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CMR
INSTITUTE OF TECHNOLOGY
UGC AUTONOMOUS
Approved by AICTE, New Delhi & Permanently Affiliated to JNTUH, Hyderabad & Accredited by NBA, NAAC with 'A' Grade

Dr. B. Satyanarayana
B.Tech., M.Tech., Ph.D., MISTE
Professor & Principal

AUTHENTICATION CERTIFICATE

This is to certify that the following Quality audits on Environment and Energy are regularly undertaken by the institute.

S.No	Name of the initiative
1	Green Audit, Environmental Audit & Energy Audit reports from recognized bodies
2	Environmental Promotion and Sustainability activities conducted beyond the campus
3	Certificates of the awards received from recognized agency
4	Policy document on environment and energy usage certificates from the auditing agency

Principal

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7.1.6. Quality audits on Environment and Energy are regularly undertaken by the institute:

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ENVIRONMENTAL POLICY

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CMR INSTITUTE OF TECHNOLOGY

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ENVIRONMENTAL POLICY

Introduction

The relationship between **CMR Institute of Technology** and nature is a long and enduring one, something that students and staff of the college are aware of. Ours is known for its "Clean and Green" Campus where environmental friendly practices and education combine to promote sustainable and eco-friendly practices in the campus and beyond the campus. The green campus concept offers the institution an opportunity to take the lead in redefining its environmental culture through instilling environmental ethics among students and staff. The College also promotes "Clean and Green" campus through adopting, practicing and promoting environmental friendly practices among students and staff to generate Eco-consciousness among them and in the world around them.

Scope of the Policy

The Green Campus, Energy and Environment Policies will develop exciting new co-curricular and extracurricular practices that encourage students to take the lead in creating positive change. These initiatives call for a thorough review of all infrastructural, administrative functions from the standpoints of energy efficiency, sustainability and the environment. The focus areas of this policy are:

- Clean Campus Initiatives
- Landscaping Initiatives
- Clean Air Initiatives
- Infrastructure Initiatives
- Installation of Energy Efficiency Equipment
- Water Conservation through Rainwater Harvesting System
- Waste Management processes
- Solid Waste Management
- Liquid Waste Management
- E-Waste Management
- Awareness Initiatives
- Implementation of Green Audit, Energy Audit and Environmental Audit

Objectives of the Policy

- To continuously improve the efficiency and effectiveness in use of all resources, including energy and water, and to reduce consumption in the amount of waste produced, recovering and recycling waste where possible.
- To minimize the use of paper in administration by following the policy for E-governance.
- To protect and conserve ecological systems and resources within the campus.
- To ensure judicious use of environmental resources to meet the needs and aspirations of the present and future generations.
- To integrate environmental concerns into policies, plans and programs for social development and outreach activities.
- To work with all stakeholders and the local community to raise awareness and seek the adoption of environmental good practice and the reduction of any adverse effects on the environment.
- To make the campus plastic free.
- To conduct Environmental and Energy audits from time to time.
- To continuously improve our contribution to climate protection and adaptation to climate change and to the conservation of global resources.

Environmental Policy

The Institution is committed to manage the campus in accordance with responsibilities towards promoting sustainable environment.

1. Clean Campus Initiatives

CMRIT had pledged to actively coordinate cleanliness activities in the college and beyond the campus in accordance with the vision of Swachh Bharat Abhiyan. The broad vision is as follows:

- Generating mass awareness on cleanliness and hygiene amongst students and staff members by holding regular cleanliness drives and by conducting rallies on themes connected with 'Swachh Bharat Abhiyan' in and around the college campus. The main aim is to motivate them to contribute in a proactive manner.
- Activities under 'Swachh Bharat Abhiyan' will be a key component of all the community work being done by NSS volunteers of the college.
- Staff Members and students will be encouraged to participate in the cleanliness drive in the college campus.
- Events such as Painting, Poster and Slogan competitions, Essay Writing, Spoken Word Poetry, Speeches, Skits on 'Swachh Bharat' will be organized.
- Rallies will be conducted to create mass awareness.
- Maintenance activities are carried on time-to-time basis like removal of all kinds of waste material like broken furniture, unusable equipment etc.
- Pledge taking by students and staff members to maintain cleanliness of the college campus and its surrounding areas on an annual basis.
- Organization of workshops on the 3Rs: Reduce Reusing and Recycling of waste.
- Commitment to manage waste and maintain clean campus especially during college events.

2. Landscaping Initiatives

The campus landscape, like its buildings, can be seen as the physical embodiment of a college's values. It plays a vital part of the life of a campus, providing space to study, play, outdoor events, relaxation and aesthetic appreciation. Green campus landscapes also manage runoff, help recharge groundwater, and clean and cool the air on campus. The landscape serves as a visual representation of the campus community's commitment to sustainability. As campus landscapes are so visible and accessible, landscaping initiatives are the great way to build awareness around the environment. The landscape of trees and plants provides the students and staff with clean and cool air to have a soothing environment.

3. Clean Air Initiatives

CMRIT encourages students and staff to use public/college transportation, instead of using individual vehicle, an activity that will control air pollution and strengthen social interaction. The entry of automobiles inside the campus is restricted to discourage the use of private vehicles. The students are given strict instructions to maintain the campus clean and it is reflected in their handbooks. A gardener and the full time supporting staff are appointed for the maintenance of litter free "Clean and Green" Campus.

In compliance with the framework provided by the National Tobacco Control Programme (NTCP) 2007-2008, the college strictly prohibits smoking and the use of other tobacco products. As a step in this direction, smoking and use of tobacco in and around the campus is strictly prohibited. Thus maintain CMRIT as "Smoking free Campus".

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4. Infrastructural Initiatives

a. Energy conservation

The various Energy conservation measures adopted in the college campus, from time to time, includes replacement of all the CRT monitors by LCD monitors in each and every department laboratories, retrofitting standard fluorescent lamps and CFL lamps with LED lighting, introducing automatic street lighting control to reduce energy wastage due to manual errors, upgrading window air conditioners into split air conditioners and further into BEE certified star rated energy efficient split air conditioners & inverter air conditioners.

Energy audit of the college and the campus has been done. While designing the buildings, care has been taken to fetch maximum benefit from natural resources, like wind, sunlight to reduce consumption of electricity. The use of transparent glass windows provides maximum sunlight to classrooms and laboratories. We have centralized UPS systems for computers. Generator is placed away from the classroom, to minimize noise pollution.

i. Use of LED bulbs

The college uses maximum number of LED bulbs and tubes for all its lighting needs inside the campus to conserve energy. This is quite visible in all recent renovation projects. The overall college campus is fully focused by LED bulbs. It decreases energy consumption and saves the cost of maintenance. A well designed hi-tech LED lighting system can provide safety and financial benefits for campus. Apart from financial benefits, there are other benefits like saving energy and going green.

ii. Sensor Based conservation

The water level sensor is used to control the waste of water flow inside of the water tank. And we can monitor the water ON/OFF flow by using a water level sensor. In our Institution, we are using the water level sensor to control the water flow in tanks. Basically the two 3 Phase pumps are controlled by a sensor unit. When we get the water flow to maximum level, we control the motor in OFF state. And when we receive the lower level water in the Tank; we can ON the motor by using a sensor.

Energy Saving and Energy Efficient Equipment

The following tips are implemented to save Electrical Energy

a. Activate power management features on computer and monitor so that it will go into a low power “sleep” mode when you are not working on it.
b. Turn off monitor when not in use.
c. Activate power management features on laser printers.
d. Whenever possible, shut down rather than logging off.
e. Turn off unnecessary lights and use daylight instead.
f. Avoid the use of decorative lighting.
g. Use and install environment-friendly electrical appliances that save energy and reduce wasteful inefficiencies.
h. Keep lights off in conference rooms, classrooms, lecture halls when they are not in use.
i. Use the fans only when they are needed.
j. Use of LED Bulbs in College: Principal’s Office, Office of IQAC, Administrative Office, Library, Corridors, Guest Rooms, Indoor Stadium, Ladies Common Room, Language Lab, Computer Labs, and all classrooms have LED bulbs to save and conserve energy.

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Water Conservation through Rainwater Harvesting System

CMR Institute of Technology has committed itself to this effort to replenish the groundwater table by practicing rainwater harvesting. This practice helps in the replenishment and recharge of the groundwater.

5. Waste Management Processes

CMR Institute of Technology strives to take measures that have a minimal impact on the environment and is dedicated to reduce and manage the waste generated by the college campus. The following specific procedures will be undertaken to ensure its contribution in protecting the environment.

Solid Waste Management

The college pays dedicated focus to see that minimal waste is generated in the campus. All departments and corridors are provided with dustbins for dry wastage disposal. With its aim to provide holistic education that will also have a positive impact on the environment, the college have adopted practices that will mitigate the generation of waste and to manage solid waste through the following methods:

- Systematically engage with the 3Rs of environment friendliness (Reduce, Reuse and Recycle).
- Collect paper waste produced on campus and collaborate with scrap dealers for recycling.
- Reduce use of paper by supporting digitization of attendance and internal assessment records.
- Encourage the students and teachers to use modern teaching-learning methodologies for assignment/class notes submissions.
- Take initiatives to spread awareness amongst students about Food wastage and ways of minimizing it.
- Minimizing the use of packaged food.
- Motivate teachers and students on the habit of Reusing and Recycling non-biodegradable products.
- Organizing awareness programs, workshops for students on solid waste management.

Liquid Waste Management

Students are made aware that conserving water is equivalent to conserving their future. The following procedures are adopted for the effective implementation of Liquid Waste Management:

- Make in-house plumbers attend promptly to fix leakages and wastage of water.
- Maintain leak proof water fixtures.
- Minimize the use of water by constructing more Indian style toilets instead of western style toilets.
- Continued employment of a caretaker to take immediate steps to stop any water leakage through taps, pipes, tanks and toilet flush etc.
- Reuse of wastewater generated by the Reverse Osmosis (RO) system in gardening.

E-Waste Management

With the proliferation of electronics also comes the challenge of their proper disposal. The College is grappling with ways to efficiently and cost-effectively handle the issue of E-waste, on campus. It's normal for people to discard products due to normal wear and tear, but technological advancements have accelerated e-waste growth as students, faculty and administrators frequently upgrade to better gadgets. This surge has forced college administrators to carefully examine and address the environmentally responsible disposal of these products on a campus-wide scale.

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The college adopts most scientific and eco-friendly e-waste disposal mechanisms such as AMC is maintained to periodically review the effective functioning of CPUs and Monitors and expert recommendations are followed to dispose the same in the market. All Electronic waste CPUs, Hard disks, Laboratory Equipment scrap is sent periodically to the market for sale. Obsolete workable computers, printers and other equipment discarded by departments are sold as scrap. The cartridges of printers are refilled outside the college campus. UPS Batteries are recharged and repaired by the suppliers.

6. Paperless Operating Procedure

CMRIT is striving towards a paperless office, a work environment in which the use of paper is eliminated or greatly reduced. This is done by converting documents and other papers into digital form, a process known as digitization (E-governance). We believe that "going paperless" can save money, boost productivity, save space, make documentation and information sharing easier, keep personal information more secure, and help the environment. Wherever possible automation and digitization are introduced which helped in minimization of usage of paper? Digital storage of documents is one such measure. Institutional data to a great extent is stored digitally. Technology is used to a greater extent for communication among the staff and the students through intranet rather than paper communication. Class-wise, department-wise and committee-wise whatsapp groups facilitate e-communication and use of public address systems reduces usage of paper in notices and circulars.

In addition to going paperless in the classroom, the college has also introduced a "Learning Management System" wherein references, notes, syllabus question banks, study material are stored and shared on the e-platform, avoiding massive usage of paper. The teachers have also experimented with alternatives of paper-based testing with e-assignments and other skill-based tests like Quiz, MCQs, Presentations, Group discussions etc.,

7. Awareness Initiatives

Outreach and education are of utmost importance so that all members of the campus community may value the objectives of the policy and aid in its implementation. **CMRIT** supports and encourages awareness campaigns, seminars, workshops and other interactive sessions to facilitate effective implementation of the Green Campus, Energy and Environment policies.

8. Implementation of Green Audit, Energy Audit and Environment Audit

The college aims to regularly conduct a Green Audit of CMRIT campus to assess our strengths and weaknesses to further our goals of long-term sustainability. A green audit is a useful tool to determine how and where most energy or water or resources are being used. The college can then consider how to implement changes and make savings. It can determine the type and volume of waste. Recycling projects or waste minimization plans can be adopted. It will create health consciousness and promote environmental values and ethics. It provides a better understanding of the impact of eco-friendly practices on campus. Green auditing will promote financial savings through reduction of resource use.

The College conducts Green Audit every year to identify, quantify, describe and prioritize a framework of Environment Sustainability in compliance with the applicable regulations, policies and standards. A gardener and full time staff are appointed for the maintenance of clean and Green Campus.

An Energy Audit is conducted as and when required to further reduce its carbon footprint. The importance of reducing energy consumption cannot be overstated. The energy audit, with its specialized tools will identify wastage of energy. Such an inspection often reveals several different flaws which cause a loss of significant amounts of energy which the college will not be

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able to detect. These flaws often have easy and affordable solutions and provide significant savings.

Plastic-Free Campus

CMRIT has been observing most of its duties in terms of solid waste management since its inception. In view of the Government of India's resolution to ban all single use plastics due to the hazardous impact of plastic use and pollution, the college administration strictly bans the use of single use plastics in its premise to make it a "Plastic Free Campus". Following the MHRD and UGC guidelines on 2nd October 2019 to educational institutions across the country, the institute has issued a notification to Students and all Stakeholders that there would be a ban implemented on the use of single use plastics on the campus.

The institution through NSS, Scouts & Guides and other clubs conducts sensitization programs on the harmful impact of single-use plastics and mandates all the students to avoid bringing non-bio-degradable plastic items to the institution, which include plastic bags, cups, plates, small drinking water bottles, straws and sachets. The institution facilitates environmentally friendly substitutes like stainless steel, washable and reusable tumblers at all water units and mandates the canteen to serve only in paper plates and paper cups to systematically ban the use of plastics on the campus. It also encourages the students to sensitize their respective households about the harmful effects of plastics and make their households plastic-free. These strategies are incorporated into the institutional planning and budgeting processes with the aim of developing a clean and green campus.

———

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Environment Policy (Usage Certificate)

As per the Indian Green Building Standards

Prepared by

External Expert: Ar. Nahida Abdulla

(ASSOCHAM GEM Certified Professional – Registration no. 22/718)

Greenvio Solutions

An environmental and architectural design consultancy (Socio-environ responsibility)

Motto: Developing Healthy and Sustainable Environments

greenviosolutions@gmail.com

Website: https://thegreenviosolutions.co.in/

Proposed for the prestigious

MGR Educational Society's

CMR Institute of Technology

Kandlakoya Village, Medchal Road, Hyderabad- 501401

Date of preparation of policy: 12 December 2023

Policy no: GV/ PL/ 12-23/ZH-2

Principal
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Hyderabad-501 401.

Environment Policy

DISCLAIMER *– This policy has been prepared by team 'Greenvio Solutions' based on audit. The inferences are used as a base in formulating the policy. The implementation is dependent on Institutional capabilities. Thus, presented plan of action is a feasible document to be practiced by the stakeholders.*

Policy statement

The said policy is applicable for the **academic year 2021-2022 and 2022-2023.** The study helps to denote positive and negative aspects of the site context w.r.t. ecological parameters.

Policy motive (Green cover)

- The site shall **increase the amount of green cover in the form of** green pockets/ zones and vertical gardening as and when possible.
- Detailed documentation shall be undertaken for the ecological extent (plantations) and appropriate QR coding etc. as a student activity for sensitization purposes.
- The use of organic and chemical free compost to protect plantations planned accordingly, in addition to designing a suitable compost zone in the campus.

Policy objectives

- Regularize site context study as a consistent activity.
- Improve the green cover on horizontal front of site.
- Explore opportunity for carbon sequestration study of environment.
- Understand the scope for smart and responsible environmental systems through engineering interventions, practical projects by the stakeholders.

