



# ENVIRONMENT AUDIT

MLR Institute of Technology  
Hyderabad, Telangana



*Prepared by*

**Lee Shreyus Foundation**

**Hyderabad**

  
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MLR Institute of Technology  
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## PREFACE

*To have a healthy life we need fresh air, clean water and surrounding. Soil is one of the components of environment. It is useful for the growth of plants which are source of food to the animals around. The natural environment is a free gift of nature, and we need to conserve it for the benefit of life in future. So, its our responsible to take precautions against the pollution. Environment includes all relationships between human and its surrounding and also all that impact upon them and all that they impact Environment is degrading at much faster rate than our imagination. Most of these degradations are caused by human activities.*

*To protect, manage and minimize the damage to environment, environmental education is necessary. It develops the required skills and expertise to handle the associated challenges. Such environment education to students is to impart knowledge, create awareness, inculcate attitude of concern and provide skill to handle the environmental challenges. MLRIT has initiated the environmental audit to understand the existing scenario of the resources available and plan sustainable practices to minimize the resource usage. And the college going students are the young and energetic citizens with varied ideas. Management has always been keen on inculcating such attitude towards environment amongst the students.*

*In view of the above, college has intended to conduct the environment report of their campus to understand the present practices of sustainability with regard to various components of environment. This report was done with the support of LEE Shreyus foundation. The organization has made short term and long-term suggestions to take up activities for protection of environment in their campus at the best possible level.*

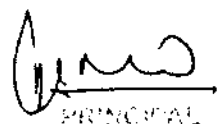


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# Overview

Environment provides a lot of ecosystem services to other species for their survival. In the process of development, we started using natural resources and to the extent that we overused and exploited the resources. Now there is urgent need to calculate what we used and what we are left with. Further there is a need to find for best suitable alternatives to serve our needs. In this we need both individual and collective efforts for adaptation and mitigation of the environmental components.

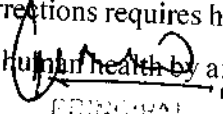
**Environmental audit** is a management tool comprising systematic, documented, periodic and objective evaluation of how well environmental organization, management and equipment are performing with the aim of helping to safeguard the environment by facilitating management control of practices and assessing compliance with company policies, which would include regulatory requirements and standards applicable.

These are used to help improve existing human activities, with the aim of reducing the adverse effects of these activities on the environment. An environmental auditor will study an organizations environmental effect in a systematic and documented manner and will produce an environmental report.

Depending on the types of standards and the focus of the audit, there are different types of environmental audit. Organization of all kinds now recognize the importance of environmental matters and accepts that their environmental performance will be scrutinized by a wide range of interested parties. Environmental auditing is used to investigate, understand and identify. With the growing concerns, the environment audit also became important to understand the status of environment and plan for the sustainable way of living. The bigger role can be played by the industries and institutions by conducting the audit of their available resources and its usage. This will enable them to take up action for judicious use of resources. In view of this, the MLRT management also initiated the audit process.

## Objectives

- To establish a baseline data to assess future sustainability by avoiding the interruptions in environment that are more difficult to handle and their corrections requires high cost.
- To secure the environment and cut down the threats posed to human health by analyzing the pattern and extent of resource use on the campus.

  
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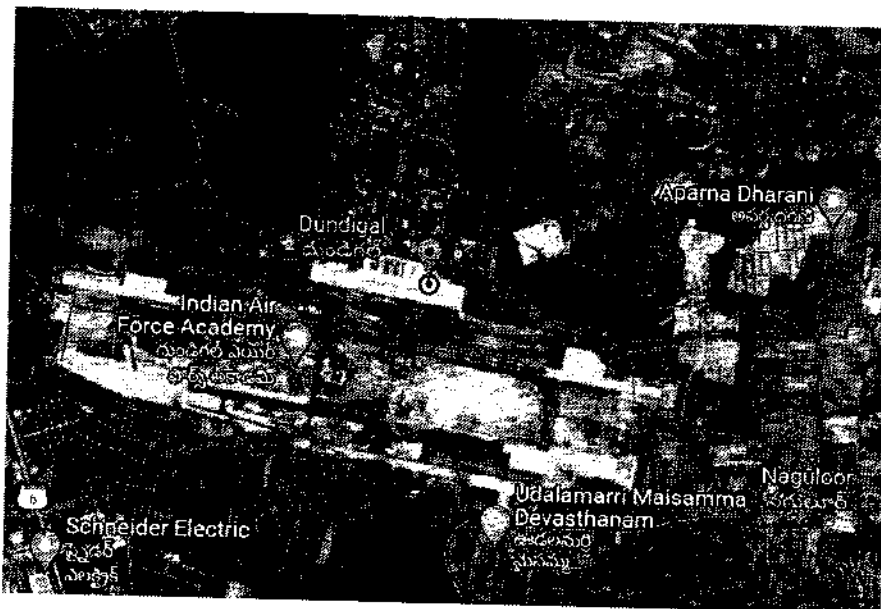
- To introduce and make aware students to real concerns of environment and its sustainability.
- To bring out a present status report on environmental compliance

## Methodology

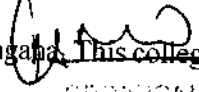
This includes different techniques such as physical inspection of the campus, observation and review of the documentation, interviewing key persons and data analysis, measurements and recommendations. This study cover various aspects of environment as mentioned in the report. Auditing methods are chosen based on the type of information needed to prove the real-life problems assumed in the preliminary study and demonstrate the scale of these problems. The data is collected verbally, visually and textually. After data collection, the result analysis is done on cost benefit, life cycle, comparative, and regression analysis.

Based on the above, a final audit report will be prepared along with suitable recommendations that can be taken up by the institution as part of their sustainable plan. In entire process the management has provided the required information and supported team in preparation of the report.

## Institution Profile



The institution was established in 2005 located in Dundigal, Hyderabad, Telangana. This college, is affiliated to Jawaharlal Nehru Technological University, Hyderabad and managed by KMR Educational Society, Hyderabad. Institute was ranked three times in the NIRF India rankings.

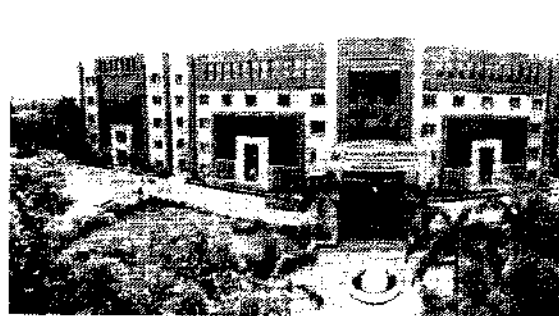
  
 M. R. Institute of Technology  
 Dundigal, Hyderabad, Telangana, India  
 Contact: 08454 222222, 08454 222223  
 Website: www.mrit.edu.in

**Vision** - Promote academic excellence, research, innovation, and entrepreneurial skills to produce graduates with human values and leadership qualities to serve the nation.

**Mission** - Provide student-centric education and training on cutting-edge technologies to make the students globally competitive and socially responsible citizens. Create an environment to strengthen the research, innovation and entrepreneurship to solve societal problems.

