GREEN AUDIT REPORT 2017-18

CMR TECHNICAL CAMPUS
Sponsored by CMR Technical Education Society
(Accredited by NBA, Approved by AICTE, Permanently Affiliated to JNTUH)
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Introduction

The rapid urbanization and economic development at local, regional and global level has led to several environmental and ecological crises. On this background it becomes essential to adopt the system of the Green Campus for the institute which will lead for sustainable development.
Green Audit can be defined as systematic identification, quantification, recording, reporting and analysis of components of environmental diversity. The 'Green Audit' aims to analyze environmental practices within and outside the college campus, which will have an impact on the eco-friendly ambience. It was initiated with the motive of inspecting the work conducted within the organizations whose exercises can cause risk to the health of inhabitants and the environment. Through Green Audit, one gets a direction as how to improve the condition of environment and there are various factors that have determined the growth of carrying out Green Audit.

About Institute:

CMR Technical Campus was established in 2009, sponsored by CMR Technical Education Society with a vision and mission of imparting quality technical education to the deserving and meritorious students. The institute is located in semi urban area on Hyderabad-Nagpur highway, about 20 km from Secunderabad and well connected through Outer Ring Road (ORR). The institute has a sprawling campus of 10 acres with lush greenery.

Vision:

To impart quality education in serene atmosphere thus strive for excellence in Technology and Research.

Mission:

- To create state of art facilities for effective Teaching – Learning process.
- Pursue and Disseminate knowledge based research to meet the needs of Industry & Society.
- Infuse Professional, Ethical and Societal values among Learning Community.

Quality Policy:

- The management is committed in assuring quality service to all its stakeholders like parents, students, alumni, employees, employers and the community.
- Continual quality improvement by establishing and implementing mechanisms and modalities.
- Transparency in procedures and access to information and actions.

Core values:

Accountability - Demonstrate responsibility for our actions; establish and communicate clearly defined and articulated goals and objectives.

Benchmark- To develop and pursue high standards by encouraging skill development and entrepreneurship to meet industry and society needs.

Commitment- Focus on students and stakeholders needs; continuously evaluate and improve academics, research and infrastructure.

Dignity- Recognize the expertise of all members of the institute and encourage individual contribution and also include stakeholders in the decisions that affect them.

Objective of Green Audit:

The objective of the green audit is to promote the environment consciousness and conservation in the institute. 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.

Methodology

In a pursuit to attain a better green audit the methodology includes, physical inspection of the campus, identification of green initiatives, observations and review of the documentation, interviewing concerned personals, analyzing of data, proposing suitable measures and recommendations. The study covered the following areas to summarise the present status of environment management in the campus:

I. Energy Conservation
II. Waste management
III. Water management
IV. Green area management

Green Practices

I. Energy use and Conservation:

CMRTC believes in the well known saying, "Energy Saved is Energy produced". Various measures adopted in the institute are as below:

- Conduction of awareness Programs on energy conservation for staff and students.
- Replacing the conventional lighting system with LEDs by 46 %.
- The design of institute allows natural ventilation and lighting.
- Installation of solar power plant with a capacity of 120 kVA.
- Scheduling of Laboratories accordingly for uniform load distribution across the day.
- Switching off the electrical appliances when not in use.

Solar Street Lighting

Day Daylight Design

120 kVA Solar Power Plant

II. Waste management:

The waste management includes 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 channelled into better service through recycling, repair, and reuse. Various measures adopted in the institute are as below:

Solid waste management

The solid waste can be categorised as

- Degradable (Dust, leaves, twigs, paper)

- Non-degradable (Plastic, glass, bottles, E-waste, food wrappers etc)

The process of waste management proceeds in the form of collection- treatment- disposal. All forms of solid waste are collected by designated personals from the bins placed at different locations of the campus. The collected waste is fed into the solid waste treatment plant, where the entire waste is burned at around 900^{o}C to form ash. The produced ash is used as fertilizer for farming.

Solid waste Collection Bin

Solid waste Treatment

Liquid waste management:

The volume of liquid waste generated at CMRTC is managed with help of sewage treatment plant (STP) located in the campus. Due to the presence of hostels in the campus, it has become mandatory for installation of such system, giving importance to water conservation at the same time. The treated water is used for gardening and cleaning purpose. Prior to this it was managed with the help of soak pits and septic tanks, which allows percolating into the ground.

Liquid Waste

E-waste management:

Being an institute of higher education, the need for utilization of electronic and computing systems becomes mandatory. Thus it necessitates having an e-waste management system as most of the electronic goods become obsolete after a period of three to four years. The institute has tie up with vendor/suppliers of electronic items to buy back and upgrade as possible. The remaining e-waste is disposed through a certified vendor on periodical basis.

III. Water management

This indicator addresses water consumption, water sources, appliances and fixtures. A water audit is an on-site survey and assessment to determine the water use and hence improving the efficiency of its use. Water is used for drinking purpose, laboratory, canteen, gardening and toilets.