Policy implementation

- Increase **stakeholder sensitization** about:
  - Eco-sensitive zones in and around campus
  - Environment related materials in the library
- **Increase the green cover along courtyards and duct areas through vertical plantations** after discussion with external experts **to increase the green cover by 40-45%**
- **Fire & Life safety practices** enhanced with cooperation of stakeholders and local government.
- **Explore opportunities to increase the vertical gardening using waste plastic bottles at multiple locations in premises.**

Policy history

The Indian and International Green Building Standards were referred to draft this policy.

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Date of preparation of policy: 12 December 2023

Policy no: GV/ PL/ 12-23/ ZH-1

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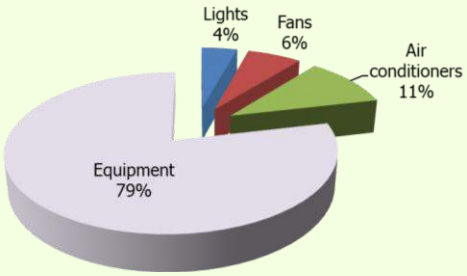
Policy statement

The said policy is applicable for the **academic year 2021-2022 and 2022-2023.** The study emphasizes on the existing consumption patterns, strategies adopted, and inferences that can improve power and utilization pattern.

Policy usage (Energy loads)



The calculated electrical load (power consumption)
Of the premises is **14,26,435 kWh** (electrical study)

The adjacent graph shows **equipment consume 79%** while the **air conditioners consume 11%** whereas the **fans consume 6%** and the **lights consume 4%** of total calculated electrical energy.

Figure 1: Summary of the calculated electrical consumption

Policy objectives

- Regularize the energy usage as a consistent activity.
- **Increase the energy consumption** for alternate sources such as solar street lights, soar parking, wind mills etc. for energy consumption and production purposes.
- Undertake sensor based facilities in some spaces to march towards smart campus facilities.
- Spread awareness **about renewable energy strategies to stakeholders - nearby villagers.**

Policy implementation

- Increase **stakeholder sensitization** about importance of energy conservation through practical experiments, live projects that provide a hands-on experience.
- The usage of renewable energy sources to utilize maximum energy as possible to be a Net Zero Campus or Nearly Zero Campus.
- **Reduce the conventional lights consumption** which stand at **5,988 kWh out of the 60,760 kWh consumed by lights** further replace the same with energy efficient appliances to make the premises a 100% energy efficient appliance premises.
- **Reduce the air conditioning (Cooling) loads consumption** which stand at **1,51,956 kWh** further replace the same with energy efficient appliances and work out design and engineering intervention to avoid the use of artificial cooling unless urgent and unavoidable.
- **Reduce the conventional fans consumption** which stand at **91,990 kWh out of the 92,066 kWh consumed by fans** further replace the same with energy efficient appliances to make the premises a 100% energy efficient appliance premises.

Policy history

The AICTE Environment Policy 2020 was referred to draft this policy.

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Certificates of the awards received from recognized agency

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GREEN & CLEAN CAMPUS AWARD

CERTIFICATE OF AWARD

This is awarded to

CMR INSTITUTE OF TECHNOLOGY

towards the maintaining of Eco-Friendly Campus at Hyderabad for the year 2019-20 on 5th June 2020 at World Environmental Day Virtual Celebrations by Lee Shreyus Foundation, Hyderabad.

A. UMA SHANKAR KUMAR
Secretary

Ref: 201901201

Institute for Environment Conservation Advocacy
Flat No.102, Creative Homes, Shamlal Buildings, Hyderabad -500016. Telefax: 27760894

SUSTAINABLE DEVELOPMENT GOALS

BE THE CHANGE YOU WANT SEE IN THE WORLD

Azadi Ka Amrit Mahotsav | G20 | LiFE Lifestyle for Environment | INTERNATIONAL YEAR OF MILLETS 2023

Certificate

Dr. M. JANGA REDDY

Director, CMR INSTITUTE OF TECHNOLOGY, MEDCHAL, TELANGANA

has participated and contributed to the World Environment Day 2023 by implementing the activities of Mission LIFE for adding impetus to behavior change useful for the Institution, neighborhood and home.

Institute for Environment Conservation and Advocacy, Hyderabad appreciates the Higher Education Institution supporting National and International important days. The program was conducted in the month of June 2023. Activities of Mission LIFE would continue with zeal of achieving sustainability.

Ms Anu Prasad
Executive Director IECA

Our environment... Our common future...

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Certificate of Registration

ISO 14001:2015

This is to Certify that
Environmental Management System of

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KANDLAKOYA VILLAGE, MEDCHAL RD, HYDERABAD,
TELANGANA 501401, INDIA.

has been assessed and found to conform to the requirements of

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for the following scope :

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B.TECH.: ELECTRONICS AND COMMUNICATION ENGINEERING, COMPUTER SCIENCE AND ENGINEERING, COMPUTER SCIENCE AND ENGINEERING (ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING), ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING, COMPUTER SCIENCE AND ENGINEERING (DATA SCIENCE), COMPUTER SCIENCE AND ENGINEERING (CYBER SECURITY).
M.TECH.: COMPUTER SCIENCE AND ENGINEERING, VLSI.
MASTER OF BUSINESS ADMINISTRATION.

IAF CODE : 37

Certificate No	: **23IELT64**		
Initial Registration Date	: 17/03/2023	Issuance Date	: 17/03/2023
Date of Expiry	: 16/03/2026		
1st Surv. Due	: 17/02/2024	2nd Surv. Due	: 17/02/2025

Director

IAS ACCREDITED Management Systems Certification Body MSCB-119

IAF MEMBER OF MULTILATERAL RECOGNITION ARRANGEMENT

AQC GLOBAL LLC

Head Office: Office No. 02, Ground Floor, Sharjah Media City, Sharjah, UAE. e-mail: info@aqcworld.com.
Key Location: A-60, Sector - 2, Noida, Uttar Pradesh, 201301, India.
*Validity of the Certificate is subject to successful completion of surveillance audit on or before of the date. (In case surveillance audit is not allowed to be conducted, this certificate shall be suspended/withdrawn).
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Certificate
OF REGISTRATION

This is to Certify that the Management System of

CMR INSTITUTE OF TECHNOLOGY

KANDLAKOYA VILLAGE, MEDCHAL ROAD, HYDERABAD,
TELANGANA, 501401, INDIA

has been found to conform to the Energy Management System standard:

ISO 50001:2018

This certificate is valid for the following scope of operations:

PROVIDING ENGINEERING AND MANAGEMENT COURSES
B.TECH : ELECTRONICS AND COMMUNICATION ENGINEERING, COMPUTER SCIENCE AND ENGINEERING, COMPUTER SCIENCE AND ENGINEERING (ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING), ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING, COMPUTER SCIENCE AND ENGINEERING (DATA SCIENCE), COMPUTER SCIENCE AND ENGINEERING (CYBER SECURITY), ARTIFICIAL INTELLIGENCE AND DATA SCIENCE.
M.TECH : COMPUTER SCIENCE AND ENGINEERING, VLSI.
MASTER OF BUSINESS ADMINISTRATION.

Certificate No.: 09110900G

Date of initial registration	*Date of this Certificate*	*Surv. audit on or before/ Certificate expiry*	*Recertification Due*
02 April 2023	*02 April 2023*	*01 May 2024*	*01 May 2026*

This Certificate remains valid subject to satisfactory surveillance audits.

EGAC Accredited

IAF

Director

ICL/FM.001/REV06

For verification and updated information concerning the present certificate visit to www.iclcert.com
This certificate is property of Integral Certification (P) Ltd. and shall be returned immediately when demanded.

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Report on Environmental Promotion and Sustainability activities conducted beyond the campus

Swachh bharat Summer Camp at Gowdavelly Village 2018

(From 10-07-2018- To 25-07-2018)

NSS Team of CMRIT cleaning the village

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NSS Team of CMRIT creating awareness among the village school students

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SWACHH BHARAT SUMMER INTERNSHIP

GOVT OF INDIA, TELANGANA

CMR INSTITUTE OF TECHNOLOGY

AT GOWDAVELLY VILLAGE (10-07-2018 TO 25-07-2018)

Date: 26th JULY 2018

SUB: SWACHH BHARAT SUMMER INTERSHIP (SBSI) COMPLETION LETTER

We are glad to inform you that CMRIT students from kandlakoya (village),medchal (district) had successfully completed their Swachh Bharat Summer Intership from 10th July 2018 25th July 2018.During intership ,they exposed to various (SBSI) activities in the village.

We found them very interesting, inquisitive and hard working in social activity and also made some innovative activities and their ideas made our village to be neat and clean.. They are very much interested in doing such social service for the peole and further development of the nation.

Their association with us was very fruitful and we wish them all the best in their future endeavors.

Authorized signatory
NAME: K.MADHAVI
Sarpanch (Gowdavelli village)
MEDCHAL(DISTRICT).

yours faithfully.
Sarpanch
G.P. GOWDAVELLY
Medchal Mandal, R.R. Dist
SARPANCH

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Clean India Campaign-2021

The NSS Team of CMRIT has organized "A CLEAN INDIA CAMPAIGN" in order to take an initiative for CLEAN and GREEN INDIA, wherein the NSS volunteers gathered and visited a nearby village named ALIBAD, started it by inaugurating the campaign and inviting the Village officials who joined the volunteers in the rally along the roads being done in the village to promote

Swatch Bharat Mission (**SBM**), **Swatch Bharat Abhiyan**, or **Clean India Mission** is a country-wide campaign initiated by the Government of India in 2014 to eliminate open defecation and improve solid waste management. It is a restructured version of the Nirmal Bharat Abhiyan launched in 2009 that failed to achieve its intended targets.
Phase 1 of the Swatch Bharat Mission lasted till October 2019.
Phase 2 is being implemented between 2020–21 and 2024–25 to help cement the work of

Phase 1:
Initiated by the Government of India, the mission aimed to achieve an "open-defecation free" (ODF) India by 2 October 2019, the 150th anniversary of the birth of Mahatma Gandhi through construction of toilets. An estimated 89.9 million toilets were built in the period. The objectives of the first phase of the mission also included eradication of manual scavenging, generating awareness and bringing about a behavior change regarding sanitation practices, and augmentation of capacity at the local level.

The second phase of the mission aims to sustain the open defecation free status and improve the management of solid and liquid waste, while also working to improve the lives of sanitation workers.[7] The mission is aimed at progressing towards target 6.2 of the Sustainable Development Goals Number 6 established by the United Nations in 2015.
The campaign's official name is in Hindi. In English, it translates to "Clean India Mission". The campaign was officially launched on 2 October 2014 at Rajghat, New Delhi by Prime Minister Narendra Modi. It is India's largest cleanliness drive to date with three million government employees and students from all parts of India participating in 4,043 cities, towns, and rural communities. The awareness regarding the "CLEAN INDIA CAMPAIGN" by reciting the slogans "EK KADAM SWACHATHA KI ORE"," CLEAN INDIA GREEN INDIA"

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Later, the NSS Team supported each other in the team and cleaned many areas in the village by picking up all the useless and unwanted plastic items thrown along the streets, since plastic is one of the most harmful things which creates a lot of land pollution.

Followed by The NSS Team visited Anganwadi High School(GOVT HIGH SCHOOL) where in the volunteers first cleaned the main areas in the school, by picking all the unwanted dirt and plastics items .Then the volunteers have taken the initiative to visit each and every class council the students not only about the importance of clean Surroundings and 'Clean India Campaign' but also en lighting them about the career options they have after the Secondary Education as well as the Higher Secondary Education so that the students would know the path to achieve their dreams . All the volunteers gave their best in the 'CLEAN INDIA CAMPAIGN' as well as to council and enlighten the students to chase their dreams.

Clean surroundings always create a healthy and disease-free India. So, let's not waste our time, follow your duty to maintain India's Beauty. Though it's a difficult task, it can be achieved and for that people will have to change their habits.

"Pledge for Cleanliness to Show Your Keenness to Clean India"

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"Ek bharat Shreshtha Bharat"

Held from 19th November to 25th November, 2021
(Maharishi Dayanand University, Rohtak Haryana State, India)

This National Integration Camp held from 19-11-2021 to 25-11-2021 under the organization of National Service Scheme, Maharishi Dayanand University (MDU) of Haryana in collaboration with Indian Red Cross Society, Haryana under "EK BHARAT SHRESTHA BHARAT" program of government of India. From JNTUH 10 members are selected, under CMR institute of Technology, I K.ABHINETRI and S. SANTHOSH KUMAR bearing roll number's 18R01A0188 & 19R01A0199 pursuing B.Tech in the stream of Civil Engineering has been selected. We started our journey on 17th November from Secunderabad and reached Delhi on 18-11-2021. Next we had a train to Rohtak at 9am. Boarded the train at New Delhi Railway station and reached Rohtak, Haryana by 1pm. They provided us their own transportation facility from Rohtak railway station to MD University. Separate hostels were provided for both boys and girls and they comforted us with their sweet words. We had our lunch at the hostel mess at went on with the further proceedings for the registrations of all the Telangana Contingent at Students Activity Centre at the evening time, Later we went back to our respective hostels and had our discussions regarding plan of action for the further camp after that we had dinner and went back to bed.

Guests lamping the lights for inagural of event

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NSS team of CMRIT Planting the plants

Participation certificates issued by the organisers

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RED RIBBON CLUB AWARENESS PROGRAM

"On Prevention of HIV/AIDS"

The JNTUH NSS Cell has organized an event to create awareness about the prevention of HIV/AIDS. As part of it, we the NSS volunteers of CMRIT have attended the event and participated in the event. As part of the event, the event was firstly started with the Haritha haram plantation, where all the guests have participated in these plantations of the program.

NSS Team planting the plant as a symbol of the event

Further the inauguration of "Mega Blood Donation Camp" as taken place, these blood donation camp has been initiated by Mahender reddy garu who have donated his blood for 74 times. He is the person who motivate the youth to participate in the blood donation, he have organised many camp in all over Telangana.

Further the event is started with the welcome speech followed by welcome song & Jyothi prajwalana ,the NSS programme coordinator Dr. S. Shobha Rani Garu , and extra mile founder Sri Naga Mohan Manda garu, and social activist Smt Surya Kala Moturi garu ,and Vikas garu have participated in the jyothiprajwalana.

Further The NSS Programme Coordinator JNTUH Dr S .Shobha Rani Garu have address the gathering and she expressed her views about the RED RIBBON AWARENESS ,Further she handed the session to the Extra Mile founder Sri .Naga Mohan Manda garu he expressed his views about the awareness

The Social Activist Smt . Surya Kala Moturi garu who have been working on the social events to protect the soil ,she expressed her views about the saving the soil. Further the session is hand over to the Vikas garu, he is one of the member in the protest who took the initiative to protect the soil .he shared his views and ideas in which way we can protect the

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soil .And our volunteers shared their ideas to all the other volunteers about the save soil .this is the last session before the lunch.

Participants interacting with guest at the session

The Afternoon session is started with the creating awareness on Education ,Employability ,Efficiency , Empathy & ethics by 5E- Life Vision Organization , who have given us a clear guidelines about the carrier and importance of employability ,ethics and many more the session was interesting , After this session we come to know how much the Education ,Employability ,Efficiency , Empathy & ethics is important to us .

After this awareness programme we have participated in the elocution and poster presentation competitions on "RRC Awareness Theme", all the other NSS volunteers have participated in it. Further there is a prize Distribution for the winner who have won in the poster presentation and elocution competitions, further there is a felicitation for the guests who have attended the event, and the students are awarded with the merit certificate and participation certificates.

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Lanching of Poster of the event

By attending the RED RIBBON Awareness programme we come to know how to prevent the HIV/AIDS and we also got awareness on the Education, Employability, Efficiency, Empathy & ethics. We thank NSS JNTUH for making

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NSS Special Camp at Potharam Village

(21st March 2022 to 27th March 2022)

Special camping forms an integral part of the NSS program. It provides an experience of mutual adjustment and adaptation to new-changing and challenging situations and generates courage, confidence, leadership, decision making, democratic attitudes, resourcefulness, objectivity, and leadership in the students. A So, special camp is organized for 7 days

The details of the orientation program organized for students, Regular activities including camps are given as follows. The N.S.S. unit CMR Institute of Technology is continuously engrained in organizing various activities and has also shown a keen interest in participating in various programs organized by JNTU University, Hyderabad, and also conducted various in the college level.