In order to be on par with international standards and to provide global attributes to the students. Outcome based education system with project-based learning techniques have been employed in the design of our contemporary curriculum. Choice based credit systems (CBCS) with continuous assessment on grade point averages have made our offerings truly competitive. The curriculum and practices are consistently reviewed to ensure that the best practices are followed, meeting all regulations and addressing the future needs of their students.

A homely environment is created for our learners who choose to live in the campus. Separate hostels for girls and boys are truly 'home away from home'. Meticulous care and methodical planning at various levels are inculcated to provide their students with hygienic food and other on-campus services.



Being strong believers of overall development of their students, MLR Institute of Technology provides ample opportunities to all the students to showcase their talents in various fields like sports, theatre, cultural activities and many more. Students are continually evolved, as per their learning needs. The curriculum ensures that their students develop into well rounded individuals – mentally, physically, emotionally, socially and culturally. Indeed, tomorrow's leaders require a 21<sup>st</sup> century skill set which isn't found in the average classroom. Students are taught the importance of academic excellence while simultaneously learning universal values, ethics, discipline, creatively and personality development which stay with them during their academic years and continue throughout life.

MLRIT, in its journey of 17 years has become a locus yielding academic excellence, had been consistently achieving 80% and above placements every year in various MNCs across the globe. It emphasizes on identifying the virtues of its students individually and nourishes them accordingly thereby helps them in expanding their intellectual horizons as well as contributes to their overall personality development, ostensibly proving the transformation in the zone of

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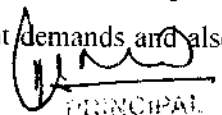
proximal development of every student. The transformation of an amateur engineering student into a self-motivated wizard of versatile domains at the tip of fingers and multi-tasking abilities will be taken care of, by the training & placements wing at MLR Institute of Technology.

The integration of formal and informal learning opportunities is designed to give students more than just classroom knowledge, but also the tools to apply this knowledge in the real world. Critical thinking, interdisciplinary thinking, problem solving, and conflict resolution are all part of educational framework.

MLRIT, encourage bold, independent thinking and offer the highest quality academic experience. Students are provided with one-to-one careers advice, interactive workshops, industry internships and more. Institute offers a range of career development services to help students with their career aspirations. Faculty play significant role in growth of organization and source for students to acquire domain knowledge. Institute has faculty of national repute and have diverse technical knowledge to deliver quality education. Faculty actively participates in Research and Development as it is great way of sharing knowledge and expertise. The faculty R&D activities allow budding engineers to apply their knowledge and proficiency for sparking incredible innovation in their respective fields of study. Moreover, student exposure to R&D is a stimulating platform to receive practical knowledge from experienced engineers and veteran scientists. In addition to their teaching activities, faculty support the students in understanding latest industry trends and mentor them to achieve their technical and non-technical traits.

MLR Institute of Technology – strives to provide an efficient, professional, and productive environment for both visiting companies and students in their efforts to find the perfect position fit for students. The placement cell offers a broad range of expertise, services, training programs and resources to assist students with their career development and job searches. An independent R&D Centre has been established to promote and monitoring the research programs of the institute. It facilitates interaction with external agencies for funded R&D projects, also promotes and manages institute-industry interaction. Institute management has established various research labs across all departments and offering a quality research training experience for its students.

The institute has various centres like MHRDs Institution Innovation Cell (MHRD-IIC), MSME Business Incubation (MEME-BI), Livelihood Business Incubation (LBI), Intellectual Property Facility Centre (IPFC), Indian School of Business-Technology and Entrepreneurship Program (ISB-TEP). The Aeronautical Engineering Department is tied with organizations like DRDO, NAL, ISRO to enrich the student's knowledge to current demands and also expanded MOU's



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with leading private organizations like TASL, Cyient, Boeing, Tata Technologies, Dassault systems in aerospace domain. The department is the:

- First ever in Telangana and AP to establish CoE in flight dynamics and simulation.
- CSIR-NAL supported CoE for advanced composites
- First ever in South India to established CoE in product life cycle management (PLM) in collaboration with TATA technologies
- The only CATIA certification centre by Dassault Systems

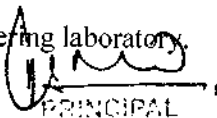
Department of Artificial Intelligence and Machine Learning - A new four-year B.Tech program AI and ML has been started from this academic year with an intake of 60 students. The programme provides the core concepts of computer science along with fundamentals of Artificial Intelligence and Machine Learning.

The Computer Science and Engineering Department has 51 faculty including 5 professors with Ph.D. who have vast experience in both industry and academia. This department has:

- Published 275+ research papers in peer reviewed journals
- Published 11 patents and 8 books
- 1.5 crores worth (DST/AICTE) funded projects
- MoU with Epam systems to facilitate, train students and faculty on “Software Engineering Best Practices”
- Virtusa Centre of Excellence on “Cloud Computing – AWS”

CSE – Cyber Security – MLRIT has been approved with a new 4 year regular undergraduate – bachelor of technology degree programme in computer science and engineering in cyber security specialization with a sanctioned intake of 60 from academic year 2020-21. This is highly recommended industry relevant programme in the field of computer science to gain knowledge on the annual global cost of cybercrime.

Civil Engineering Department – established in the academic year 2009-2010 with a n intake of 120 students. The department is offering one M.Tech programme named M.Tech structural engineering with the intake of 24 students. The department of civil engineering is equipped with concrete and highway laboratory, fluid mechanics and machineries laboratory, strength of materials laboratory, environmental engineering laboratory, soil mechanics laboratory, survey laboratory, CAD laboratory, GIS laboratory and Structural engineering laboratory.

  
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Electronics and Communication Engineering Department – This encompasses a broad range of research and educational interests. It is the policy of the department to involve each faculty member in a balanced combination of research and teaching so as to extensively benefit the students. The department has:

- Published 270+ research papers in peer reviewed journals
- Published 8 patents and 4 books
- 2 crores worth (DST/AICTE) funded projects
- First ever college to have established NI-Labview academy
- First ever college to have Multidisciplinary Robotics centre supported by IIT Bombay

Department of Information Technology – has fully-equipped centre of excellences like mobile application development, IoT, blockchain, cloud computing and BigData and Virtusa. The department also has other academic labs for programming for problem solving, data structures, java programming, compiler design, angular JS, python programming, cloud development etc. The department has:

- Published 148+ research papers in peer reviewed journals
- Published 4 patents and 5 books
- 65 lakhs worth (DST/AICTE) funded projects
- Only college in South India to have fully distributed Hadoop Cluster.

Department of Mechanical Engineering – has well equipped state-of-the-art modern laboratories to give hands-on experience to the students for extensive expertise for future industrial and academic needs. TATA Technologies, TASL, Dassault Systems, CITD MSME, GASPL (Centre for Robolution), SAE INDIA Southern Section (aSOP) are some of the industry connects. The department has:

- Published 170+ research papers in peer reviewed journals
- Published 6 patents and 4 books
- 3 crores worth (DST/MSME) funded projects

Department of Electrical and Electronics Engineering – was established in the year 2017 with an intake of 60 students. Department offers undergraduate, degree program of 4 years. The department is the first ever college to implement IOT based campus street light monitoring system and campus energy monitoring system and solar energy plant.

