your institute harvest rain water?	Yes
8. Is there any water recycling System.	No

V CLEAN AIR

1. Are the Rooms in Campus are Well Ventilated?	Yes
2. Window Floor ratio of the Rooms	1:8 (12.5%)
3.	Yes

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What is the ownership of the vehicles used by your school? (Please Tick <input checked="" type="checkbox"/> only one)	Operator-owned vehicles				
	School-owned vehicles				
	A combination of campus-owned and operator-owned vehicles				
4. Provide details of school-owned motorised vehicles?	Buses	Cars	Vans	Other	Total
No. of vehicles	44	4	2	-	50
No. of vehicles more than five years old	39	-	-	-	39
No. of Air conditioned vehicles	-	4	-	-	4
PUC done	44	4	4	-	50
5. Specify the type of fuel used by your school's vehicles:	Buses	Cars	Vans	Other	
Diesel	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
Petrol	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
CNG					
LPG					
Electric					
6. Air Quality Monitoring Program (If Any)	No				
7. Students suffer from respiratory ailments? (If Any)	No				
8. Details of Genset	DG1 - 125 KVA DG2 - 200 KVA				

VI ANIMAL WELFARE

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1.	List the animals (wild and domestic) found on the campus (dogs, cats, squirrels, birds, insects, etc.)	1.Dogs 2.Insects 3.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?	-

VII ENVIRONMENTAL LEGISLATIVE COMPLIANCE

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.	Yes 1. All the vehicles are parked outside the college to make the campus pollution free. 2. Burning of plastic waste is not to be prohibited. 3. REDUCE, REUSE, RECYCLE.
3.	Dose Environmental Ambient Air Quality Monitoring conducted by the Institute?	No
4.	Dose Environmental Water and Wastewater Quality monitoring conducted by the Institute?	Yes
5.	Dose stack monitoring of DG sets conducted by the Institute?	No




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 PRACTICES

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. Institute? If yes explain its category and disposal method	Yes 1. All the vehicles are parked outside the college campus so that the college is to be made eco-friendly. 2. Avoid Plastic waste. 3. Reduce, Reuse, Recycle.
3.	Does housekeeping schedule in your campus?	Yes
4.	Are students and faculties aware of environmental cleanliness ways? If Yes Explain	Yes Students are given exposure to environmental cleanliness waste through a mandatory course named as "Environmental Science" in the second year study.
5.	Does Important Days Like World Environment Day, Earth Day, and Ozone Day etc. eminent in Campus?	Yes



6.	Dose Institute participated in National and Local Environmental Protection Movement?	Yes <i>Harithaharam.</i>
7.	Dose Institute has any Recognition/certification for environment friendliness?	Yes
8.	Dose Institute using renewable energy?	Yes
9.	Dose 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, Local Environmental Protection TQPM, NAAC etc.?	Yes


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RECOMMENDATIONS

- Internal inspection system should be developed for monitoring the water usage in the campus and daily records of water meter should be kept.
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RECOMMENDATIONS



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, 30% of university 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 college team to initiate actions.

The audit team opines that the overall site is maintained well from environmental perspective. There are no major observations but few things are important which if implemented would further strengthen the environment setting in the college.

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REFERENCE

- 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


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ANNEXURE –
PHOTOGRAPHS OF ENVIRONMENT CONSIIOUSNESS



Green Campus



TREE Plantation

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