NSS Unit, CMR Institute of Technology has organized a special camp of 7 days (21st March 2022 to 27th March 2022) at Village Potharam, Mandal Manoharabad, District Medak by 60 students under the guidance of NSS Program Officer Mr. G. Nanda Gopal and NSS Coordinator Ms. O. Nikhila. This special camp was planned for 7 long days to serve societal development and make them aware of the many issues to overcome and educate new things for our students about the good and worst cases of life in the society.

DAY 1:

(Monday, 21st March 2022)

The seven-day NSS Special Camp started on 21st March 2022 in MP-Upper Primary School, Potharam. We started at 12:30 pm from our college CMR Institute of Technology reached by 1:30 pm. All the volunteers got settled by the evening in the school. We felt glad in staying at the village on weekdays& the village Sarpanch provided some of the requirements to us. In the evening, we started a rally in the village with 60 volunteers based on conducting the camp on Swatch Barath, medical camp, and awareness programs to educate the children and people in the village which made the village people aware of the camp and cleaned the school entire campus and made comfortable. In this campaign, the village Sarpanch, Uppasarpanch, TRS village president, and Ward members attended to support us in the rally. On that day, Dinner was prepared by students in the camp.

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Day 2 started with jogging at 6 '0' clock for 5kms and done with yoga by 8 am. All the volunteers had their breakfast and were divided into 10 groups to inform the people in the village about the medical & Dental camp conducted through the CMR Institute of Technology NSS unit in collaboration with Dr. Rao's Dental Hospital & Stride General Hospital. We started our program formerly by inaugurating the NSS Special Campand also the Medical& Dental Camp by our principal Dr. B. Satyanarayana Garu CMRIT, village Sarpanch B. Madhav Reddy Garu, UppasarpanchVeereshGaru, and other officials from the village and the Doctors conducted the camp.

Dr. O. Nageshwar Rao Garu(Dental surgeon), Dr.DevaRaj(General Physician), Dr.Snethil Raj(General Physician), and Kusuma BogaRaju (Aadharsha Foundation President) conducted the camp and advised 200+ people checked up with Blood Pressure, Sugar, and Dental problems. They have given tablets and also toothpaste to Dental patients. In this camp, all the volunteers actively participated in the program successfully bysupporting the medical staff and guiding the village people. After completion, our Principal and Program Officer felicitated doctors with mementos for their services to society.

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ఉచిత మెడికల్ క్యాంపుతో ప్రజలకు మేలు

నవతెలంగాణ Mon, 28 March 2022
https://epaper.navatelangana.com/c/67084781

NEWS paper repot on event in Local Language

DAY 3:

(Wednesday, 23rd March 2022)

Started with jogging and yoga by volunteers. Clean and green program and swatch Bharath at school premises till breakfast. At 9'O clock, assembled for prayer with the school children and then divided into ten groups for Door-to-Door survey - detailed information about the family, education, drainage, water, Govt facilities provided, and their problems facing in the village. Our volunteers surveyed about 200+ surveys forms collectively with different aspects And analyzed the problems faced by the people in the village. We found the major problem was no transport (bus) facility into the village where people have to walk for a long distance for their travel which makes them worse and also no streetlights. Some villagers are suffering from serious health problems.

We planned for an activity-based event on traffic awareness in the evening, the village center to create awareness among them about how the accidents are happening and how we have to take care of ourselves while driving bikes, cars, etc., on the roads. Many of our volunteers gave presentations, speeches, and instructions to the people. Volunteers showed their live performances through the skit and gave a wonderful message.

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DAY 4:
(Thursday, 24th March 2022)
SWATCH BHARAT: The day started with the Swatch Bharat rally in the village. We covered all the villages under the gram panchayat of Potharam. Our volunteers together participated in the rally to spread awareness among the villagers about the importance of Swatch Bharat and how can they keep their surroundings clean and neat.Also, the waste should be collected based on its degradability. All the degradable should be separated from plastic waste and dumped into a compost pit. Most of the houses in the village are lacking dust bins and toilets. The main objective of our rally is to educate people about Swatch roads, houses, and clean drains. And also avoid open defecation. The drains in the village are totally blocked, due to the blocking of the drain mosquitoes were breading and spreading malaria, dengue, and yellow fever. So we also made a note not to throw dry waste into the drains.
Swatch Bharat campaign should reach every corner of India. Villages form the backbone of our country, but it is sad to note that most of the residents are facing severe health problems due to unclean surroundings. It is very important to educate them regarding cleanliness and how can it be done.

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DAY 5:
(Friday, 25th March 2022)
FARMER'S AWARENESS & FIELD VISIT: we went for the field visit.and interacted with the farmers in a cornfield and noted the problems they were facing during the farming and corn crop seed testing and gained knowledge of the types of corn seeds. We went to different vegetables crops and paddy fields. With the help of Prabhakar Reddy sir, we visited most of the crops in the village and interacted with the farmers on farming. We have interacted with the agriculture officer Mrs. SravanthiGaru. She explained to us about the paddy fields and learned about soil testing, crop diseases that may affect paddy fields, and the pesticides used. We went nursery to see the types of plants like flowers, fruits, natural plants, and ayurvedic.Volunteers gathered all the farmers at the village center for the farmer's awareness program. We began the program with the classical dance and followed by a presentation on the new technologies adopted by farmers, govt schemes, and new equipment used in the market. We explained the purpose of each machine available in the market for good yielding.
Many of our volunteers gave speeches and showed them different farming videos to get awareness. We educated them throughdrama-basedactivitieswith songs and dances. Our volunteers showed them a live performance on the importance of the farmer on the earth. JAI JAWAN, JAI KISAN. We respect the farmers who work not only for their families but for the world to serve food.

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DAY 6:
(Saturday, 26th March 2022)

AWARENESS ON EDUCATION AND PHYSICAL FITNESS IN CHILDREN:We all attended the assembly in the school and requested the principal to permit the school to give awareness to the students about 3D's (Dedication, Determination, Discipline). Our volunteers motivated them on the importance of education in life, and respect towards the elders,women and girl children. Volunteers took a session on girl child education and on girl hygiene. We conducted some physical activities - indoor and outdoor games for the children and encouraged them with some fun learning concepts to improve their mental ability skills which made them active more. Weencouraged them byprize distribution for the children bythe school headmaster, teachers, village sarpanch, and uppasarpanch to distribute the prizes. We donated fans and dustbins to the school representing the NSS Unit of CMRIT for supporting us by providing the facilities and as great gratitude, we thanked all by felicitating the headmaster. And they expressed their feelings that they are happy to see us with their children actively and inspiring them for the past five days based on our work. They thanked our institution and our program officer for felicitating him for his service.
We arranged a student interaction session on Women empowerment, Child Education, and Youth Empowerment. Many volunteers gave brief explanations based on their knowledge and learned more information. After completing our Dinner, we arranged fire camp for the last night. All the volunteers had fun there with music and dances at night.

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DAY 7
(Sunday, 27thMarch 2022)


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పోతారంలో సీఎంఆర్ ఇన్స్‌టూట్యూట్ ఉచిత వైద్య శిబిరం

నవతెలంగాణ/తూప్రాన్‌రూరల్ (మనోహరాబాద్)
సీఎంఆర్ ఇన్స్‌టూట్యూట్ ఆఫ్ టెక్నాల ఎస్ఎస్ఎస్ యూనిట్ ఆధ్వర్యంలో ఏర్పాటు చేసిన ఉచిత వైద్య శిబిరాన్ని ప్రజలు సద్వినియోగం చేసుకోవాలని సర్పంచ్

వైద్య శిబిరాన్ని ప్రారంభించారు. ఈసందర్భంగా వారు మాట్లాడుతూ గ్రామీణ ప్రాంత ప్రజలకు ఉచితంగా వైద్య సేవలను అందించడం అభినందనీయమన్నారు. ఉచిత వైద్య శిబిరంలో దంతలతో పాటు జనరల్ ఫిజీషియన్‌లు వైద్యం అంది ంచి మందులను అందజేస్తారన్నారు. ఈ సందర్భంగా వైద్య శిబిరానికి సహకరించిన డాక్టర్ రామ్‌దాస్ దంతల్ ఆస్పత్రుల్ డాక్టర్ నాగి శ్రీరామ్ (దంతల్ సర్జన్), డాక్టర్ దేవరాజ్, డాక్టర్ సేతిల్(జనరల్ ఫిజీషియన్‌లు), కుష్మ దేవరాజ్(అదర్శ ఫౌండేషన్ ప్రసిడెంట్)లను సర్పంచ్ శాలువాలతో సన్మానించారు. ఈ ఉచిత వైద్యశిబిరాన్ని వారం రోజుల పాటు నిర్వహిస్తారని ప్రజలు వైద్య శిబిరాన్ని

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World Environment Day Celebration-2023

Institute for Environment Conservation and Advocacy (IECA) is into promoting citizen and community level initiatives in environmental-friendly practices. IECA has extensively contributed to mass awareness campaigns organized during Godavari and Krishna Pushkarams on environmental-friendly practices. IECA has extensive experience in environmental education activities in academic institutions in the country.

5th June is celebrated as World Environment Day. The Honorable Prime Minister has initiated Mission Life to promote citizen level actions for conservation of environmental resources. Higher Education Institutions (HEIs) across the country are encouraged to utilize the occasion and promote the environment conservation practices among staff and students. In this context, IECA is promoting, documenting and recognizing the efforts of Higher Education Institutions in the country.

Plantation (Haritha Haram) – Both Online /Offline Mode

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Plastic Disposal

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Feeding Stray Animals

Street & Surround Cleaning

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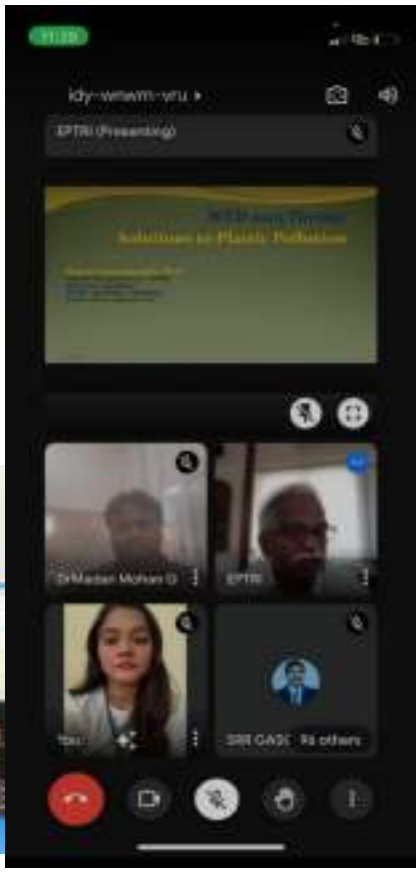
Webinar and Pledge



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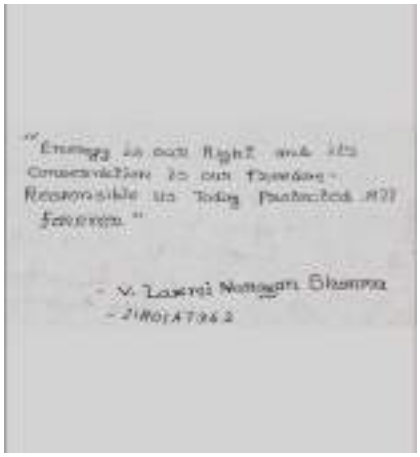
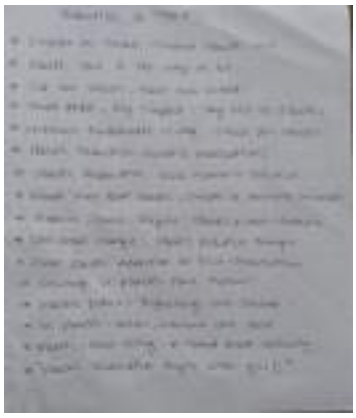
Different Competitions held online mode pics





Title: Innovative ideas to Beat Plastic Pollution

Introduction:

Plastic pollution has become one of the most pressing environmental issues of our time, causing detrimental effects on ecosystems and human health. To address this challenge, it is crucial to generate innovative ideas that can effectively combat plastic pollution. By implementing sustainable practices, raising awareness, and encouraging behavioral changes, we can work towards a cleaner and healthier planet.

IDEA GENERATION

BEAT PLASTIC POLLUTION

STATEMENT

What innovative solution shows promise in reducing plastic pollution by consuming and biodegrading certain types of plastic?

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Green Audit Certificate (As per Green Building Parameters)

The study is conducted as per Indian and International Green Building Standards initiated in the capacity of an Accredited & Certified Green Building Professional

It is awarded for **2021-2022 and 2022-2023** to the Esteemed Institution

(Analysed for 2 years and extended validity for 1 year, thus total 3 years)

MGR Educational Society's

CMR Institute of Technology

Kandlakoya Village, Medchal Road, Hyderabad- 501401

(Site visit held on 04 December 2023)

As part of the Institution's initiatives for a Healthy & Sustainable Institute the audit was conducted.
We appreciate the immense efforts taken by Staff and students towards the Efficient Management of Premise.

Issued on **Monday, 04 December 2023** and valid till **30 November 2024**

Ar. Nahida Abdulla Shaikh
"Elite 100 Green Architects of India" Econaur, 2022
Certified G.B.P. (Registration. No. 22/718)

Project Head and Green Building Professional-Consultant
Sustainable Academe I Sustainability Department of Greenvio Solutions, Naigaon
An environment Design and Consultancy developing Healthy and Sustainable Environments
Email: **sustainableacademe@gmail.com** I **greenviosolutions@gmail.com**

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Website: https://thegreenviosolutions.co.in/

GREEN AUDIT

STUDY PERIOD (TWO YEARS) 2021 – 2022 & 2022 - 2023

Sustainability study

AUDIT REPORT

Studied for

MGR Educational Society's

CMR Institute of Technology

Kandlakoya Village,
Medchal Road,
Hyderabad- 501401

Studied in the capacity of

Accredited and Certified GBP

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Studied by

Greenvio Solutions

Website: https://thegreenviosolutions.co.in/
Email: greenviosolutions@gmail.com

Background reference image Sasin Tipchai on unsplash

Evidence documents for Site visit of external audit team

Audit team headed by external expert – Ar. Nahida Abdulla
Accredited & Certified Green Building Professional, ISO IA (2015)
Audit objective: Green Building up gradation of the premises

Audits covered: ☑ Green audit ☑ Energy audit ☑ Environment audit

Institute: CMR Institute of Technology **Date:** 04-12-2023

Document objective: Inferences of the Site visit

Observations (Positive aspects)	**Suggestions** (Improvement aspects)
Green Audit	
- Rain water recharge pits and dedicated sewage treatment plants available	- Scope to implement waste management practices in additional aspects.
Energy Audit	
- Connected to alternate sources of energy providing innumerable benefits	- Scope to introduce sensor based systems & appliances in campus
Environment Audit	
- peaceful & pollution free campus with good green cover in and around.	- Documentation & reflectance can be undertaken

Signature & round seal
Name: Dr. B Satyanarayana
Designation: principal & prof. CSE
For the said Institute

Signature & round seal
Name: Mrs. F. A. Shaikh
Designation: Project Coordinator
For The Greenvio Solutions

Evidence documents for Site visit of external audit team

Audit team headed by external expert - Ar. Yamida Abdulla
Accredited & Certified Green Building Professional, ISO IA (IMS)
Audit objective: Green Building up gradation of the premises

Audits covered: ☑ Green audit ☑ Energy audit ☑ Environment audit

Institute: CMR Institute of Technology **Date:** 04-12-2023

Document objective: Proof of the Site visit

Investigation of the systems

Signature & round seal
Name: Dr. B. Satyanarayana
Designation: Prof. CSE & Principal
For the said Institute

Signature & round seal
Name: Mrs. E. A. Shaikh
Designation: Project Coordinator
For The Greenvio Solutions

Website: thegreenviosolutions.co.in Email: greenviosolutions@gmail.com

Disclaimer

The Audit Team has prepared this report for the **MGR Educational Society's CMR Institute of Technology** located at *Kandlakoya Village, Medchal Road, Hyderabad- 501401* based on input data submitted by the Institute analysed by the team to the best of their abilities.