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Department of humanities and sciences – here programs supports educators in providing students with more personalized learning in which the pace of and approach to instruction are uniquely tailored to meet students needs and interests. This department:

- Enhance creative skills and hidden abilities through design thinking
- Hands on experience through microprojects
- Connects to social innovation + change initiatives
- Enhance effective interpersonal skills

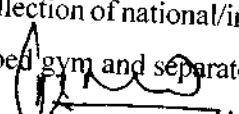
Institute of Pharmacy – was established in the year 2007. It is currently offering graduate and post graduate programs in pharmacy, Doctor of Pharmacy and also pharm D (PB). The intake is 100 in B.Pharm, 30 in Pharm D in Pharm D (PB) and 15 in M.Pharma. Premise is consists of well illuminated and ventilated classrooms, 17 well equipped labs, voluminous library, a medicinal garden (Aswini Vanam) and all other amenities. We have a MoU with ESI hospital, Santhnagar, Hyderabad for providing all the required hospital activities as per Pharmacy Council of India, New Delhi.

Department of Master of Business Administration – Established in the year 2006, the department offers four most coveted specialisations like financial management, human resource management, marketing management and entrepreneurship with an intake of 120. It has 18 faculty including 6 professors with PhD having vast experience in both industry and academia. The department conducts Business Hackathons, Forum for students to network and share ideas and foster innovation and entrepreneurship.

Institute has 20 active clubs and leadership positions in various events, there are many other ways to refine your leadership and organizational management experience and explore interests.

Library – The duplex modelled modern digital library is fully computerized with bar-coding and Wi-Fi facility. Completely automated library management system creates comfort and convenience for the readers to borrow books at any time. Library has 40461 books, 9525 e-resources, 1275 sq.mts, 1325 journals, 35 systems in digital library, 2 floors and 1 kiosk.

Hostels – Institute campus has separate hostels for boys and girls with all modern facilities and attached mess. It is provided with facilities like internet, music room, common room with TV and cable facility, room for indoor games and a reading room with a collection of national/international newspapers, magazines etc. The hostel houses have a fully equipped gym and separate courts for volleyball, basketball, and badminton.

  
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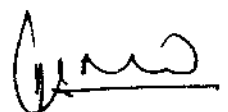
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Transportation – Exclusive college buses for the transportation, exclusive TSRTC buses to campus and only college operating buses in late hours for students and faculty who avail library and sports facilities.

### Infrastructure Details

Total area of campus	20 acres (80937.1 Sq.m.)
Total Constructed Area	21946.81 Sq.m.
Total Green Cover	30,804.29 Sq.m.
No. of buildings	04
Source of water	Ground Water
Source of electricity	TSSPDCL
Does your campus have renewable energy sources	Yes(Solar)
Total no. of students	4438
Total no. of students (Hostellers)	341
Total no. of students (Daysholars)	4097
Total no. of faculty	Teaching - 262/ Non-Teaching - 80
Total no. of teaching faculty (In house)	05
Total no. of teaching faculty (Staying outside)	257
Total no. of non-teaching faculty (In house)	01
Total no. of non-teaching faculty (Staying outside)	86
Total no. of administrative staff	5
Total no. of cleaning staff	51
Total no. of employees for landscape maintenance	05
Total no. of security staff	7
Total no. of people visiting/day	Min:20      Max:40



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# ENERGY

Energy audit would give a positive orientation to the energy cost reduction, preventive maintenance, and quality control programmes which are vital production and utility activities. It will help to understand more about the ways energy utilized and help in identifying the areas where waste can occur and where scope for improvement exists.

Energy audit helps in energy cost optimization, pollution control, safety aspects and suggests the methods to improve the operating and maintenance practices of a campus. It is instrumental in coping with the situation of variation in energy cost availability, reliability of energy supply decision on appropriate energy mix, decision on using improved energy conservation equipment, instrumentations and technology. It is proven that energy saving about 15 to 30% is possible by optimizing use of energy efficient equipment at the time of replacements.

College Management has come up with energy efficient technologies like installation of Solar Power Plant and usage of LED Bulbs. They also have range of eco-friendly activities involving students of NSS.

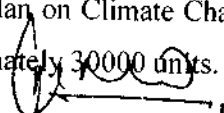
The main objectives of conducting energy audit are as follows:

- To study the present pattern of energy consumption
- To identify potential areas for energy optimization
- To recommend energy conservation proposals with cost benefit analysis

College Management has been very keen on implementation of the environment friendly technologies. In view of this, Solar Power Plant has been established and most of the campus energy needs are met from this plant. Apart from this usage of LED Bulbs and free air flow corridors and buildings are few other initiatives for low energy consumption.

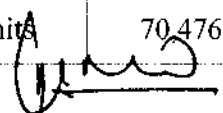
## Solar Energy

The annual energy generation of the solar plant is estimated to be 3,79,600 units, and the surplus will be to a tune of 10%, which can be returned back to TSSPDCL as per the mutual agreement. The cost of the project is Rs 1.5 core, and the plant is in operation since 2018. By harnessing renewable energy sources, MLR Institute of Technology, has not only aimed at reduction of expenditure on energy but also joined the National Action Plan on Climate Change, The solar system generates 1000 unit per day and per month approximately 30000 units. In that, college