- Prevention of any leakages and over flow of water from overhead tanks.
- Rain water harvesting for storing and reuse.
- Gardens are watered by using drip/sprinkler system to save water.
- The rejected water as received from the RO filtration process is used for gardening and cleaning purpose.

RO water Plant

Save water

Rain water harvesting pit

Ulta Chata- Rain water Harvester

IV. 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 programmes. Awareness programmes for staff, students and society for protecting and maintaining environment are conducted regularly. The awareness is also created by arranging road shows, rallies on various issues related to environment and health. The students and faculty members through NSS are involved in the activities. CMR Technical Campus is having green campus, which comprises of following flora.

S. No.	LOCAL NAME	BOTANICAL NAME	FAMILY NAME	NO.OF PLANTS
1	Neem	Azadirachta indica	Mahogany	73
2	Banyan	ficus benghalensis	mulberry	3
3	Alexandra palm	archontophoenix alexandrae	palmae	33
4	Indian beach	pongamia pinnata	fabaceae	5
5	Japanese holly	llex crenata	aqyifoliaceae	1
6	Sacred fig	ficus religiosa	moraceae	2
7	peacocks plume	falcataria moluccana	fabaceae	45
8	glossy privet	ligustrum lucidum	oleaceae	4
9	African tulip tree	spthodea campanulata	bignomiaceae	12
10	false indigo bush	amortha fruticosa	fabaceae	1
11	White frangipani	pluneria rudra'acutifolia'	apocynaceae	2
12	Asoka tree	saraca asoca	legumes	16
13	Erium oleander	oerium oleander	apocynaceae	1
14	Crepe jasmine	tabernaemontana divaricata	apocynaceae	10
15	Rose	rosa	rosaceae	1
16	Bush allamanda	allamanda schottii	apocynaceae	1
17	Arabian jasmine	jasminum sambac	oleaceae	2
18	Egyptian star-cluster	pentas lanceolata	rubiaceae	8
19	Ipomoea quamoclit	ipomoea quamoclit	comvolvulaceae	1
20	Chryanthemun indicum	chryanthemun indicum	asteraceae	bushes
21	Spider plant	chlorophytum comosum	liliaceae	bushes
22	American trumpet vine	campsis radicans	bignomiaceae	27
23	Muntingia calabura	muntingia calabura	elaeocarpaceae	3
24	Myrobalan	phyllanthus emblica	euphorbiaceae	1
25	Callistemon hybridus	callistemon hybridus	myrtaceae	bushes
26	Purple leaf sand cherry	prunus x cistena	rosaceae	bushes
27	Copper leaf	acalypha wilkesiana	euphorbiaceae	bushes
28	Sago cycad	cycas revoluta	cycadaceae	25
29	Kadam	neolamarckia cadamba	rubiaceae	14
30	Beach spider lily	hymenocallis litturalis	amaryllidaceae	bushes
31	Red-magined dracarena	dracaena marginata	agavaceae	1

32	Japanese spindle	eunymus japonicus var.aurea marginatus	celastraceae	2
33	The lady palm	rhapis excelsa	arecaceae	12
34	Fichus thonningii	ficus microcarpa	moraceae	47
35	Bamboo leaf	lophatherum gracile	poaceae	bushes
36	Blue tlumbago	plumbago auri culata	plumbaginaceae	bushes
37	White cheese wood	alstonia scholaris	apocynaceae	5
38	Malabar nut	justicia adhatoda	acanthaceae	1
39	Chinese juniper	juniperus chinensis	cupressaceae	18
40	Illex chinensis	illex chinensis	aquifoliaceae	6
41	Custard apple tree	annona reticulata	annonaceae	3
42	Mango tree	mangifera indica	cashews	2
43	Coconut tree	cocos nucifera	palmae	25
44	Guava tree	psidium guajava	myrtle	7
45	Badam tree	prunus dulcis	rose	2
46	Berry	syzygium cumini	myrtaceae	5
47	Tulasi	ocimum sanctum	labiatae	1
			Total	428

Further, the Green Audit Committee is constituted, which shoulders the responsibility of maintaining and protecting environment surrounding the institution. The aim of the committee is to provide advice for the development of environmental policy and practice in the areas of

- Waste Management
- Soil Management
- Bio diversity and threatened species preservations
- Energy use and conservations
- Eco-friendly techniques
- Noise Pollution
- Air Pollution
- Paper less operating procedure
- Green environment and clean campus

COMMITTEE FOR GREEN AUDIT:

S. No	Name of Member	Department	Designation
1.	Prof. S. Vijaya Bhasker Reddy	Civil	Chairman
2.	Mr. Durga Prasad Reddy	Mechanical	Convener
3.	Mrs. J Srividya	CSE	Member
4.	Dr. P. Venkatakrishnan	ECE	Member
5.	Mrs. Roja Reena	H&S	Member
6.	Dr. P. V. Rao	MBA	Member