The details have been consolidated and thoroughly studied as per the various guidelines for Green Buildings available in National and International Standards; the report has been generated based on comparative analysis of the existing facilities and the prerequisites formulated by various standards. The inputs derived are a result of the inspection and research. These will further enhance and develop a Healthy and Sustainable Institution.

These can be implemented phase wise or as a whole depending on the decision taken by the internal team. The warranty or undertaking, expressed or implied is made and no responsibility is accepted by Audit Team in this report or for any direct or consequential loss arising from any use of the information, statements or forecasts in the report.

The audit is a thorough study based on the inspection and investigation of data collected over a period of time and should not be used for any legal action. This is the property of Greenvio Solutions and should not be copied or regenerated in any form.

Greenvio Solutions

Developing Healthy and Sustainable Environments

We are an Environmental and Architectural Design Consultancy firm

Sustainable Academe is our department for conducting Audits

Palghar District, Maharashtra- 401208

sustainableacademe@gmail.com

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Acknowledgement

The Audit Assessment Team extends its appreciation to the **MGR Educational Society's CMR Institute of Technology, Telangana** for assigning this important work of Green Audit. We appreciate the cooperation extended to our team during the entire process.

Our special thanks are extended are due to everyone from the Management.

Our heartfelt thanks extended to the Chairperson of entire process **Dr. M Janga Reddy,** (Director) for the valuable inputs.

We are also thankful to Institute's Task force who have played a major role in data collection.

- Teaching members – ***Ms. O. Nikhila, Dr. Shahbaz Khan and Dr. Umamaheswararao Gobbilla***
- Non-teaching staff members – ***Mrs. M. Deevenamma***
- Admin staff members – ***Mr. Narsing Rao***

We appreciate the cooperation of the **entire Teaching, Non-teaching, and Admin staff** for their support while collecting the data.

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1. Introduction

1.1 About the Institute

CMR Institute of Technology is one of the best engineering Colleges for aspiring engineering students. It is one of the three colleges established by the MGR Educational Society.

CMR Institute of Technology was established in 2005 in 10 Acres and built-up area of 31132.72 Sq.M. with a single-minded aim to provide a perfect platform to students in the field of Engineering, Technology, and Management for their academic and overall personality development. The College has a rich tradition of soaring high with academic excellence & overall personal growth of students.

This is achieved by providing an excellent academic environment and excellent infrastructure with the help of dedicated & highly qualified faculty members with M.Tech. and Ph.D. qualifications and decades of experience.

State of art infrastructure includes labs with high-quality equipment, a rich collection of Library Books & IEEE, International, Indian journals, and amenities. The college has well – equipped City Center for Faculty Development, Student Training, and Placements Training Activities.

Academically challenging spirit, explorative attitude, discipline, and success are the few benchmarks of a successful career. The pragmatic learning environment at CMRIT offers every young aspirant such successful academic learning. Located amidst the heart of nature the institution is bolstered by a vibrant arcade of opportunities to flourish – and be a part of an enthusiastic community of competent students around Telangana. CMRIT is the right place to define student future with a will to question ideas, pursue long-held passions and explore new interests to redefine what is possible.

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1.2 Assessment of the Institute

1.2.1 Affiliations

The technical courses provided by the College have received their affiliation through the **Jawaharlal Nehru Technological University, Hyderabad**, a public university, located in Hyderabad, Telangana.

1.2.2 Certification

The College has received the following Certifications

- **AISHE** – The All India Survey of Higher Education code is C-19837
- **NIRF** – Participated and received rank in National Institutional Ranking Framework under Innovation category 2022-2023 between range 101-150.
- **ISO** – Received the ISO 9001, 14001 and 50001 Certifications in 2023

1.2.3 Recognitions

The College has achieved the following recognitions:

- **Autonomous Status** - The College was conferred Autonomous status from 2017, for a period of 6 years by the University Grants Commission (UGC), the Institute has already applied for renewal and extension.
- **Recognition Under Section of UGC** – The College has been recognized under section *2 (f) and 12 (B) of the UGC Act, 1956* by University Grants Commission, New Delhi.

1.2.4 Accreditation

The following are details of the accreditation awarded by the National Assessment & Accreditation Council (NAAC) to the College.

Cycle	First
CGPA	3.16
Grade	A
Year	2018

Table 1: NAAC Accreditation details of the Institute

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The College is due to enter its Second cycle of NAAC.

1.2.5 Approval

The courses by the Institute have received approval through:

- **All India Council for Technical Education (AICTE), New Delhi**
- **National Board of Accreditation (NBA), New Delhi**

1.3 Statements of the Institute

1.3.1 Vision

The Institute proposes *"To create world class technocrats for societal needs."*

1.3.2 Mission

The Institute adheres and focuses to achieve global quality technical education by assessing learning environment through:

- *Innovative Research & Development*
- *Eco-system for better Industry institute interaction*
- *Capacity building among stakeholder*

1.3.3 Objective

It is the objective of the College *"Strive for global professional excellence in pursuit of key-stakeholders."*

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2. Overview

2.1 Summarised Populace analysis for 2022-2023

2.1.1 Students data

The data (shared by the Institute) shows there were **4,211 students.**

2.1.2 Staff data

S. No.	Type	Male	Female	Total
1	Teaching staff	127	129	**256**
2	Admin & Non-Teaching staff	43	54	**97**
Total Staff Members		**170**	**183**	**353**

Table 2: Staff data of the Institution for 2022-2023

The staff data shows the Institute premises **353 Staff Members.**

2.2 Summarised Populace analysis for 2021-2022

2.2.1 Students data

The data (shared by the Institute) shows there were **4,021 students**

2.2.2 Staff data

S. No.	Type	Male	Female	Total
1	Teaching staff	129	126	**255**
2	Admin & Non-Teaching staff	41	54	**95**
Total Staff Members		**170**	**180**	**350**

Table 3: Staff data of the Institution for 2021-2022

The staff data shows the Institute premises had **350 Staff Members.**

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3. Research

3.1 Site & Institute Building Spread Area

The Institute spread over **10 acres** with a built-up area comprising of **31,132.72 sq. m**

3.2 Institute Infrastructure – Spatial Organisation

The Institute has the following spatial features:

- Infrastructure facilities with amenities for stakeholders
- Library with innumerable content of books
- Transport, hostel, drinking water, wifi, recreational facilities
- Sports and administrative facilities

3.3 Operation and Maintenance of the premises

The interview session was held with the staff regarding the operation and working hours. The Institution is open from Monday to Saturday with the timings being 09:10 am to 16:00 hours.

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Evidence documents for Site visit of external audit team

Audit team headed by external expert - Ar. Nahida Abdulla
Accredited & Certified Green Building Professional, ISO IA (IMS)
Audit objective: Green Building up gradation of the premises

Audits covered: ☑ Green audit ☑ Energy audit ☑ Environment audit

Institute: CMR Institute & Technology **Date:** 04-12-2023

Document objective: Induction Meeting attendance sheet

S. No.	Name	Committee	Designation	Signature
1.	Mrs. F. A. Shaikh	External	Project Coordinator	
2.	Ar. Nahida Abdulla	External	Project Head	
3.	Dr. K. Praveen Kumar	Internal	Dean, IQAC	
4	Dr. K. Niranjan Reddy	Internal	HOD, ECE	
5.	Mr. A. Prakash	Internal	HOD, CSE	
6	Dr. K. Pradeep Reddy	Internal	Associate Professor CSE	
7	Md Ahmed Ali	Internal	Associate Professor & TPO	
8	Dr. A. NIRMAL KUMAR	Internal	Associate Professor	
9	Mr. P. Pavan Kumar	Internal	Assoc. prof	
10.	Mr. G. Venkat Ramana	Internal	Assoc. Prof	
11	K. Srinivas	Internal	Asso. Prof	
12	Umamaheswarao G	Internal	Asso Prof	

Signature & round seal
Name: Dr. B. Satyanarayana
Designation: Prof. CSE & Principal
For the said Institute

Signature & round seal
Name: Mrs. F. A. Shaikh
Designation: Project Coordinator
For The Greenvio Solutions

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Evidence documents for Site visit of external audit team

Audit team headed by external expert - Ar. Nahida Abdulla
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Audit objective: Green Building up gradation of the premises

Audits covered: ☑ Green audit ☑ Energy audit ☑ Environment audit

Institute: CMR Institute of Technology **Date:** 04-12-2023

Document objective: Exit Meeting attendance sheet

S. No.	Name	Committee	Designation	Signature
1.	Mrs. F. A. Shaikh	External	Project Coordinator	
2.	Ar. Nahida Abdulla	External	Project Head	
3.	Dr. M. Praveen Kumar	Internal	Dean, IQAC	
4.	Dr. K. Narayana Reddy	Internal	HOD, ECE	
5.	Mr. A. Prakash	Internal	HOD, CSE	
6	Dr. K. Pradeep Reddy	Internal	Associate Professor - CSE	
7	Md Ahmed Ali	Internal	Associate Professor	
8	Dr. A. Nirmal Kumar	Internal	Associate Professor	
9	Mr. P. Pavan Kumar	Internal	Asso. Prof	
10	Mr. G. Venkat Ramana	Internal	Asso. Prof	
11	K. Srinivas	Internal	Asst. Prof	
12	Chamarthi Srinivasa G	Internal	Asso. Prof	

Signature & round seal
Name: Dr. B. Satyanarayana
Designation: Prof. CSE & Principal
For the said Institute

Signature & round seal
Name: Mrs. F. A. Shaikh
Designation: Project Coordinator
For The Greenvio Solutions

Website: Email:

4. Evidence

Plate 1: Discussion with the team

Plate 2: Investigation of the system

Plate 3: Seminar on subject related to Sustainability for the stakeholders

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5. Documentation

5.1 Green Practices Audit

The increasing global warming and climate change have made us realise that apart from the enormous strategies the individual small efforts need to be taken by individuals and Educational Institutes as the younger generations are the future of the world and once they are taught about these practices only then can we assume a better future.

5.1.1 Green practices

We observed the following points during the Site investigation and data verification of the premises; these are common for all the Buildings in the premises.

- **Social awareness** - *The Institute has taken up awareness drives on various social issues for rural upliftment and regeneration in the Institute and surrounding villages.*
- **Cleanliness Campaign -** *The Swachha Bharat Abhiyan is carried out on Institute premises as well as off-premises.*
- **Fresh environment** – *The Institute provides an eco-friendly ambience with fresh air and soothing environment which helps to maintain a physical and mental balance. This kind of a space it a must for an educational institute is inviting and gives the stakeholders an opportunity to explore indoor and outdoor learning to a great extent.*
- **Silent and peaceful atmosphere –** *The Institute is located amidst residential areas which are well designed thus these help to maintain the pollution under control and provide a healthy ambience.*
- **Universal design** – *The Institute premises has special provisions such as ramps, lifts for the specially abled.*
- **Documentation of all the events –** *The best part about the Institute is the prompt and professional response, this was observed not only in the way the Team responded throughout the project but also through the documented data submitted be it the cleanliness report or the eco club activities report; each of these were documented and presented in a sophisticated manner which is highly appreciating.*

5.1.2 Community development

The details of ***extension initiatives*** under various heads in Institute are documented below:

S. No.	Type	Since	Coordinator name
1	National Service Scheme (NSS)	2017	Ms. O. Nikhila
2	Employability Skills centre	Placement Cell-2009	Md. Ahmed Ali
3	Neighbourhood development scheme	UBA-2022	Ms. O. Nikhila

Table 4: Details of the extension initiatives by the Institute

The details of the ***environmental activities*** conducted as part of the extension initiatives by the Institute documented below:

S. No.	Initiative	Date
Academic year 1		
1	Plantation Drive	06-04-2022
2	World Environmental Day	06-05-2022
3	International Biodiversity Day	21/5/2022
4	Swacchh Bharat	24/12/2021
5	Clean India Campaign	30/10/2021
6	Pollution Day	12-02-2021
7	NSS day	24/09/2021
8	Traffic Awareness	15/07/2022
Academic year 2		
9	International Plastic Day	07-03-2023
10	World Environmental Day	06-05-2023
11	International Biodiversity Day	21/5/2023
12	Haritha haram	15/05/2023
13	Energy Swaraj Foundation	09-01-2023
14	National Science Day 2023	28/02/2023
15	Training on youth leadership & community development	2-4/02/2023

Table 5: Details of the environmental initiatives undertaken by Institute

5.2 Waste Audit

Waste is an inevitable part of our lives. Over the years the awareness about waste management techniques has given a rise to rethink how the waste can be avoided being sent to the landfills. The audit provides an approximation of the types of waste generated, location of waste collections, disposal techniques used, waste segregation methodologies adopted, and waste management strategies that are implemented in addition to the newer ways that can be adopted aiming to make the premise clean and sustainable.

5.2.1 Waste produced

There are 114 dustbins in indoor areas and 46 in outdoor areas (large bins).

S. No.	Type	Current disposal	Proposed disposal
1	Solid waste (Toilets)	Disposed through MMC card by local body & Disposed to local villagers and balance to MMC	***Biogas plant can be designed***
2	Organic waste (Regular)		***Dedicated compost area should be designed and practiced***
3	Liquid waste (Toilets, wash basins)	Flush through drainage system & Disposed	***Water treatment plant can be designed and practiced***
4	Chemical waste from laboratories		***Neutralize well and dig a pit 20 ft. from the main building where the waste can be disposed***
5	Toxic waste from laboratories		
6	E-waste	Disposed to local vendors for recycling on payment basis & Internalized mechanism for incineration	Continue with the current practice
7	Plastic waste		Continue with the current practice
8	Bio-waste (Sanitary)	Internalized mechanism for incineration	Continue with the current practice
9	Medical waste (Pharmacy etc.)		Continue with the current practice
10	Construction waste and reuse (Only if applicable)	Disposed to local vendors for recycling	Continue with the current practice

Table 6: Details of the waste management practices

5.3 Water Audit

Water is one of the basic needs. Pure drinking water is a resource that needs to be preserved efficiently. A water audit helps to identify the sources of water consumption, and the water requirement by the premises is met by these sources. The effective usage of water without any wastage should be a mandatory practice. Understanding the techniques as per site context to increase water conservation in terms of awareness and practice can be identified and executed as part of this exercise.

5.3.1 Water availability and consumption

5.3.1.1 Source of Primary water supply

The Institute requires water from the Local Municipality for drinking water purposes. The available facilities documented below:

S. No.	Type	Size	Capacity (litres)	Nos.
1	Underground	6 ft.	5,000 PER DAY	2
2	Overhead	6 ft.	10,000 PER DAY	2
3	Fire tank	2 ft.	-	15

Table 7: Details of the water facilities in the premises

For drinking water purposes an RO plant has been designated at the rooftop area. ***The study suggests that the space requires civil and structural modifications.***

Plate 4: RO plant and rooftop water tank facility in the premises

5.3.1.2 Source of Secondary water supply

The Institute uses the following sources of water supply for secondary usages such as watering plants, kitchen, toilets, and wash basins and other spaces. There are two bore wells that are 850 ft. deep with a capacity of 10,000 litres available.

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5.3.1.3 Source of Tertiary water supply

The tertiary source of water is **the source of water harvesting through rooftop collection and directing the same towards pit 5 ft. deep in 6 nos. The overflow pipes of these pits are connected to the bore wells for ground water recharging and water storage practice.**

Plate 5: Rain water harvesting pits in the campus

The study suggests that the current practice is fine, however painting, and notifying the pipes and pits with nos. etc. will be beneficial for sensitization. Additionally, the typology practiced can be displayed.