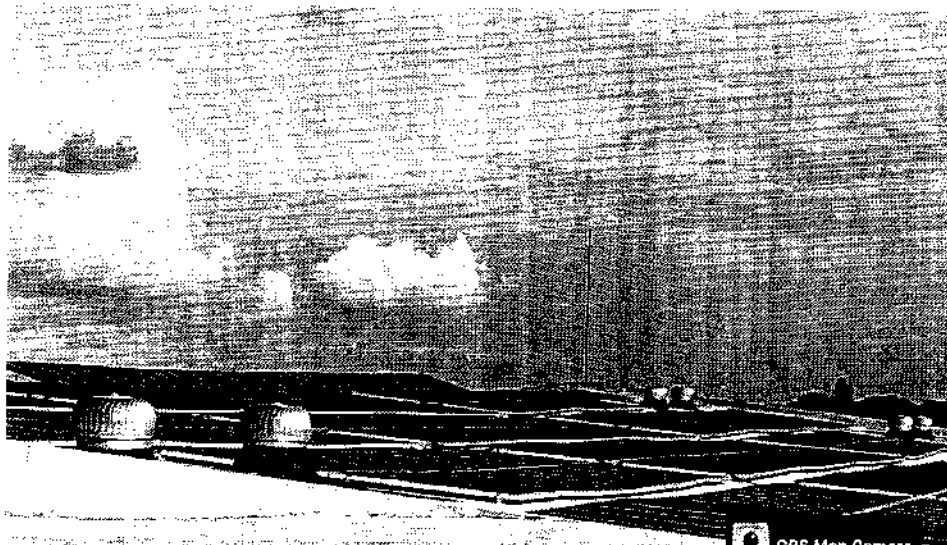
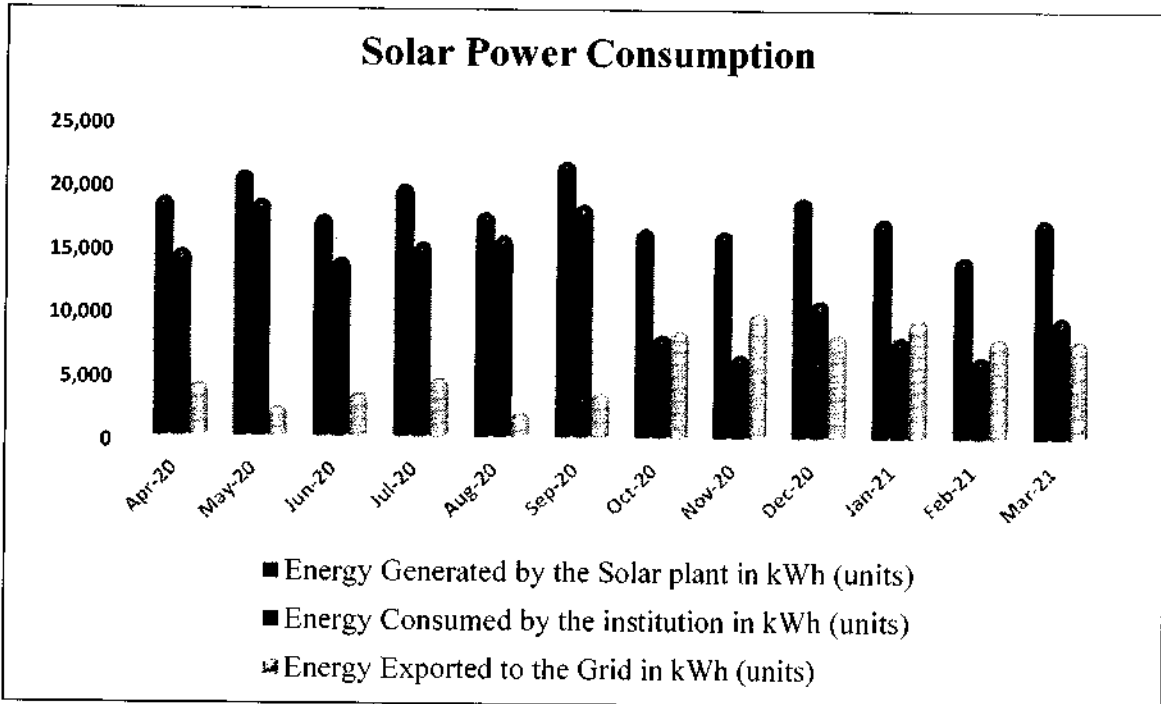
  
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utilizes 25000-26000 units and remaining is export to the grid. In holidays and nonworking days, utilization is maximum of 5000 units and the remaining 25000 power of units is export to the grid. IOT based streetlight technology is used in our campus and is controlled with mobile application.

S.No.	Solar Plant Capacity			
	Month & Year	Energy Generated by the Solar plant in kWh (units)	Energy Consumed by the institution in kWh (units)	Energy Exported to the Grid in kWh (units)
1	Apr-20	18,700	14,600	4,100
2	May-20	20,747	18,531	2,216
3	Jun-20	17,303	13,965	3,338
4	Jul-20	19,749	15,217	4,532
5	Aug-20	17,585	15,747	1,838
6	Sep-20	21,629	18,231	3,398
7	Oct-20	16,369	8,025	8,344
8	Nov-20	16,209	6,465	9,744
9	Dec-20	18,854	10,742	8,112
10	Jan-21	17,219	7,909	9,310
11	Feb-21	14,282	6,426	7,856
12	Mar-21	17,216	9,528	7,688
	Total	2,15,862 units	1,45,386 units	70,476 units

  
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GPS Map Camera

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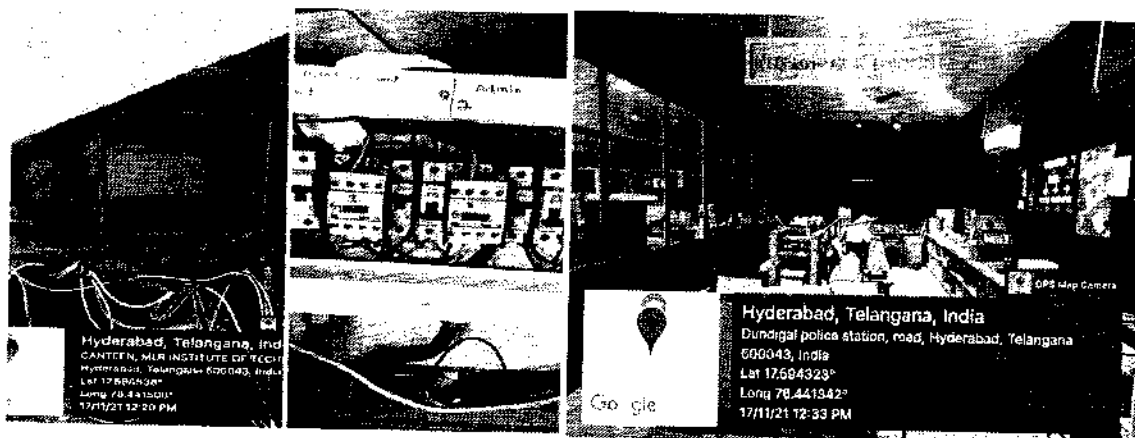
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## Sensor Based Energy Conservation



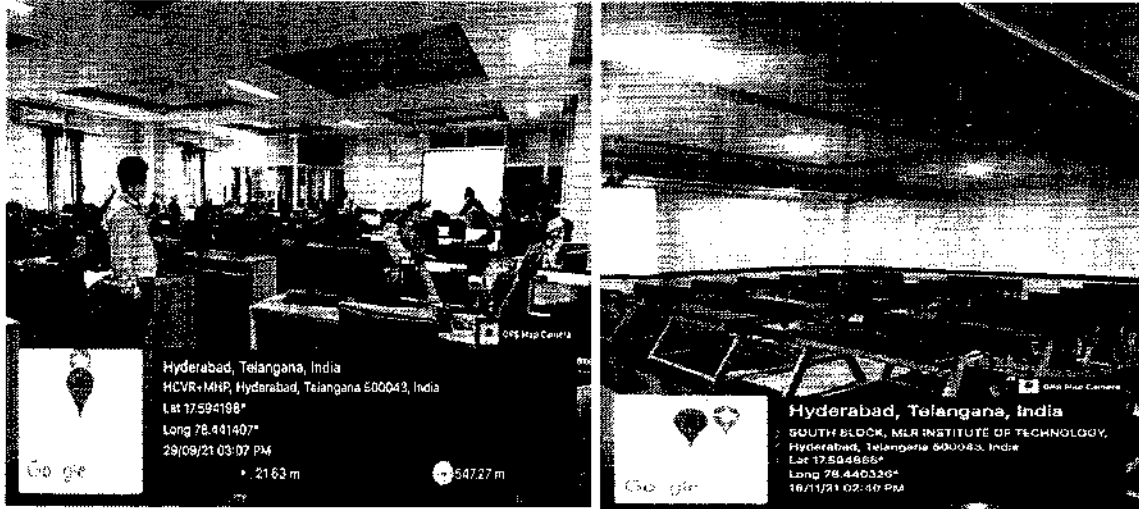
## Street Light Automation using IOT in MLRIT



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## LED bulbs/ power-efficient equipment

When compared to CLF and Tube Lights, LED bulbs consume less power and produce effective output. From 2016 onwards, at MLRIT Campus, 20-25% of total CLF and Tube lights are replaced with LED bulbs every year. At present there are 2168 LED bulbs in the campus.



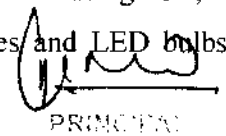
## Restricted entry of automobiles:

The institute encourages the staff and students to use the college transport instead of their own vehicles for safety, security, fuel conservation and to reduce environmental pollution. MLRIT college operates a fleet of 16 buses covering each corner of Hyderabad to facilitate the students and staff. However, in our institution all college buses and the vehicles of college staff / students will not be allowed to enter into the campus to limit the emissions. Vehicle parking space is provided at the main entrance of the college campus.

## Use of bicycles/ Battery-powered vehicles:

The college encourages the employees and students to frequently use bicycles, public transport, battery powered vehicles etc. to limit the emissions.

MLRIT has come up with the mission of building up academically excellent and socially responsible citizens, as a part of this institutional initiatives for greening the campus are: Solar Energy, Sensor Based Energy Conservation, Street Light Automation using IOT, Restricted entry of automobiles, Use of bicycles/ Battery-powered vehicles and LED bulbs/ power-efficient equipment.

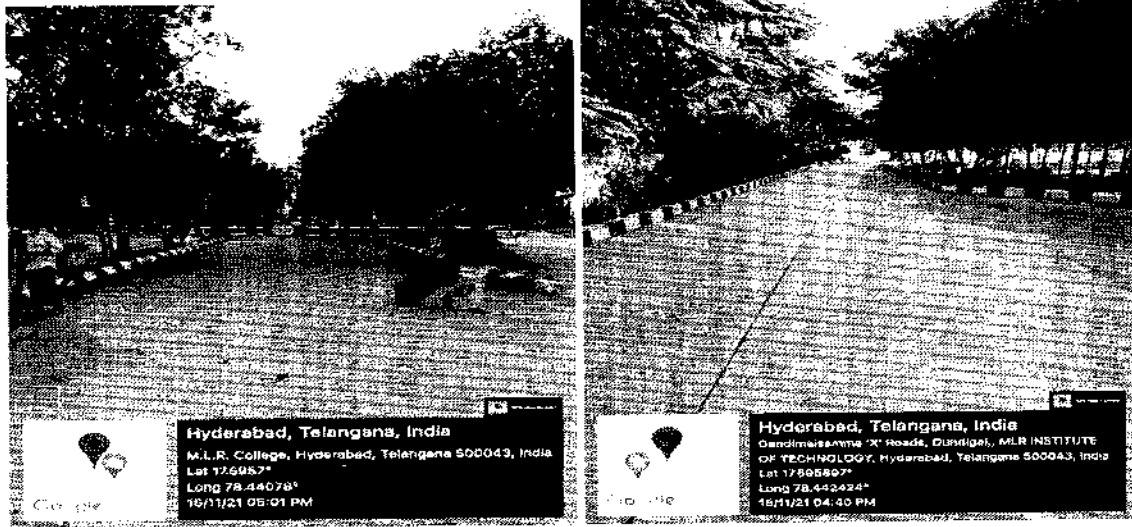


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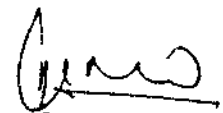
## Restricted Entry of Automobiles



## Pedestrian-friendly pathways

MLRIT college campus is having the Pedestrian-friendly pathways which are neatly constructed and properly marked. Vehicle parking space is provided at the main entrance of the college campus. Students and staff experience comfort walking through the pedestrian friendly pathways. The internal roads are lined with trees and they are properly maintained.



  
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# WASTE

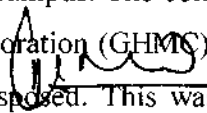
The purpose of the waste audit is to gain a detailed understanding of the types and weights of material being generated. The recommendations can be used to improve the economic and environmental performance of waste management efforts. For this audit, there is a need to discover what waste are being generated and in these which materials are recyclables. Further the dispose mechanism adopted for both wet and dry waste are to be considered during audit. An effective waste reduction program must be based on current and accurate information on the quantity and composition of the waste stream. Therefore, there should be systematic procedure to review operations and subsequently, waste generation. Performing this exercise will define the composition of your discards by examining how materials enter and exit your facility.

All operations produce waste and there is nothing wrong by recognizing it. However today concern is over waste generation and increasing costs of collection and disposal are good reasons to find out how to reduce, increase recycling and try to cut costs. An audit alone will not reduce your waste. Rather, it is the starting point that will enable your work to make informed decisions on how to allocate resources for source reduction and recycling programs. In long run this saves money, reduces waste and disposal costs and creates positive environment campus image. This also helps in devising the ways and methods of reducing wastes at the source.

Hazardous Waste – Institute adopts standard operating procedures for safe disposal of hazardous chemicals collected in the chemistry laboratory and other allied departments. The chemicals like acids utilized for experiments are very negligible hazardous chemicals. So, the chemicals of through the normal waste in shrinks.

**MLR Institute of Technology** has developed a complete system for *solid, liquid, E-waste and Waste Recycling management*. The institute purchased bio flame system in 2015. The bio flame converts wet waste from the hostels/ canteen into bio gas and it is useful for the college needs. -Wastes like newspapers and stationary is sold to proper recycling agencies/vendors.

Adequate number of trash cans and dust bins are placed all over the campus. The collected waste is disposed with the help of Greater Hyderabad Municipal Corporation (GHMC) on a daily basis. Chemical and hazardous waste from laboratories are disposed. This waste is collected and disposed through a certified third party.

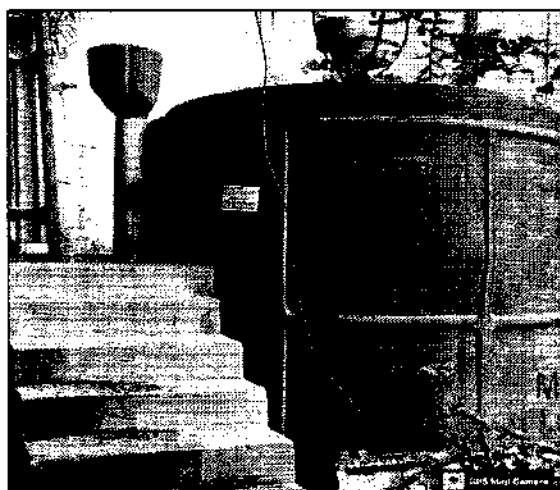
  
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E-waste generated from various departments which cannot be reused or recycled is being disposed of centrally through certified eco-friendly vendors. In addition, the Institution emphasises on paperless office. E-wastes such as electronic components (plastic/metallic) are handed over to agencies which help recycle these materials. By recycling the electronic components, we have recovered valuable materials from old electronics components which can be used to make new products. Bins are provided across the campus to collect the E-waste across all departments. The collected material is disposed for recycling through authorized vendors.