5.3.1.4 Source of Reusing waste water

This initiative is practiced through a sewage treatment plant. ***The study suggests that the current area requires certain up gradation w.r.t. documentation and civil modification, including the beautification of the approach to the plan.***

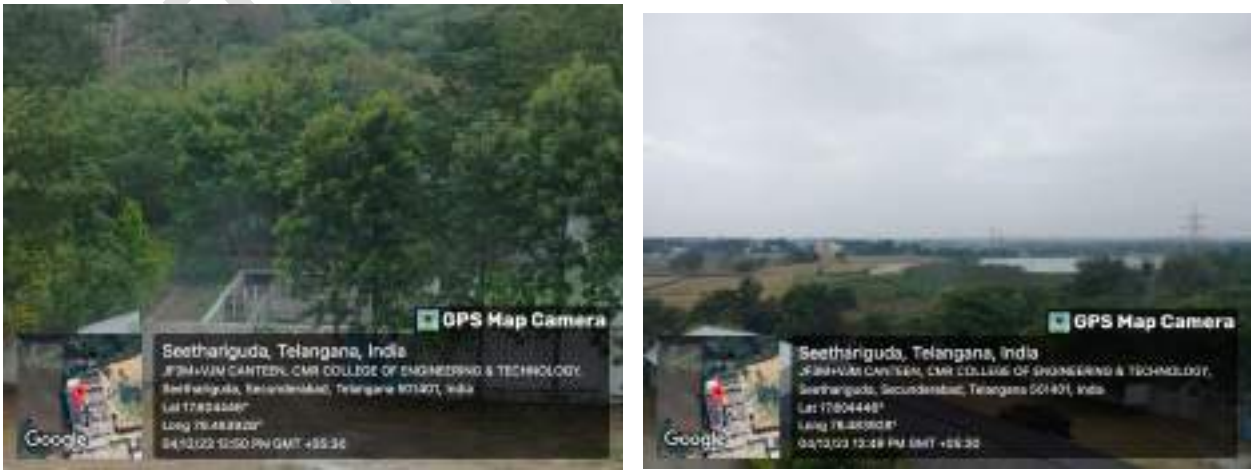

Plate 6: Sewage treatment plant and surrounding area

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5.3.2 Areas of water usage

Based on the inventory done and data shared by the staff we found that the premise has the facilities such as:

- Handicap toilets for male
- Handicap toilets for female
- General toilets for male
- General toilets for female
- Taps for gardens and toilet facilities
- Sprinkler system
- Net-metering for water supply

5.4 Health and Hygiene Audit

The hygiene is a part and parcel of our daily life. It is extremely essential to keep the surroundings clean in the same manner as we would want our houses to be.

Educational Institutes have a bigger role to play in order to affect the young minds in the positive manner through better hygienic practices.

5.4.1 Facilities available

The Institution has washroom facility, hand wash, drinking water and dustbin facilities.

5.4.2 Hygiene aspects

The team should undertake steps to upgrade the hygiene areas of the site as per the instructions and discussion. ***The current practices however are fine since there was no odour issue or other problem of insects, open drain etc.***

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6. Suggestion

6.1 Section-wise suggestions

The following suggestions are to be considered as a ***first priority*** for implementation. These **should be executed within the next 2.5 years from the date of Report submission.**

- **Water tanks in all areas**
  - Include the information about size, capacity and usage
  - Paint the tank in light blue colour
  - Add *signboards* about the usage such as 'Drinking' or 'Secondary'
  - Add *signboard and map* about the process/ system in practice

- **Carpets**
  - Green carpets could be placed outside drinking water and toilet blocks.
  - This will add to hygiene areas and keep the water spillage under control.

- **Awareness displays**
  - E-waste management chart can be displayed in spaces that have computers such as offices and laboratories.
  - Going paperless, Print less etc. awareness boards could be displayed.

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6.2 General suggestions

The following are consolidated study related to 'entire Institute' should be considered as ***second priority*** once section wise recommendations are implemented.

6.2.1 Green practices audit

- **Increase the plantations on the premise -** There can be provision for more plantations on the premise maybe even a Kitchen garden facility.

- **Plant as a gift -** As a kind gesture, the guests visiting the premise can be asked to plant a small plant on the premise itself and they can be even given plants/bouquets from the flowers of the plants on the premise as a gift.

- **Environmental awareness -** There can be various slogans in local and national language on the compound wall giving the message of saving the environment through the joint efforts of the students and staff thereby making the student socially and environmentally responsible citizens.

- **Signages on the plants mentioning scientific names -** The practice of having the names of each plant and tree will provide awareness among the staff and students.

- **Increase the organic farming practices -** The premises can have an organic farming facility in terms of farms, kitchen, terrace gardens the produce can be directly utilised in the premises.

6.2.2 Waste Audit

- **Signages -** Messages about avoiding wastage should be placed at appropriate locations.
- **Dustbins at every 100m -** There should be a dustbin at every 50-100m in open spaces
- **Material of dustbin -** The plastic dustbins should be replaced with eco-friendly material.
- Tie up with **Bisleri International regarding their 'Bottles for change program'** also with **'Thereco'** for their waste management.
- Invite companies such as **'Thaely'** and **'Recharkha'** to undertake skill development workshops.

- **Organic compost pit maintenance methodology -** The Institute can recheck the current methodology as it can yield better results in terms of quantity if it is well maintained with the following strategies:
    - The sanitary pad incineration dust can be sent to the compost pit
    - There should be a balance of brown and green waste material
    - Shred the materials before adding them to pit
    - Add twigs
    - Stir occasionally
    - Add water in less quantity to avoid the smell
    - Keep ample air circulation to avoid the smell
    - Regular monitoring and maintenance.

6.2.3 Water Audit

No changes proposed for this section.

6.2.4 Health and Hygiene Audit

- **Avoid burning waste -** The waste produced on the premises should not be burned as it is dangerous to the health of students and staff
- **Signboards** – The Institute should have multiple signboards about 'No smoking' and 'Healthy premises' at every nook and corner of the Institute.
- **Compound wall** – The compound wall should have awareness messages about 'No Smoking' and 'No Tobacco'
- **Toilet hygiene** – There should be facilities such as potpourri, camphor tablets in the toilet to avoid smell and health related issues.

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7. Compilation

The study is based on the data collected, analyzed, rechecked, and confirmed through multiple modes. For the quality study, some standards/ notes have been referred to. These are listed and noted below. However, no direct references have been used anywhere. These are used as a base to analyze and study the data collected.

National references

- Uniform Plumbing Code – India, 2008
- IGBC Green Existing Buildings – Operation & Maintenance (O&M) Rating system, Pilot version, Abridged Reference Guide, April 2013
- IGBC Green Landscape Rating system, March 2013

International references

- BOMA Canada Waste Auditing Guide, Best Environmental Standards, BOMA BEST – Canada
- Used only for understanding Universal design - Universal Accessibility Guidelines for Pedestrian, Non-motorized vehicle and Public Transport Infrastructure – Report guidelines by Samarthyam (National center for Accessible Environments) – an initiative supported by Shakti Sustainable Energy Foundation and www.umassd.edu
- The city of Cheyenne, Streetscape/ Urban Design elements - Wyoming Planning Association, Gillette, Wyoming, United States
- Streetscape elements – Chapter 6 on San Francisco
- American lung association https://www.lung.org/
- Study related to air pollution https://www.airgle.com/
- Exploring the light pollution https://education.nationalgeographic.org/
- Accessibility study https://www.washington.edu/
- Urban heat island effect https://www.epa.gov/heatislands/what-you-can-do-reduce-heat-islands

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GV/EA/12-23/240

Energy Audit Certificate (As per Green Building Parameters)

The study is conducted as per Indian and International Green Building Standards initiated in the capacity of an Accredited & Certified Green Building Professional

It is awarded for **2021-2022 and 2022-2023** to the Esteemed Institution

(Analysed for 2 years and extended validity for 1 year, thus total 3 years)

MGR Educational Society's

CMR Institute of Technology

Kandlakoya Village, Medchal Road, Hyderabad- 501401

(Site visit held on 04 December 2023)

As part of the Institution's initiatives for a Healthy & Sustainable Institute the audit was conducted.
We appreciate the immense efforts taken by Staff and students towards the Energy Management and Conservation.

Issued on **Monday, 04 December 2023** and valid till **30 November 2024**

Ar. Nahida Abdulla Shaikh
"Elite 100 Green Architects of India" Econaur, 2022
Certified G.B.P. (Registration. No. 22/718)

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ENERGY AUDIT

STUDY PERIOD (TWO YEARS) 2021 – 2022 & 2022 - 2023

Sustainability study

AUDIT REPORT

Studied for

MGR Educational Society's

CMR Institute of Technology

Kandlakoya Village,

Medchal Road,

Hyderabad- 501401

Studied in the capacity of

Accredited and Certified GBP

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Background reference image Janko Ferlic on pexels

Evidence documents for Site visit of external audit team

Audit team headed by external expert - Ar. Nahida Abdulla
Accredited & Certified Green Building Professional, ISO IA (EMS)
Audit objective: Green Building up gradation of the premises

Audits covered: ☑ Green audit ☑ Energy audit ☑ Environment audit

Institute: CMR Institute of Technology **Date:** 04-12-2023

Document objective: Inferences of the Site visit

Observations (Positive aspects)	**Suggestions** (Improvement aspects)
Green Audit	
- Rain water recharge pits and dedicated sewage treatment plants available	- Scope to implement waste management practices in additional aspects.
Energy Audit	
- Connected to alternate source of energy providing innumerable benefits	- Scope to introduce sensor based systems & appliances in campus
Environment Audit	
- peaceful & pollution free campus with good green cover in and around	- Documentation & reference can be undertaken

Signature & round seal
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Designation: Principal & Prof. CSE
For the said Institute

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Name: Mrs. F. A. Shaikh
Designation: Project Coordinator
For The Greenvio Solutions

Evidence documents for Site visit of external audit team

Audit team headed by external expert - Ar. Hanida Abdulla
Accredited & Certified Green Building Professional, ISO IA (IMS)
Audit objective: Green Building up gradation of the premises

Audits covered: ☑ Green audit ☑ Energy audit ☑ Environment audit

Institute: CMR Institute of Technology **Date:** 04-12-2023

Document objective: Proof of the Site visit

Investigation of the systems

Signature & round seal
Name: Dr. B. Satyanarayana
Designation: Prof. CSE & Principal
For the said Institute

Signature & round seal
Name: Mrs. F. A. Shaikh
Designation: Project Coordinator
For The Greenvio Solutions

Disclaimer

The Audit Team has prepared this report for the **MGR Educational Society's CMR Institute of Technology** located at *Kandlakoya Village, Medchal Road, Hyderabad- 501401* based on input data submitted by the Institute analysed by the team to the best of their abilities.

The details have been consolidated and thoroughly studied as per the various guidelines for Green Buildings available in National and International Standards; the report has been generated based on comparative analysis of the existing facilities and the prerequisites formulated by various standards. The inputs derived are a result of the inspection and research. These will further enhance and develop a Healthy and Sustainable Institution.

These can be implemented phase wise or as a whole depending on the decision taken by the internal team. The warranty or undertaking, expressed or implied is made and no responsibility is accepted by Audit Team in this report or for any direct or consequential loss arising from any use of the information, statements or forecasts in the report.

The audit is a thorough study based on the inspection and investigation of data collected over a period of time and should not be used for any legal action. This is the property of Greenvio Solutions and should not be copied or regenerated in any form.

Greenvio Solutions

Developing Healthy and Sustainable Environments

We are an Environmental and Architectural Design Consultancy firm

Sustainable Academe is our department for conducting Audits

Palghar District, Maharashtra- 401208

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Acknowledgement

The Audit Assessment Team extends its appreciation to the **MGR Educational Society's CMR Institute of Technology, Telangana** for assigning this important work of Energy Audit. We appreciate the cooperation extended to our team during the entire process.

Our special thanks are extended are due to everyone from the Management.

Our heartfelt thanks extended to the Chairperson of entire process **Dr. M Janga Reddy,** (Director) for the valuable inputs.

We are also thankful to Institute's Task force who have played a major role in data collection.

- Teaching members – ***Ms. O. Nikhila, Dr. Shahbaz Khan and Dr. Umamaheswararao Gobbilla***
- Non-teaching staff members – ***Mrs. M. Deevenamma***
- Admin staff members – ***Mr. Narsing Rao***

We appreciate the cooperation of the **entire Teaching, Non-teaching, and Admin staff** for their support while collecting the data.

Sustainable Academe
Brand of Greenvio Solutions, Palghar District, Maharashtra- 401208

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1. Introduction

1.1 About the Institute

CMR Institute of Technology is one of the best engineering Colleges for aspiring engineering students. It is one of the three colleges established by the MGR Educational Society.

CMR Institute of Technology was established in 2005 in 10 Acres and built-up area of 31132.72 Sq.M. with a single-minded aim to provide a perfect platform to students in the field of Engineering, Technology, and Management for their academic and overall personality development. The College has a rich tradition of soaring high with academic excellence & overall personal growth of students.

This is achieved by providing an excellent academic environment and excellent infrastructure with the help of dedicated & highly qualified faculty members with M.Tech. and Ph.D. qualifications and decades of experience.

State of art infrastructure includes labs with high-quality equipment, a rich collection of Library Books & IEEE, International, Indian journals, and amenities. The college has well – equipped City Center for Faculty Development, Student Training, and Placements Training Activities.

Academically challenging spirit, explorative attitude, discipline, and success are the few benchmarks of a successful career. The pragmatic learning environment at CMRIT offers every young aspirant such successful academic learning. Located amidst the heart of nature the institution is bolstered by a vibrant arcade of opportunities to flourish – and be a part of an enthusiastic community of competent students around Telangana. CMRIT is the right place to define student future with a will to question ideas, pursue long-held passions and explore new interests to redefine what is possible.

1.2 Assessment of the Institute

1.2.1 Affiliations

The technical courses provided by the College have received their affiliation through the **Jawaharlal Nehru Technological University, Hyderabad**, a public university, located in Hyderabad, Telangana.

1.2.2 Certification

The College has received the following Certifications

- **AISHE** – The All India Survey of Higher Education code is C-19837
- **NIRF** – Participated and received rank in National Institutional Ranking Framework under Innovation category 2022-2023 between range 101-150.
- **ISO** – Received the ISO 9001, 14001 and 50001 Certifications in 2023

1.2.3 Recognitions

The College has achieved the following recognitions:

- **Autonomous Status** - The College was conferred Autonomous status from 2017, for a period of 6 years by the University Grants Commission (UGC), the Institute has already applied for renewal and extension.
- **Recognition Under Section of UGC** – The College has been recognized under section *2 (f) and 12 (B) of the UGC Act, 1956* by University Grants Commission, New Delhi.

1.2.4 Accreditation

The following are details of the accreditation awarded by the National Assessment & Accreditation Council (NAAC) to the College.

Cycle	First
CGPA	3.16
Grade	A
Year	2018

Table 1: NAAC Accreditation details of the Institute

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The College is due to enter its Second cycle of NAAC.

1.2.5 Approval

The courses by the Institute have received approval through:

- **All India Council for Technical Education (AICTE), New Delhi**
- **National Board of Accreditation (NBA), New Delhi**

1.3 Statements of the Institute

1.3.1 Vision

The Institute proposes *"To create world class technocrats for societal needs."*

1.3.2 Mission

The Institute adheres and focuses to achieve global quality technical education by assessing learning environment through:

- *Innovative Research & Development*
- *Eco-system for better Industry institute interaction*
- *Capacity building among stakeholder*

1.3.3 Objective

It is the objective of the College *"Strive for global professional excellence in pursuit of key-stakeholders."*

2. Overview

2.1 Summarised Populace analysis for 2022-2023

2.1.1 Students data

The data (shared by the Institute) shows there were **4,211 students.**

2.1.2 Staff data

S. No.	Type	Male	Female	Total
1	Teaching staff	127	129	**256**
2	Admin & Non-Teaching staff	43	54	**97**
Total Staff Members		**170**	**183**	**353**

Table 2: Staff data of the Institution for 2022-2023

The staff data shows the Institute premises **353 Staff Members.**

2.2 Summarised Populace analysis for 2021-2022

2.2.1 Students data

The data (shared by the Institute) shows there were **4,021 students**

2.2.2 Staff data

S. No.	Type	Male	Female	Total
1	Teaching staff	129	126	**255**
2	Admin & Non-Teaching staff	41	54	**95**
Total Staff Members		**170**	**180**	**350**

Table 3: Staff data of the Institution for 2021-2022

The staff data shows the Institute premises had **350 Staff Members.**

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3. Research

3.1 Site & Institute Building Spread Area

The Institute spread over **10 acres** with a built-up area comprising of **31,132.72 sq. m**

3.2 Institute Infrastructure – Spatial Organisation

The Institute has the following spatial features:

- Infrastructure facilities with amenities for stakeholders
- Library with innumerable content of books
- Transport, hostel, drinking water, wifi, recreational facilities
- Sports and administrative facilities

3.3 Operation and Maintenance of the premises

The interview session was held with the staff regarding the operation and working hours. The Institution is open from Monday to Saturday with the timings being 09:10 am to 16:00 hours.