Sewage treatment plant installed in the campus during the academic year 2016-17. The liquid wastes generated in the campus include Sewage, Laboratory, Laundry, hostel and canteen effluent waste. The above waste is treated through Sewage Treatment Plant (STP). -Waste water is treated through Sedimentation in the campus. The Sewage water from the entire campus is received through the underground pipe lines. The treated water is used as natural organic compost for gardening. Sewage Treatment Plant (STP) of large capacity is used in the Institution campus. The treated water is used for flushing and gardening purpose. Eco-friendly floor cleaners are used and the waste water is checked on a monthly basis. Disposal is done after treatment if necessary. The sewage treatment plant cost is around 10 lakh rupees and it was purchased from needs resources.

Solar photovoltaic power plant was installed in the campus by Mithra solar systems to generate power. The project cost was 2,20,69,320/- and it generates 67,62,600 units. per unit cost is around 3.26. The lighting in the Academic, Administrative and Hostel areas is through LED bulbs.

Biogas Plant at MLRIT for Solid Waste Management



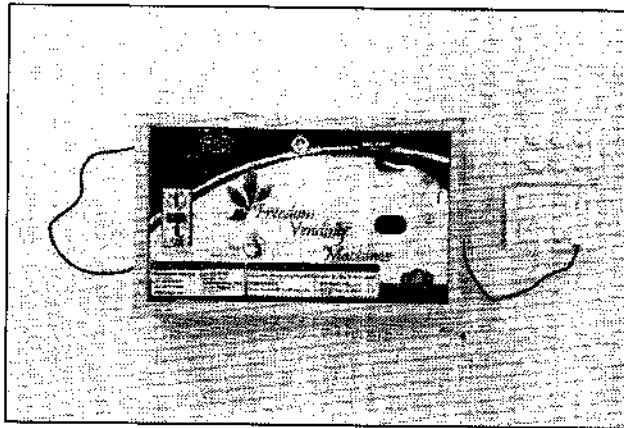
  
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Sewage Treatment Plant in MLRIT for Liquid Waste Management

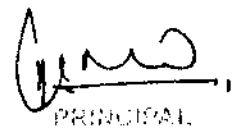


Sanitary Napkin Vending Machine in MLRIT for Biomedical Waste Management



E-Waste Recycling Bins in MLRIT for E-Waste Management

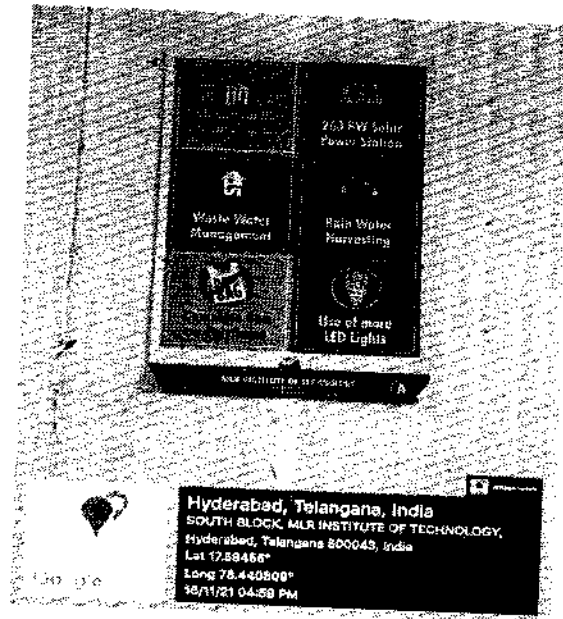


  
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## Ban on Plastics in the Campus

Waste polythene bags pollute the land and water enormously. Chemicals released by waste polythene bags make the soil infertile and lead to the drainage problem. Also, polythene bags have a negative impact on human health. In order to create an eco-friendly environment, MLRIT has taken initiative to completely ban the use of polythene bags in the campus.



Sustainable initiatives:

Bio-gas plant, Sanitary napkin vending machine, Sewage treatment facility, Pedestrian-friendly pathways, E-Waste Management and Plastic ban in the campus.

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# WATER

Virtually everything we do or use each day involves water. Yet, we do not give it the importance that is due to it. India will soon be a water-stressed country and we all need to work towards our water security. As our populations continue to grow and shift, the availability of quality water resources is in decline. Pollution, climate change and construction of cities in dry regions are some of the factors exacerbating evolving supply/ demand imbalances. To account this, it is essential that man utilize existing water resources in the most careful, efficient manner. Water audits provide a rational, scientific framework that categorizes all water use. It is a tool to overcome drought related problem, shortage, leakage and losses.

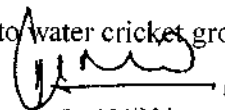
Simple actions can be adopted to reduce the wastage of water and use it wisely. Water audit is a qualitative and quantitative analysis of water consumption to identify means of Reducing, Reusing and Recycling of water. Water consumption patterns are to be identified and problems are to be fixed like leaks & overflow, identify the points where water loss is observed, identify the solutions, assign the responsibility for implementation, prepare a monitoring schedule and assign a person for monitoring.

Water auditing is conducted for the evaluation of facilities of raw water intake and determining the activities for water treatment and reuse. The relevant method that can be adopted and implemented to balance the demand and supply of water. It is therefore essential that any environmentally responsible institution examine its water use practices.

The water source is borewell only. The campus has Overhead tanks for each building along with bore well. For drinking water RO plant is set up.

MLRIT has taken an initiative to preserve rain water. The college has a pit of Size 4ft diameter and 25ft deep, which is capable of storing 8000 Litres near Mahatma Gandhi block. Similar type of ground pits is also available at Football ground and back side of New Hostel, with the same dimension and capacity.

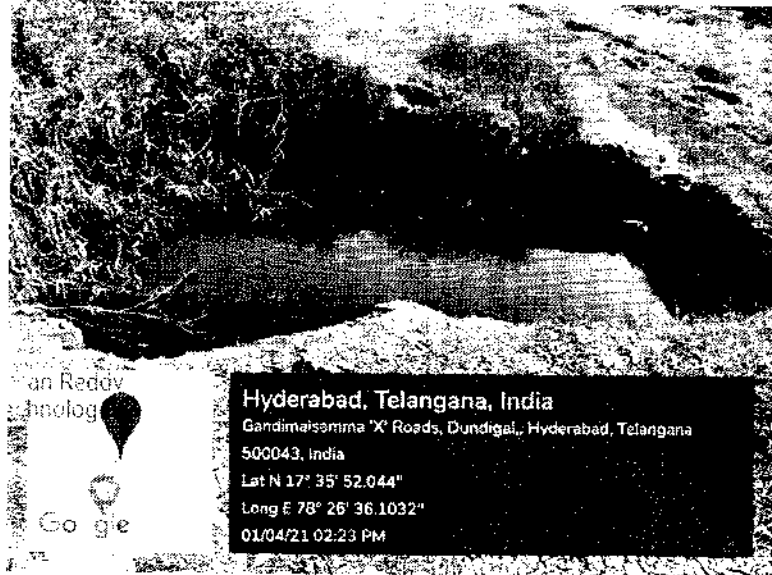
Apart from these pits, we have around 5 small ground pits of 1 ft diameter that can store rainwater. It is the primary source for gardening requirements and washing utensils and vegetables in hostel. However, it can be used as a secondary source in case of emergency. Water preserved in these ground pits helps to increase the ground water level and reduce our dependence on water tankers. The rainwater which flows from the roof and terrace are directed to the pit. The water is treated in RO plant and is utilized to water cricket ground and Football