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Evidence documents for Site visit of external audit team

Audit team headed by external expert - Ar. Nahida Abdulla
Accredited & Certified Green Building Professional, ISO 14 (IMS)
Audit objective: Green Building up gradation of the premises

Audits covered: ☑ Green audit ☑ Energy audit ☑ Environment audit

Institute: CMR Institute of Technology **Date:** 04-12-2023

Document objective: Induction Meeting attendance sheet

S. No.	Name	Committee	Designation	Signature
1.	Mrs. F. A. Shaikh	External	Project Coordinator	
2.	Ar. Nahida Abdulla	External	Project Head	
3.	Dr. K. Praveen Kumar	Internal	Dean, IBAC	
4	Dr. K. N. Jiranjan Reddy	Internal	HOD, ECE	
5.	Mr. A. Prakash	Internal	HOD, CSE	
6	Dr. K. Pradeep Reddy	Internal	Associate Professor CSE	
7	Md Ahmed Ali	Internal	Associate Prof & TPO	
8	Dr. A. Nirmal Kumar	Internal	Associate Professor	
9	Mr. P. Pavan Kumar	Internal	Assoc. Prof	
10	Mr. G. Venkat Ramana	Internal	Assoc. Prof	
11	K. Srinivas	Internal	Asst. Prof	
12	Chiramalleswararao G	Internal	Asso. Prof	

Signature & round seal
Name: Dr. B. Satyanarayana
Designation: Prof. CSE & Principal
For the said Institute

Signature & round seal
Name: Mrs. F. A. Shaikh
Designation: Project Coordinator
For The Greenvio Solutions

Website: [illegible] Email: [illegible]

Evidence documents for Site visit of external audit team

Audit team headed by external expert – Ar. Nahida Abdulla
Accredited & Certified Green Building Professional, ISO IA (IPS)
Audit objective: Green Building up gradation of the premises

Audits covered: ☑ Green audit ☑ Energy audit ☑ Environment audit

Institute: CMR Institute of Technology **Date:** 04-12-2023

Document objective: Exit Meeting attendance sheet

S. No.	Name	Committee	Designation	Signature
1.	Mrs. F. A. Shaikh	External	Project Coordinator	
2.	Ar. Nahida Abdulla	External	Project Head	
3.	Dr. M. Praveen Kumar	Internal	Dean IQAC	
4.	Dr. K. Narayana Reddy	Internal	HOD, ECE	
5.	Dr. A. Prakash	Internal	HOD, CSE	
6	Dr. K. Pradeep Reddy	Internal	Associate Professor - CSE	
7	Md Ahmed Ali	Internal	Associate Professor	
8	Dr. A. Nirmal Kumar	Internal	Associate Professor	
9	Mr. P. Pavan Kumar	Internal	Asso. Prof	
10	Mr. G. Venkat Ramana	Internal	Asso. Prof	
11	K. Srinivas	Internal	Asso. Prof	
12	Umamaheswara G	Internal	Asso. Prof	

Signature & round seal
Name: Dr. B. Satyanarayana
Designation: Prof. CSE & Principal
For the said Institute

Signature & round seal
Name: Mrs. F. A. Shaikh
Designation: Project Coordinator
For The Greenvio Solutions

4. Evidence

Plate 1: Discussion with the team

Plate 2: Investigation of the system

Plate 3: Seminar on subject related to Sustainability for the stakeholders

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5. Documentation

5.1 Primary sources of energy consumption

- **Electrical (Metered) –** Light, Fans, Equipments, Pumps comprise these sources.
- **Alternate sources of energy –** There following sources are available:

S. No.	Name	Nos.
1	Solar panels	381
2	Sensor based lights	4
3	IoT system if any give details	4

Table 4: Details of the renewable sources of energy

5.2 Secondary sources of energy consumption

The premise uses appliances as backup for administrative purposes. The details of the existing sources documented below:

S. No.	Name	Nos.
1	UPS	26
2	Inverters	1
3	Batteries	560
4	Gas cylinders	4
5	Induction stove	1

Table 5: Details of secondary sources of energy consumption

5.3 Actual electrical consumption as per bills

The expenses incurred are very high because:

- There are solar panels on the rooftop that act as alternate sources of energy consumption.
- There is scope to undertaken solar street lights and solar hot water heaters in phases to utilise alternate sources of energy consumption.

S. No.	Month	Year	Amount	(A) Total units consumed	(B) Solar units generated	(C = A-B) Gross units consumed after deduction
Academic year 1						
1	June	2021	99,457.00	6,800	12,344.2	-5,544.2
2	July	2021	70,079.00	3,000	10,754.9	-7,754.9
3	August	2021	2,18,744.00	21,798	11,685.0	10,113.0
4	September	2021	5,11,802.00	43,540	11,875.0	31,665.0
5	October	2021	3,19,826.00	31,078	16,656.9	14,421.1
6	November	2021	3,39,495.00	35,254	11,929.3	23,324.7
7	December	2021	2,91,445.00	30,470	15,966.0	14,504.0
8	January	2022	3,38,516.00	35,934	14,407.2	21,526.8
9	February	2022	2,11,569.00	20,730	15,765.9	4,964.1
10	March	2022	1,64,414.00	14,824	17,211.7	-2,387.7
11	April	2022	3,43,924.00	33,448	14,923.5	18,524.5
12	May	2022	4,42,450.00	46,284	15,893.8	30,390.2
Academic year 2						
13	June	2022	7,13,665.00	54,854	13,756.7	41,097.3
14	July	2022	8,18,407.00	61,914	11,476.4	50,437.6
15	August	2022	6,25,010.00	48,940	13,888.4	35,051.6
16	September	2022	6,11,237.00	48,352	15,890.2	32,461.8
17	October	2022	6,33,310.00	50,808	15,890.2	34,917.8
18	November	2022	3,68,353.00	30,355	14,875.7	15,479.3
19	December	2022	4,58,166.00	40,788	13,029.8	27,758.2
20	January	2023	4,68,563.00	41,696	15,394.8	26,301.2
21	February	2023	4,30,353.00	37,580	13,930.9	23,649.1

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22	March	2023	5,27,565.00	48,500	8,983.1	39,516.9
23	April	2023	5,23,868.00	47,908	15,506.3	32,401.7
24	May	2023	9,48,321.00	76,752	16,470.1	60,281.9

Table 6: Details of the electrical consumption

Summary of the 2021-2022 and 2022-2023 study is as follows:

- The total of the total units consumed is **9,11,607 units**
- The total of the solar units generated is **3,38,506 units**
- The percentage of energy met by solar units produced in the campus (Rooftop) as per above summary is **37.13%**

Plate 4: Rooftop solar panels in the campus

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5.4 Calculated Electrical Consumption as per inventory

The electricity bills provide actual consumption data. The following is the calculated consumption. It is done to understand the percentage of energy usage in the premises by various applications. It is based on the inventory collected and interviews with the staff.

The additional data such as wattage is taken from market research. In terms of electrical consumption, the main sources are lights, fans, air conditioner, and equipment. The inventory and data collection for sources of energy consumed in the premise in summarised in the following sections.

The following documentation is based on the consumption practice of the premises on a regular working day.

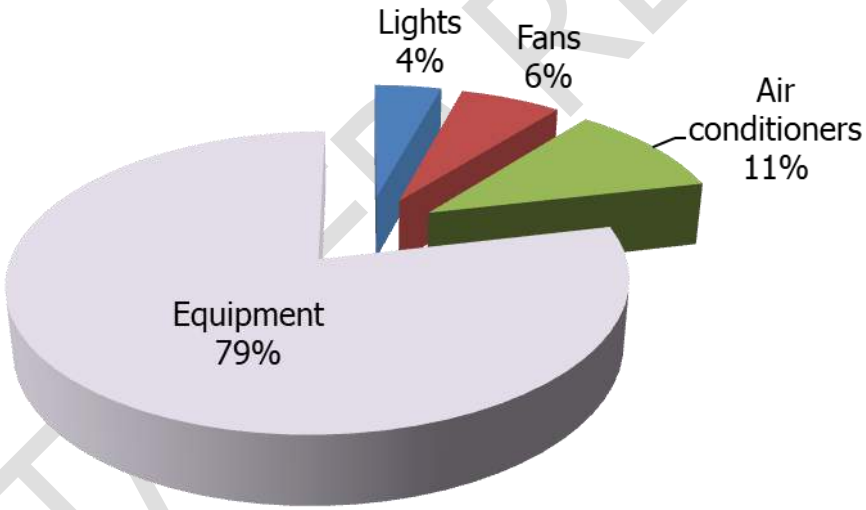

Figure 1: Summary of the calculated electrical consumption as per inventory

The above graph shows that equipment consume 79% whereas the air conditioners consume 11% while the fans consume 6% and the lights consume 4% of the total calculated electrical energy.

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5.5 Lights

5.5.1 Types of lights based on the numbers

There are **2,258 lights on the premises;** the following table shows the various types of lights on the premises.

S. No.	Type	Nos.
1	**LED lights** *(Energy efficient appliance)*	2,159
2	**Non-LED lights** *(Non-Energy efficient appliance)*	99

Table 7: Summary of the types of lights on-premise

5.5.2 Types of lights based on the power consumption

The energy consumption of lights is **60,760 kWh** of energy.

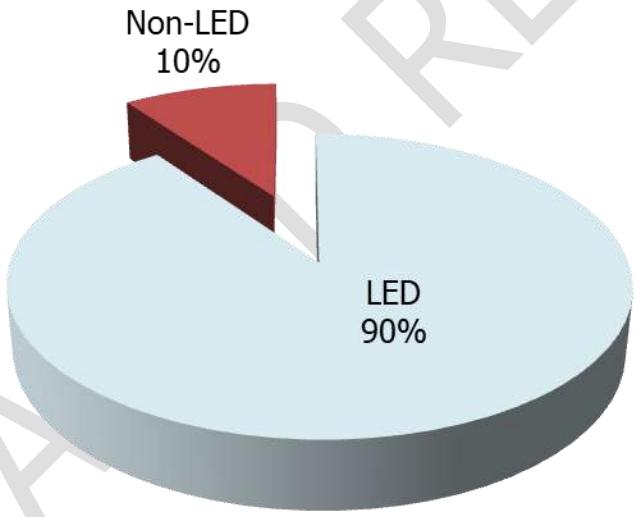

Figure 2: Energy consumed by types of lights in the premise based on the usage study

The analysis of the types of Lights on-premises (percentage of energy consumed by specific type of light) shows that the **LED lights consume 90%** whereas the **Non-LED lights consume 10%** of the total power consumed by lights.

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5.6 Fans

5.6.1 Types of fans based on the numbers

There are **937 fans** on the premises as follows:

S. No.	Type	Nos.
1	Wall Mounted fans	01
2	Ceiling fans	936

Table 8: Summary of the types of fans in the premises

5.6.2 Types of fans based on the power consumption

The energy consumption of fans is **92,066 kWh** of the energy.

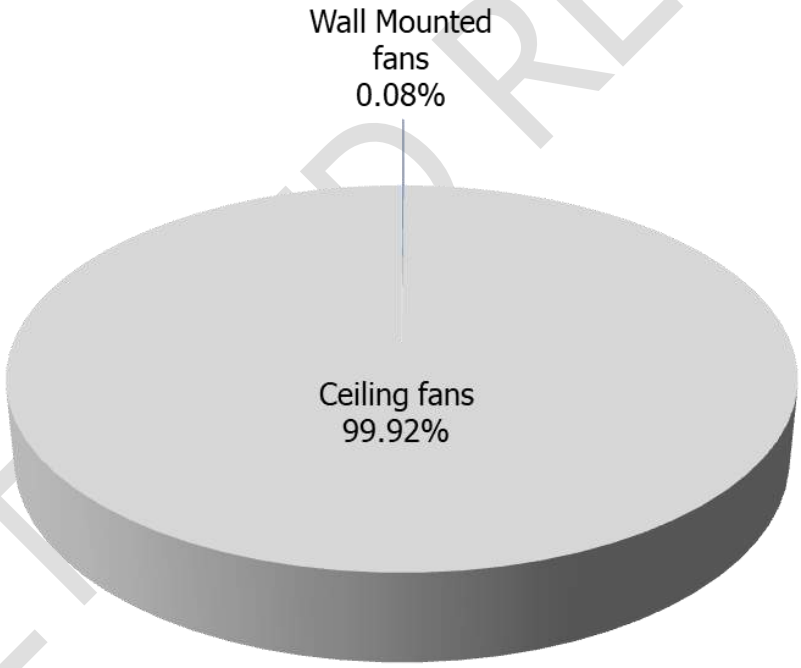

Figure 3: Types of fans based on power consumption

The above analysis shows **Ceiling fans consume 99.92%** whereas the while the **wall mounted fans consume 0.08%** of the total power consumed by fans.

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5.7 Air conditioners

5.7.1 Types of air conditioners based on the numbers

There are **67 air conditioners** in the entire premises**.**

5.7.2 Building-wise consumption analysis

The energy consumption of air conditioners is **1,51,956 kWh** of energy.

5.7.3 About the replacement of current air conditioners

- The current air conditioners are well maintained.
- Though there is not an immediate requirement for replacement.
- Whenever the Institute undergoes redevelopment there can be provisions for replacement with energy-efficient appliances or new air conditioners that require less power consumption.

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5.8 Equipment

5.8.1 Types of Equipment

There are **2,499 nos. of equipment** in the Educational sector.

5.8.2 Types of equipment as per their energy contribution

The energy consumption of equipment is **11,21,653 kWh** of energy.

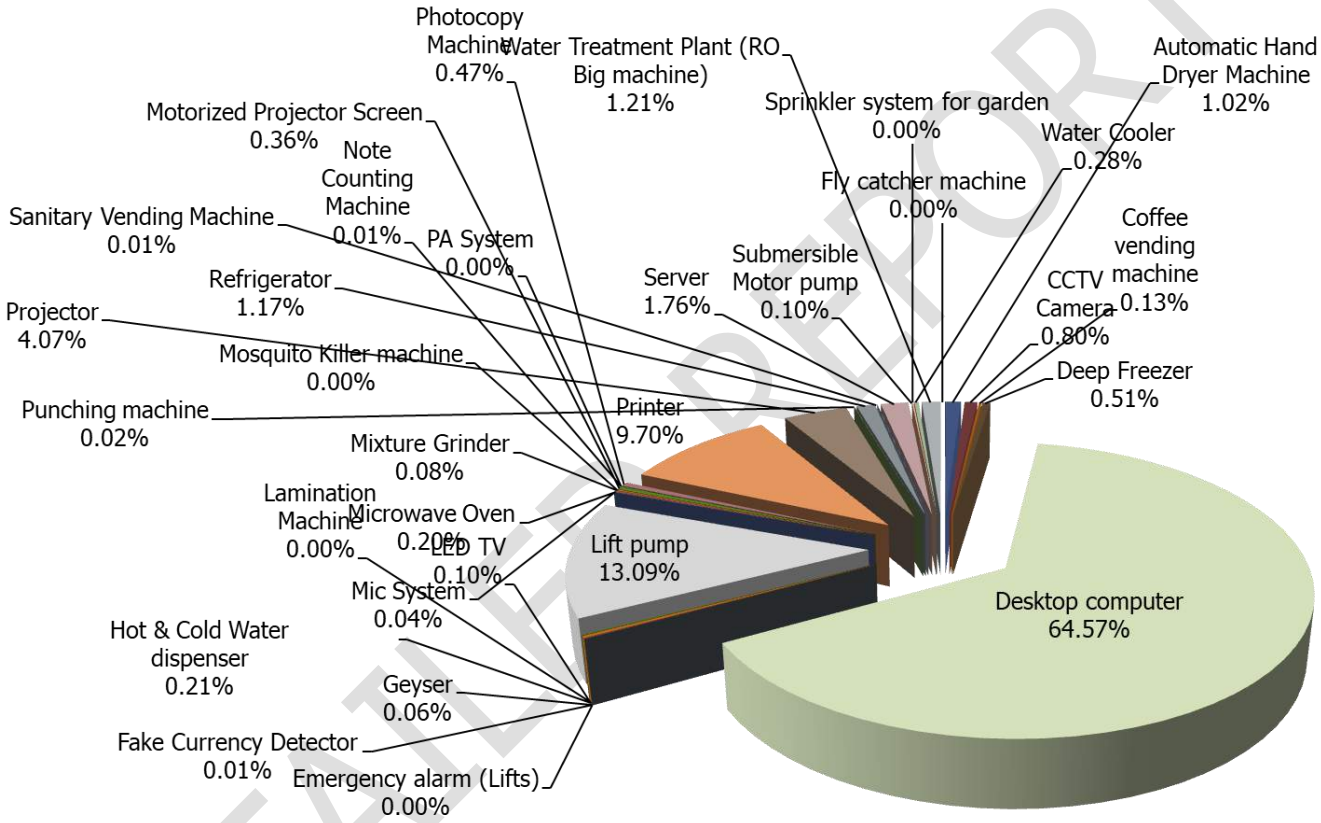

Figure 4: Energy consumed by types of equipment in the educational sector based on the usage study

The above summary shows that the **desktop computer consumes more energy at 64.57%** while the **lift pump consumes 13.09%** whereas the **printer consumes 9.70%** and the **projector consumes 4.07%** these are the maximum consumers as compared to other equipment.