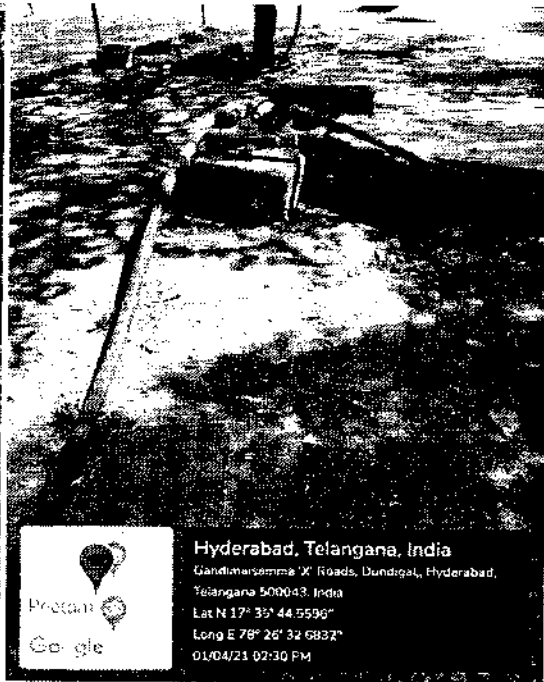
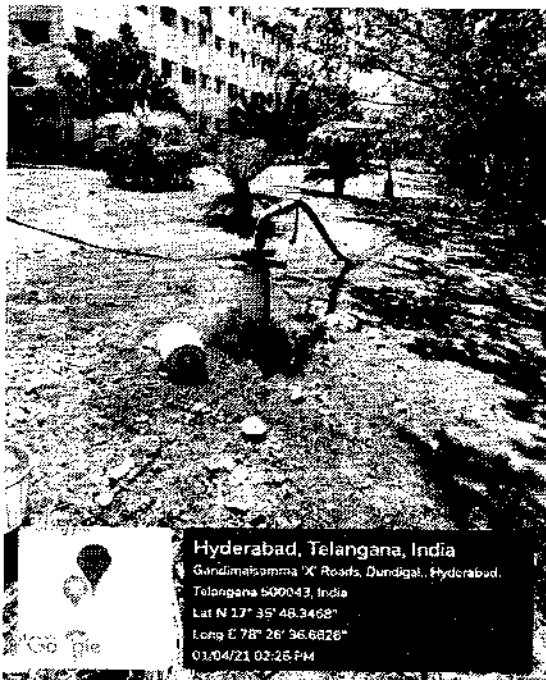
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ground. Gardens and sports grounds are watered using drip/sprinkler irrigation system to save water.

### Rainwater Harvesting System



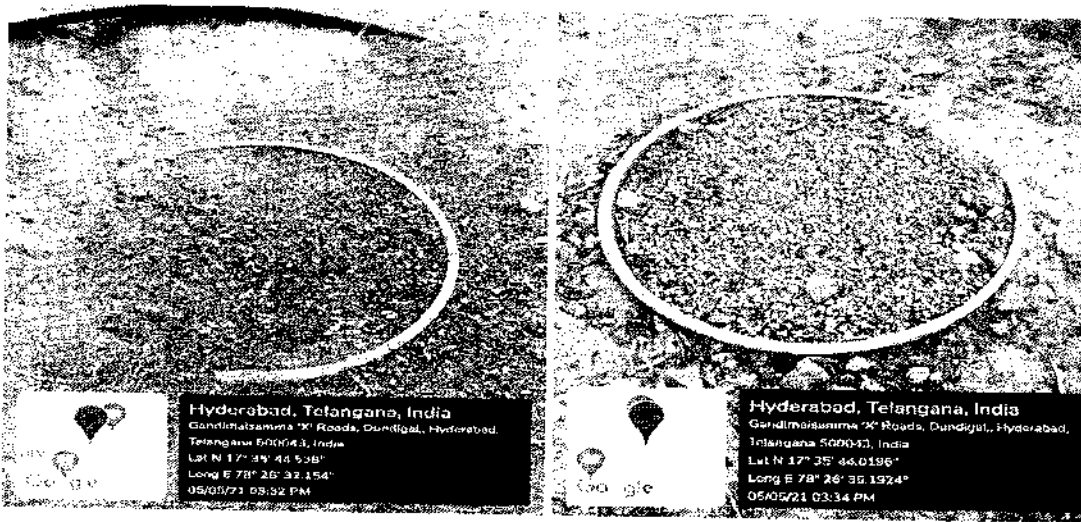
### Wastewater Recycling



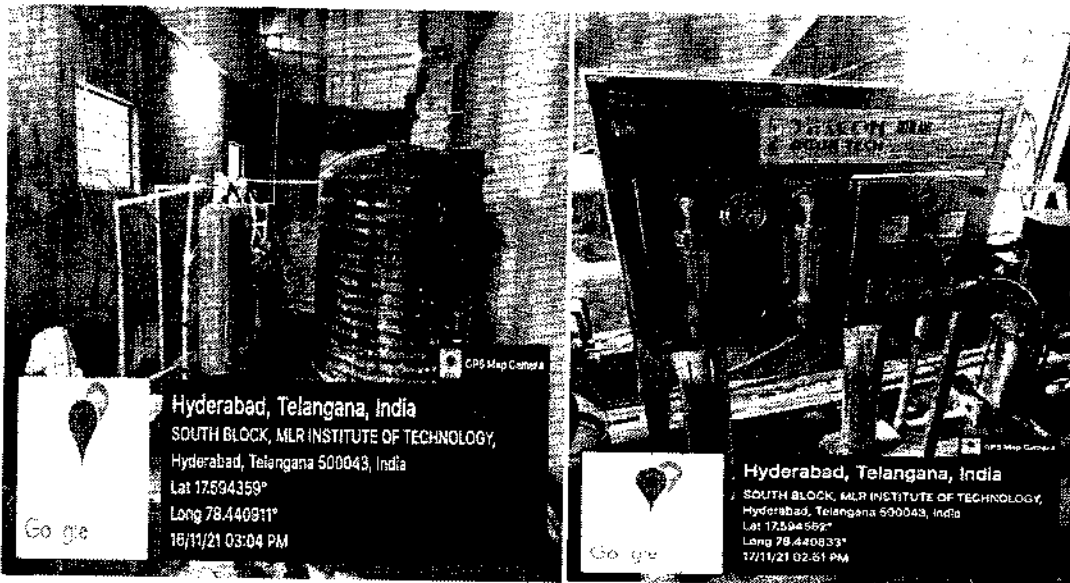
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### Water pit



### RO System



### Sustainable initiatives

Rain water harvesting pits, soak pits, RO plant and Sewage treatment plant.