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6. Suggestion

6.1 Section-wise suggestions

The following suggestions are to be considered as a ***first priority*** to **be executed within the next 1.5 to 2.5 years from the date of the Report submission.**

6.1.1 Electromechanical systems – Electrical and Lighting

Section 1 – Non-LED lights

The current light analysis shows that Non-LED lights consume anywhere between 50W to 54W and even more when in use; these should be replaced with LED lights which consume on an average 12-16W when in use.

Our technical research shows that there would be a reduction of an average of **67% reduction** in energy consumption if replaced with energy efficient appliance. It will be suggested to either replace these now if the Institute can have certain plans else the replacement can be done when fans get damaged or are not in working condition.

Section 2 – Ceiling fans

The current Fans are in proper working conditions and maintained well. The ceiling fans are in more quantity and consume at least 45W when in use. These should be replaced with energy efficient fans consuming 14W when in use.

Our technical research shows that there would be a reduction of an average of **69% reduction** in energy consumption if replaced with energy efficient appliance. It will be suggested to either replace these now if the Institute can have certain plans else the replacement can be done when fans get damaged or are not in working condition.

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6.2 General suggestions

The following are consolidated study related to 'entire Institute' should be considered as ***second priority*** once section wise recommendations are implemented.

6.2.1 Alternatives to increase renewable energy

6.2.1.1 Solar tree

Since there is availability of space; the solar trees can be installed in multiple places as they will provide dual benefits of aesthetic and energy reduction.

Plate 5: Solar tree concept for the Institute (For reference purpose only)

Source: Image by https://timesofindia.indiatimes.com/india/cmeri-installed-the-worlds-largest-solar-tree-at-durgapur/articleshow/77856790.cms

6.2.1.2 Solar parking

The Institute can turn its existing parking areas into solar panel powered parking areas. This will provide shade and renewable energy benefit to the Institute.

Plate 6: Solar parking concept for the Institute (For reference purpose only)

Source: Image by https://solarpowerproject.in/solar-panels-for-parking-lots.php

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6.2.2 Alternatives towards Smart premises mechanisms

6.2.2.1 Facility management systems, controls

(Includes electromechanical systems – Electrical, Water)

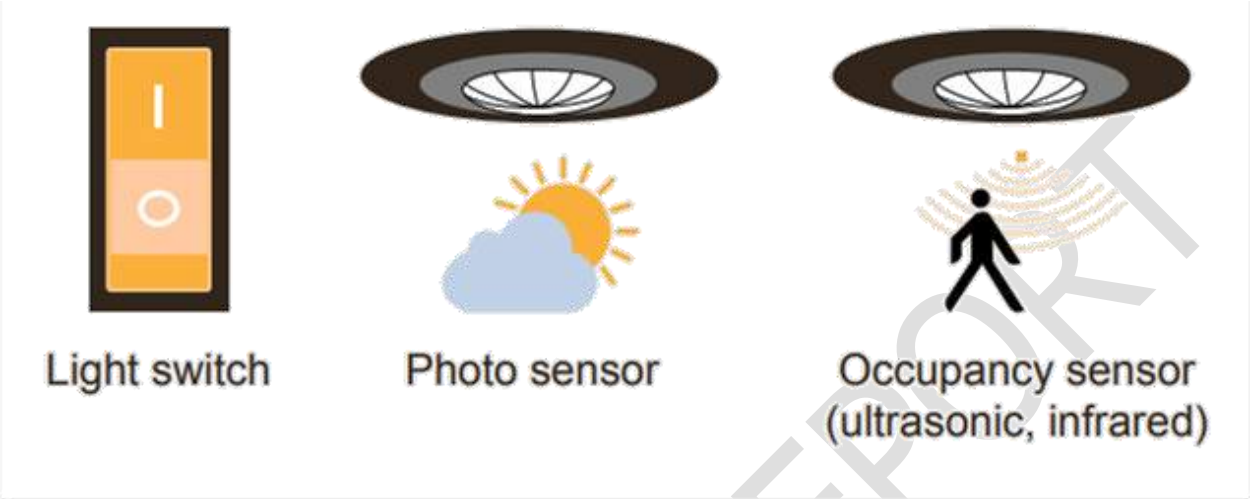

Plate 7: Understanding the lighting concepts

Source: https://seors.unfccc.int/applications/seors/attachments/get_attachment?code=NG125PFE4WHMWSYAK8TCAKIHMWX0F4QD

The above diagram provides a detailed study of how the system controls should be incorporated in the premises as fare as lighting systems are considered. The suggestions for this sub-section are listed below.

- Install PIR control of the lighting in the toilet areas.
- Install low flow taps with automatic shut off in the toilets.
- Install push button timer control in all rooms lighting and ceiling fans.
- Install Power Electronics control of the Foyer notice board lighting.
- Installation of intelligent lighting controller will help in controlling the lighting energy.
- Use of photo sensor switch for street light controlling helps in conserving the lighting energy.

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6.2.2.2 Smart gardening

The Institute can undertake a Smart Gardening system using IoT Technology. This will result in saving time by scheduling time for watering; saving money through automated water schedules tracking dampness of soil to know when, how much water garden needs.

Plate 8: Solar farm concept for the Institute (For reference purpose only)

Image source: https://housing.com/news/smart-gardening/

Data source: https://www.happysprout.com/inspiration/what-is-smart-gardening/

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7. Compilation

The study is based on the data collected, analyzed, rechecked, and confirmed through multiple modes. For the quality study, some standards/ notes have been referred to. These are listed and noted below. However, no direct references have been used anywhere. These are used as a base to analyze and study the data collected.

Specific references for study related to energy

- https://www.energy.gov/eere/buildings/zero-energy-buildings
- https://www.dsaarch.com/zero-net-positive-energy
- U.S. Energy Information Administration
- https://www.happysprout.com/inspiration/what-is-smart-gardening/
- https://housing.com/news/smart-gardening/
- Inference study reference image

  https://seors.unfccc.int/applications/seors/attachments/get_attachment?code=NG125PFE4WHMWSYAK8TCAKIHMWX0F4QD

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GV/ENVT/12-23/243

Environment Audit Certificate (As per Green Building Parameters)

The study is conducted as per Indian and International Green Building Standards initiated in the capacity of an Accredited & Certified Green Building Professional

It is awarded for **2021-2022 and 2022-2023** to the Esteemed Institution

(Analysed for 2 years and extended validity for 1 year, thus total 3 years)

MGR Educational Society's

CMR Institute of Technology

Kandlakoya Village, Medchal Road, Hyderabad- 501401

(Site visit held on 04 December 2023)

As part of the Institution's initiatives for a Healthy & Sustainable Institute the audit was conducted.
We appreciate the immense efforts taken by Staff and students towards the Environment Protection and Conservation.

Issued on **Monday, 04 December 2023** and valid till **30 November 2024**

Ar. Nahida Abdulla Shaikh

"Elite 100 Green Architects of India" Econaur, 2022

Certified G.B.P. (Registration. No. 22/718)

Project Head and Green Building Professional-Consultant

Sustainable Academe I Sustainability Department of Greenvio Solutions, Naigaon

An environment Design and Consultancy developing Healthy and Sustainable Environments

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Website: https://thegreenviosolutions.co.in/

Environment Audit

Study Period (Two Years) 2021 – 2022 & 2022 - 2023

Sustainability study

AUDIT REPORT

Studied for

MGR Educational Society's

CMR Institute of Technology

Kandlakoya Village,

Medchal Road,

Hyderabad- 501401

Studied in the capacity of

Accredited and Certified GBP

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Studied by

Greenvio Solutions

Website: https://thegreenviosolutions.co.in/

Email: greenviosolutions@gmail.com

Evidence documents for Site visit of external audit team

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Audit objective: Green Building up gradation of the premises

Audits covered: ☑ Green audit ☑ Energy audit ☑ Environment audit

Institute: CMR Institute of Technology **Date:** 04-12-2023

Document objective: Inferences of the Site visit

Observations (Positive aspects)	**Suggestions** (Improvement aspects)
Green Audit	
- Rain water recharge pits and dedicated sewage treatment plants available	- Scope to implement waste management practices in additional aspects.
Energy Audit	
- Connected to alternate source of energy providing innumerable benefits	- Scope to introduce sensor based systems & appliances in campus
Environment Audit	
- peaceful & pollution free campus with good green cover in and around	- Documentation & reference can be undertaken

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Designation: Principal & Prof. CSE
For the said Institute

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Name: Mrs. F. A. Shaikh
Designation: Project Coordinator
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Evidence documents for Site visit of external audit team

Audit team headed by external expert - Ar. Hanida Abdulla
Accredited & Certified Green Building Professional, ISO IA (IMS)
Audit objective: Green Building up gradation of the premises

Audits covered: ☑ Green audit ☑ Energy audit ☑ Environment audit

Institute: CMR Institute of Technology **Date:** 04-12-2023

Document objective: Proof of the Site visit

Investigation of the systems

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Disclaimer

The Audit Team has prepared this report for the **MGR Educational Society's CMR Institute of Technology** located at *Kandlakoya Village, Medchal Road, Hyderabad- 501401* based on input data submitted by the Institute analysed by the team to the best of their abilities.

The details have been consolidated and thoroughly studied as per the various guidelines for Green Buildings available in National and International Standards; the report has been generated based on comparative analysis of the existing facilities and the prerequisites formulated by various standards. The inputs derived are a result of the inspection and research. These will further enhance and develop a Healthy and Sustainable Institution.

These can be implemented phase wise or as a whole depending on the decision taken by the internal team. The warranty or undertaking, expressed or implied is made and no responsibility is accepted by Audit Team in this report or for any direct or consequential loss arising from any use of the information, statements or forecasts in the report.

The audit is a thorough study based on the inspection and investigation of data collected over a period of time and should not be used for any legal action. This is the property of Greenvio Solutions and should not be copied or regenerated in any form.

Greenvio Solutions

Developing Healthy and Sustainable Environments

We are an Environmental and Architectural Design Consultancy firm

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Acknowledgement

The Audit Assessment Team extends its appreciation to the **MGR Educational Society's CMR Institute of Technology, Telangana** for assigning this important work of Environment Audit. We appreciate the cooperation extended to our team during the entire process.

Our special thanks are extended are due to everyone from the Management.

Our heartfelt thanks extended to the Chairperson of entire process **Dr. M Janga Reddy,** (Director) for the valuable inputs.

We are also thankful to Institute's Task force who have played a major role in data collection.

- Teaching members – ***Ms. O. Nikhila, Dr. Shahbaz Khan and Dr. Umamaheswararao Gobbilla***
- Non-teaching staff members – ***Mrs. M. Deevenamma***
- Admin staff members – ***Mr. Narsing Rao***

We appreciate the cooperation of the **entire Teaching, Non-teaching, and Admin staff** for their support while collecting the data.

Sustainable Academe
Brand of Greenvio Solutions, Palghar District, Maharashtra- 401208

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1. Introduction

1.1 About the Institute

CMR Institute of Technology is one of the best engineering Colleges for aspiring engineering students. It is one of the three colleges established by the MGR Educational Society.

CMR Institute of Technology was established in 2005 in 10 Acres and built-up area of 31132.72 Sq.M. with a single-minded aim to provide a perfect platform to students in the field of Engineering, Technology, and Management for their academic and overall personality development. The College has a rich tradition of soaring high with academic excellence & overall personal growth of students.

This is achieved by providing an excellent academic environment and excellent infrastructure with the help of dedicated & highly qualified faculty members with M.Tech. and Ph.D. qualifications and decades of experience.

State of art infrastructure includes labs with high-quality equipment, a rich collection of Library Books & IEEE, International, Indian journals, and amenities. The college has well – equipped City Center for Faculty Development, Student Training, and Placements Training Activities.

Academically challenging spirit, explorative attitude, discipline, and success are the few benchmarks of a successful career. The pragmatic learning environment at CMRIT offers every young aspirant such successful academic learning. Located amidst the heart of nature the institution is bolstered by a vibrant arcade of opportunities to flourish – and be a part of an enthusiastic community of competent students around Telangana. CMRIT is the right place to define student future with a will to question ideas, pursue long-held passions and explore new interests to redefine what is possible.

1.2 Assessment of the Institute

1.2.1 Affiliations

The technical courses provided by the College have received their affiliation through the **Jawaharlal Nehru Technological University, Hyderabad**, a public university, located in Hyderabad, Telangana.

1.2.2 Certification

The College has received the following Certifications

- **AISHE** – The All India Survey of Higher Education code is C-19837
- **NIRF** – Participated and received rank in National Institutional Ranking Framework under Innovation category 2022-2023 between range 101-150.
- **ISO** – Received the ISO 9001, 14001 and 50001 Certifications in 2023

1.2.3 Recognitions

The College has achieved the following recognitions:

- **Autonomous Status** - The College was conferred Autonomous status from 2017, for a period of 6 years by the University Grants Commission (UGC), the Institute has already applied for renewal and extension.
- **Recognition Under Section of UGC** – The College has been recognized under section *2 (f) and 12 (B) of the UGC Act, 1956* by University Grants Commission, New Delhi.

1.2.4 Accreditation

The following are details of the accreditation awarded by the National Assessment & Accreditation Council (NAAC) to the College.

Cycle	First
CGPA	3.16
Grade	A
Year	2018

Table 1: NAAC Accreditation details of the Institute

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The College is due to enter its Second cycle of NAAC.

1.2.5 Approval

The courses by the Institute have received approval through:

- **All India Council for Technical Education (AICTE), New Delhi**
- **National Board of Accreditation (NBA), New Delhi**

1.3 Statements of the Institute

1.3.1 Vision

The Institute proposes *"To create world class technocrats for societal needs."*

1.3.2 Mission

The Institute adheres and focuses to achieve global quality technical education by assessing learning environment through:

- *Innovative Research & Development*
- *Eco-system for better Industry institute interaction*
- *Capacity building among stakeholder*

1.3.3 Objective

It is the objective of the College *"Strive for global professional excellence in pursuit of key-stakeholders."*

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2. Overview

2.1 Summarised Populace analysis for 2022-2023

2.1.1 Students data

The data (shared by the Institute) shows there were **4,211 students.**

2.1.2 Staff data

S. No.	Type	Male	Female	Total
1	Teaching staff	127	129	**256**
2	Admin & Non-Teaching staff	43	54	**97**
Total Staff Members		**170**	**183**	**353**

Table 2: Staff data of the Institution for 2022-2023

The staff data shows the Institute premises **353 Staff Members.**

2.2 Summarised Populace analysis for 2021-2022

2.2.1 Students data

The data (shared by the Institute) shows there were **4,021 students**

2.2.2 Staff data

S. No.	Type	Male	Female	Total
1	Teaching staff	129	126	**255**
2	Admin & Non-Teaching staff	41	54	**95**
Total Staff Members		**170**	**180**	**350**

Table 3: Staff data of the Institution for 2021-2022

The staff data shows the Institute premises had **350 Staff Members.**

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3. Research

3.1 Site & Institute Building Spread Area

The Institute spread over **10 acres** with a built-up area comprising of **31,132.72 sq. m**

3.2 Institute Infrastructure – Spatial Organisation

The Institute has the following spatial features:

- Infrastructure facilities with amenities for stakeholders
- Library with innumerable content of books
- Transport, hostel, drinking water, wifi, recreational facilities
- Sports and administrative facilities

3.3 Operation and Maintenance of the premises

The interview session was held with the staff regarding the operation and working hours. The Institution is open from Monday to Saturday with the timings being 09:10 am to 16:00 hours.

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Evidence documents for Site visit of external audit team

Audit team headed by external expert - Ar. Nahida Abdulla
Accredited & Certified Green Building Professional, ISO 14 (IMS)
Audit objective: Green Building up gradation of the premises

Audits covered: ☑ Green audit ☑ Energy audit ☑ Environment audit

Institute: CMR Institute of Technology **Date:** 04-12-2023

Document objective: Induction Meeting attendance sheet

S. No.	Name	Committee	Designation	Signature
1.	Mrs. F. A. Shaikh	External	Project Coordinator	
2.	Ar. Nahida Abdulla	External	Project Head	
3.	Dr. K. Praveen Kumar	Internal	Dean, IBAC	
4	Dr. K.N.Jiranjan Reddy	Internal	HOD, ECE	
5.	Mr. A. Prakash	Internal	HOD, CSE	
6	Dr. K. Pradeep Reddy	Internal	Associate Professor CSE	
7	Md Ahmed Ali	Internal	Associate Professor & TPO	
8	Dr. A. NIRMAL KUMAR	Internal	Associate Professor	
9	Mr. P. Pavan Kumar	Internal	Assoc. Prof	
10	Mr. G. Venkat Ramana	Internal	Assoc. Prof	
11	K. Srinivas	Internal	Asso. Prof	
12	Chiramalleswararao G	Internal	Asso. Prof	

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Evidence documents for Site visit of external audit team

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Institute: CMR Institute of Technology **Date:** 04-12-2023

Document objective: Exit Meeting attendance sheet

S. No.	Name	Committee	Designation	Signature
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2.	Ar. Nahida Abdulla	External	Project Head	
3.	Dr. M. Praveen Kumar	Internal	Dean IQAC	
4.	Dr. K. Narayana Reddy	Internal	HOD, ECE	
5.	Dr. A. Prakash	Internal	HOD, CSE	
6	Dr. K. Pradeep Reddy	Internal	Associate Professor - CSE	
7	Md Ahmed Ali	Internal	Associate Professor	
8	Dr. A. Nirmal Kumar	Internal	Associate Professor	
9	Mr. P. Pavan Kumar	Internal	Asso. Prof	
10	Mr. G. Venkat Ramana	Internal	Asso. Prof	
11	K. Srinivas	Internal	Asso. Prof	
12	Umamaheswara G	Internal	Asso. Prof	

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4. Evidence

Plate 1: Discussion with the team

Plate 2: Investigation of the system

Plate 3: Seminar on subject related to Sustainability for the stakeholders

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5. Documentation

5.1 Open Spaces

The first hand observations about the space documented below:

- The campus has two types of open spaces:
  - Dedicated ground used by all sister institutes for sports, recreational facilities
  - Pocket spaces that act as courtyards of large and small scale.
- There are sufficient nos. of staff that consistently work towards garden and infrastructure maintenance
- ***The study suggests that there is scope to further develop these courtyard spaces into beautiful landscape pockets.***

Plate 4: Open air Courtyard and ground in the campus

5.2 Flora audit

A flora survey to identify the total numbers of plants and trees by internal team as documented below displays the verities of the plantations.

The campus has a rich bio-diversity that includes innumerable types of flora and fauna given the fact that it is located away from the hustle bustle of urban lifestyle and is located in a fresh environment that is close to nature.

The study suggests that there is scope to document the plantations further through coding, numbering and book.

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S. No.	Plant name	Type	Nos.	Planted by
1	*Busaragaddi*	Shrubs	6	Staff
2	*Thungagaddi*	Shrubs	4	Staff
3	*Kalamanda*	Shrubs	5	Staff
4	*Satvin*	Shrubs	3	Students
5	*Neem*	Tree	7	Staff
6	*Camelfoottree*	Tree	3	Students
7	*Papaya*	Tree	5	Staff
8	*Vincawhite*	Shrubs	3	Staff
9	*Chamanti*	Shrubs	7	Students
10	*Acidlime*	Shrubs	3	Staff
11	*Songofindia*	Shrubs	5	Students
12	*Arecapalm*	Shrubs	7	Students
13	*Ficusbushyking*	Tree	3	Staff
14	*Fig*	Tree	5	Students
15	*Indianrubberplant*	Shrubs	8	Staff
16	*Peepletree*	Tree	6	Students
17	*Spiderlilly*	Shrubs	4	Students
18	*Lantanarederecta*	Shrubs	6	Staff
19	*Wilddatepalm*	Shrubs	5	Staff
20	*Nelausiri*	Shrubs	4	Grown naturally
21	*Backsidelemongreen*	Tree	3	Students
22	*Whitenosegay*	Shrubs	5	Staff
23	*Ashoka*	Tree	4	Staff
24	*Officetimepink*	Shrubs	4	Students
25	*Officetimeyellow*	Shrubs	6	Staff
26	*Ladypalm*	Tree	7	Staff
27	*Travelerspalm*	Tree	4	Grown naturally
28	*Sansevieriagreen*	Shrubs	4	Students
29	*Thungagaddi*	Shrubs	6	Staff
30	*Gaudichaudi*	Tree	4	Staff
31	*Terminaliamini*	Tree	7	Staff
32	*Luckynutwhite*	Tree	5	Students
33	*Aloevera*	Herb	5	Staff

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34	*Banana*	Shrub	6	Staff
35	*Guggulu*	Herb	5	Students
36	*Gorintaku*	Tree	3	Staff
37	*Vasaka*	Herb	4	Grown naturally
38	*Ashoka*	Tree	5	Students
39	*Neem*	Tree	5	Grown naturally
40	*Eucalyptus*	Tree	7	Staff
41	*Niruvaavili*	Herb	6	Staff
42	*Vinca*	Herb	5	Staff
43	*Amla*	Tree	5	Students
44	*Tulasi*	Herb	8	Students
45	*Mango*	Tree	5	Grown naturally

Table 4: Details of the Flora in the premises

At present there are **227 numbers of plantations** in the premises confined to the campus, there are many more plantations in the entire site with other buildings as well.

The study suggests that there is scope to plant more nos. of carbon dioxide absorbing and shade providing plantations in the periphery of campus.

5.3 Fauna audit

The campus is located in a village area and is home to many types of fauna varities and families as documented below:

Fauna available	Names
Amphibian	*Indian Toad*
	Indian Bull Frog
Annelid	*Earthworm*
	Snail
Birds	*Crow*
	Sparrow
	Parrot
	Palapitta (Rollerbird)
Domestic Animal	*Pilli(cat)*

	Goat
	Buffalo
	Squirrel
Insects	*Honey Bee*
	Fire Ant
	Ant
	Butterfly
	Mosquito
	Housefly
	Centipede
	DaddyLong Legs
	Teelu
	Dragonfly
	Grasshopper
	Miduthalu
	Theneteega
	PaperWasp
	Bug
	Cricket
	Praying Mantis
	Dry wood Termite
	Dung Beetle
	Cockroach
Reptiles	Common housegecko
	GardenLizard
	Fan-throatedLizard
	Common smooth-scaledwaterSnake
	Buffstripedkeelback

Table 5: Details of the fauna in the premises

The study suggests that there is scope to document the fauna in a publication format for stakeholder sensitization and awareness.

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5.4 Noise Audit

The noise study is determined based on noise levels:

- ***Macro level*** – There are farm fields, sister institutes and open land surrounding the campus on all sides. These are equipped with trees that have a large canopy and help absorb sound and provide a noise free arena.

Plate 5: Farm fields and open spaces adjacent to the campus

- ***Micro level*** – The infrastructure of the internal spaces are designed quite well, every spaces has individual doors for entrance and exit purposes thereby providing acoustical treatment to avoid internal noise problem.

The study suggests the current practices are fine and should be continued.

5.5 Carbon Footprint Audit

5.5.1 Eco-friendly Commuting Practices

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- The site is located in a village locality.
- Overall, the carbon footprint is well under control because:
  - The campus has hostel facilities for students both grls and boys.
  - Certain faculties too stay in the hostel.
  - For other day scholars there are bus services provided for commuting.
  - Some faculties and students commute using their private vehicles.
  - In addition, being a technical campus there are experimentations done by the students to design e-vehicles too.

Plate 6: Staff parking and E-vehicle designed by the student inside the campus

The study suggests the current practices are fine and should be continued.

5.5.2 Heat Island Reduction

The following features add to low heat island effects of the campus:

- Good canopy trees providing shade near the compound wall areas.
- Open ground with green cover
- Green paver blocks in the courtyard areas
- Open areas in huge nos.

Plate 7: Green paver blocks in the courtyards areas of the campus

The study suggests the current practices can be improved with increase in nos. of plantations and light colored roof, development of courtyard areas and xeriscaping in certain parts.

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5.5.3 Outdoor Light Pollution Study

The Institute compound lights are not upward looking thus, these do not cause light pollution.

5.6 Fire Safety

Fire and life safety are an important consideration of the National Building Code 2016.

This aspect is touched upon as part of this study in the capacity of an Architect registered with the Council of Architecture. As part of the research, fire safety audit was considered from the 'Building systems' perspective. All provisions documented below:

- **Fire hose reel** – Near the appropriate duct areas
- **Fire extinguisher** – In spaces that have air conditioners
- **Sand buckets** - Near the life and general areas with large footfalls
- **Fire sprinkler and alarm system** – This is available in the cellar areas as there is underground parking provision provided.
- **Fire hydrant cabinet** – This is available on every floor and Staircase mid-landing.
- **PASS board** – Near almost every fire extinguisher

The study suggests the current practices are fine and should be continued.

Plate 8: Staff Fire hose reel, extinguisher and PASS board inside the campus

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6. Suggestion

6.1 Section-wise suggestions

The following suggestions are to be considered as a ***first priority*** for implementation. These **should be executed within the next 2.5 years from the date of Report submission.**

- **Extra care for the rooftop areas**
  - Introduce the signboards about 'No students are allowed to enter this area'
  - Upgrade the space as cool roof by painting it with cooltop material.
  - Undertake feasibility study of before and after temperature reading.
  - Take precautions to keep terrace areas free of any kind of storage materials

- **Messages on the beam area**

  Include quotes and messages from eminent personalities all over the premises on beam for inspiration and beautification.

- **General aspects**
  - Development of breakout zones at relevant locations
  - Introduce zone wise details at relevant locations
  - Upgrade the website w.r.t. green initiatives

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6.2 General suggestions

The following are consolidated study related to 'entire Institute' should be considered as ***second priority*** once section wise recommendations are implemented.

6.2.1 Site beautification

- **Bird house/ Feeders -** At appropriate locations there can be provisions for drinking water and some grains for birds as they visit the site much frequently.
- **Xeriscaping** – This practice involves designing the open spaces and planning to use xeriscaping plants which require less water and beautify the premises equally. This type of practice should be implemented in areas where there is water shortage.
- **Garden development -** The existing open space should be designed as an Architectural landscape.
  - *Nursery documentation, expansion and beautification* – The premises should have a nursery, details can be decided as per the landscape beautification.
  - *Scientific name plates and QR codes* – The team should undertake a project to have name plates with QR codes on every plant of the premises.

6.2.2 Heat island reduction

- **Cool rooftops** - The Terrace rooftops should be painted with Cooltop – reflective materials to reflect the harsh sun rays and reduce the heat absorption in the top most floor and surrounding areas of the building.

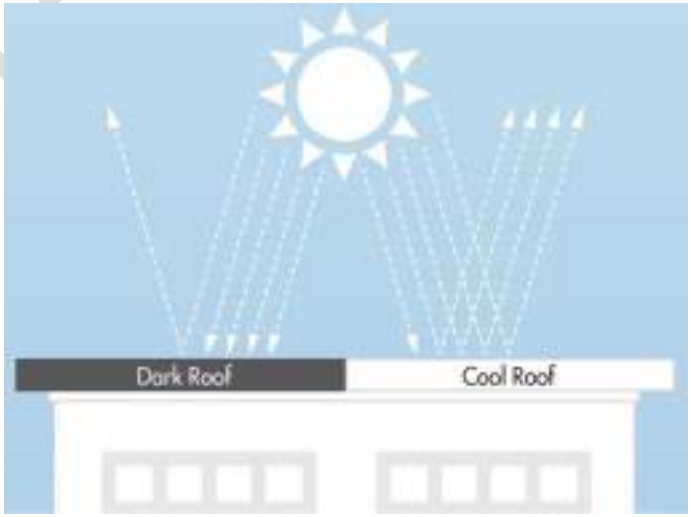

Plate 9: Cool roof comparative analysis (For reference purpose only)

Source: Image by https://www.gaf.com/en-us/blog/six-truths-about-cool-roofs-281474980105387

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- **Structures for shaded walkways –** There should be provisions for shaded walkways and also resting/ breakout zones. A sample of the same is as follows:

Plate 10: Shade structures concept for the Institute (For reference purpose only)

Source: Image by https://earthbound.report/2021/07/14/5-ways-to-reduce-the-urban-heat-island-effect/

6.2.3 Life safety

- **Fire station** – A dedicated fire station could be established within the premises as part of the Fire and Life safety practices.

- **Mandate fire extinguisher in spaces** - One fire extinguisher should mandatorily be there in every space which has an air conditioner/ gas cylinder.

- **Combustible equipment** - Every space which has a gas cylinder or combustible equipment should have a provision for the barricade around the gas cylinders, appropriate safety board's mentioning 'danger sign' and 'Do not touch' with an additional small fire extinguisher close by.

- **Awareness** - Fire layouts in immediate spaces outside the lift, on the staircase landing, signages mentioning 'Do not use lift in case of fire' additionally fire exit signages, boards should be put up at all possible locations.

6.2.4 Pollution Control

- **Battery charging points for Eco-friendly vehicles -** There can be provision for battery charge points, this would inspire students to change their mode of transportation and adopt sustainable practices.

- **Avoid burning waste -** The waste produced on the premises should not be burned as it is dangerous to the health of students and staff

- **Bicycles as a gift -** As an appreciation gesture maybe the student's toppers/ staff best performers can be awarded a bicycle occasionally.

- **Plant more radiation absorbing plants -** The following flora halps in redcuing the harmful effects to a cetain extent, the Institute can develop a radiation free zone and take to planting these through potted plants or permanent planting:
    - Spider plant
    - Rubber plant
    - Asparagus fern
    - Snake plant
    - Nelumbo nucifera (Includes colourful flowers)
    - Cactus
    - Areca palm
    - Mustard green
    - Betel
    - Aloe vera
    - Sprengers asparagus
    - Fiddle fig

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7. Compilation

The study is based on the data collected, analyzed, rechecked, and confirmed through multiple modes. For the quality study, some standards/ notes have been referred to. These are listed and noted below. However, no direct references have been used anywhere. These are used as a base to analyze and study the data collected.

National references

- Uniform Plumbing Code – India, 2008
- IGBC Green Existing Buildings – Operation & Maintenance (O&M) Rating system, Pilot version, Abridged Reference Guide, April 2013
- IGBC Green Landscape Rating system, March 2013

International references

- BOMA Canada Waste Auditing Guide, Best Environmental Standards, BOMA BEST – Canada
- Used only for understanding Universal design - Universal Accessibility Guidelines for Pedestrian, Non-motorized vehicle and Public Transport Infrastructure – Report guidelines by Samarthyam (National center for Accessible Environments) – an initiative supported by Shakti Sustainable Energy Foundation and www.umassd.edu
- The city of Cheyenne, Streetscape/ Urban Design elements - Wyoming Planning Association, Gillette, Wyoming, United States
- Streetscape elements – Chapter 6 on San Francisco
- American lung association https://www.lung.org/
- Study related to air pollution https://www.airgle.com/
- Exploring the light pollution https://education.nationalgeographic.org/
- Accessibility study https://www.washington.edu/
- Urban heat island effect https://www.epa.gov/heatislands/what-you-can-do-reduce-heat-islands

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