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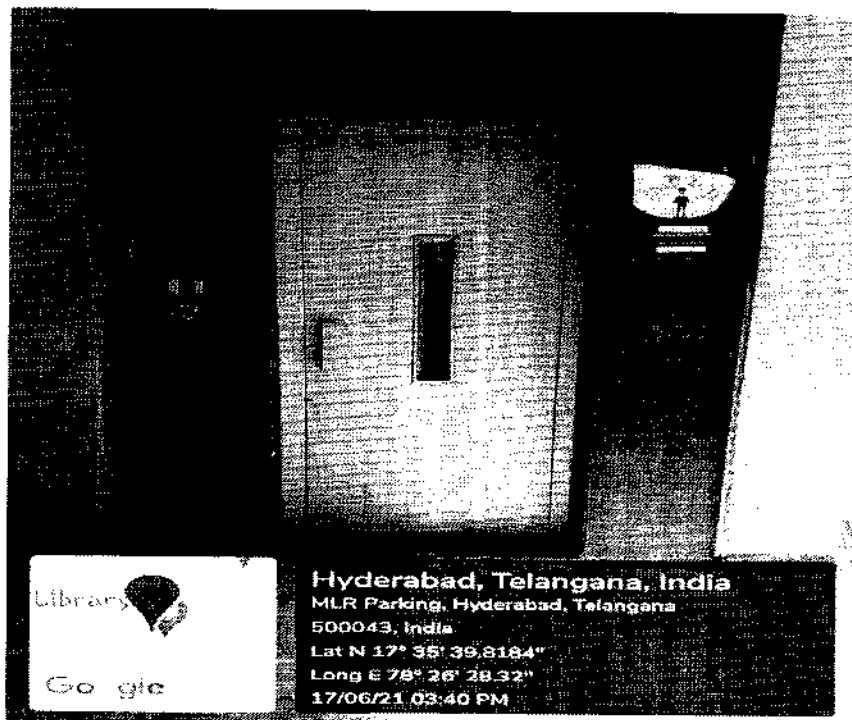


***The Institution has a disabled-friendly and barrier-free environment:***

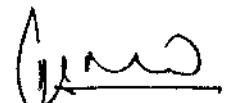
MLR Institute of Technology keen in providing the facilities for differently abled persons. Our institution is designed and constructed in keeping the basic needs of differently abled persons and providing a friendly atmosphere for all types of differently abled persons.

The college authorities are sensitive towards the differently abled students. The campus provides lift facility to help these students in minimizing their difficulties and making them comfortable in the campus. Separate washrooms are designed for disabled people in the campus with scheduled maintenance, cleanliness and hygiene

Inside the MLRIT campus, there are several signage's including tactile paths, display boards and signposts for differently abled persons to direct the building or department or the facilities available in the institution.

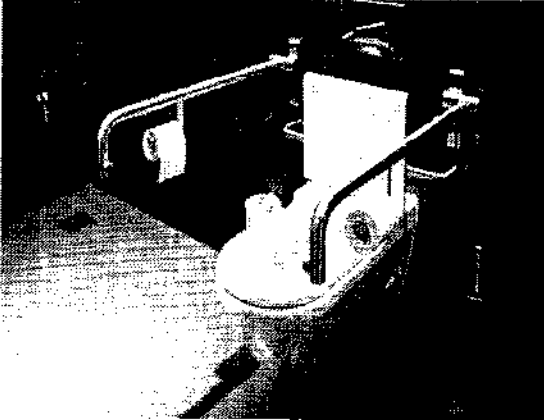


Lift in Campus for the Disabled

  
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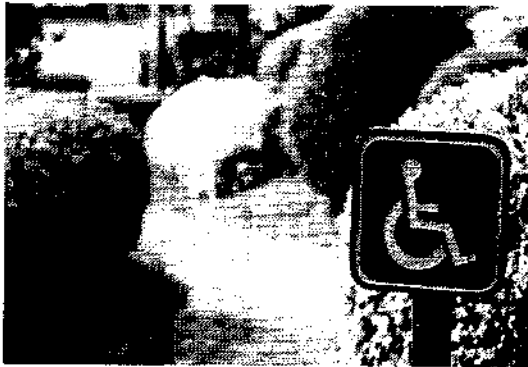
Disabled Friendly Washrooms



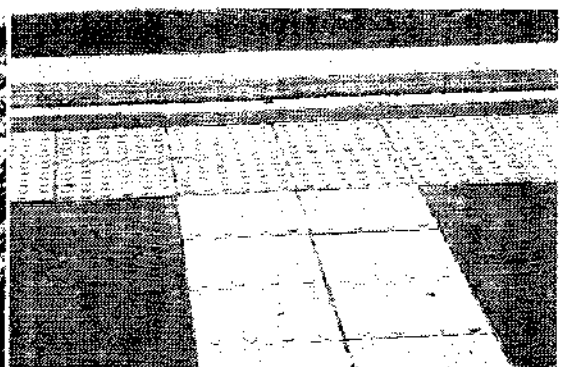
Display Boards



Disabled Crossing Sign



Tactile Path Lights for Disabled



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Chittoor District, Hyderabad-43,  
TELANGANA, INDIA

# RECOMMENDATION

- Source segregation has to be taken up using twin bins in the campus. Separate processing for wet and dry waste has to be implemented.
- Specific Waste Management Plan should be developed and adopted to manage solid waste within the campus. Swachh Survekshan of Swachh Bharat Mission is also now giving scope for the involvement of the college and general public in large. So, college can take part in their programmes.
- Bio toilets can be installed for better management of faecal sludge.
- Continuous check of the LED bulbs usage with the help of student team and proper maintenance of the solar power plant also increase the energy efficiency of the system. Proper maintenance and judicious use of electricity will reduce the energy consumption of the college.
- Separate electricity meters are to be set up for each building.
- The old machinery like computers, printers, fans and other electronic appliances are to be repaired, maintained or changed regularly to reduce overall energy consumption.
- Wastewater from laboratories and canteens are to be controlled and used for garden only after proper treatment.
- Repair leaking taps and pipes at regular intervals to conserve water.
- Vehicle pooling can be promoted for both students and faculty. Initially this can be declared by the management or through student groups on particular days.
- Students are to be guided from awareness to action campaigns target their own behaviour change and outreach to the community at large.
- More display board are to be set up on various conservation aspects.
- Students and faculty are to be trained on carbon footprint calculation and reduced carbon emissions.
- Overall Environmental plan for strategic implementation of eco-friendly practices is to be framed every year. This help to streamline the existing good practices that are already being implemented. This also gives increase the scope of environmental activities for students. Strick implementation of the plan also bring behavior change amongst the students' fraternity.
- Environment auditing is to be carried out every year to evaluate the outcomes of the environmental activities. This helps the college to implement activities like cost efficiency and conservation of the available natural resources.

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