

# *St. Ann's College for Women*

(Autonomous), Affiliated to Osmania University  
Accredited by NAAC with A<sup>+</sup> Grade (3<sup>rd</sup> cycle), CPE by UGC

Mehdipatnam, Hyderabad.



## **CRITERION – VII**

### **Institutional Values and Best Practices**

7.1.2 The Institution has facilities for alternate sources of energy and energy conservation measures

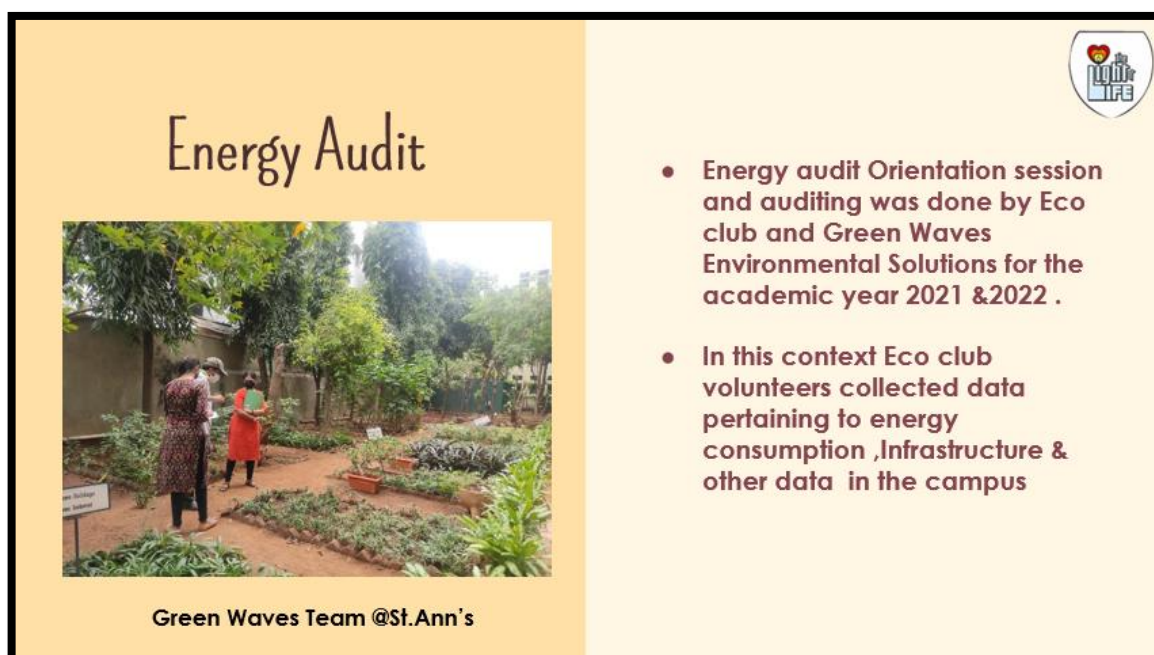


## 7.1.2 Energy conservation measures@ St. Ann's-- Overall Report

Energy conservation measures in higher educational institutions play a critical role in promoting sustainability, reducing carbon footprints, and saving costs.


### 1. Energy Audits and Assessments:

Conducting regular energy audits and assessments is the first step towards effective energy conservation. Our Institutions has hired professional energy consultants and also utilize in-house expertise to evaluate energy consumption patterns, identify inefficiencies, and prioritize areas for improvement. Energy Audits have been initiated from 2021 onwards These audits have provided a data-driven foundation for planning conservation initiatives.



The slide is titled "Energy Audit" and features a photograph of the Green Waves Team at St. Ann's working in a garden. The text on the slide describes the energy audit orientation session and data collection efforts by the Eco club and Green Waves Environmental Solutions for the academic year 2021 & 2022.

## Energy Audit



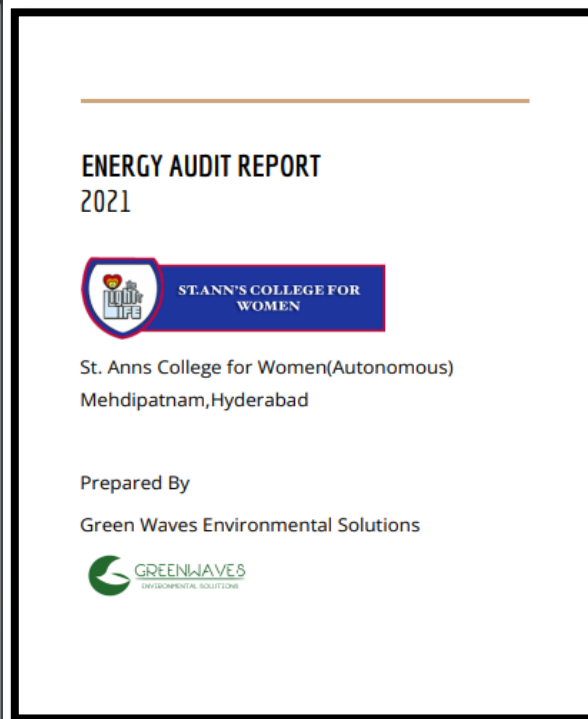
- Energy audit Orientation session and auditing was done by Eco club and Green Waves Environmental Solutions for the academic year 2021 & 2022 .
- In this context Eco club volunteers collected data pertaining to energy consumption ,Infrastructure & other data in the campus

Green Waves Team @St. Ann's



**Year 2021-22**

### **Energy Audit Report and certificate**



Energy cannot be seen but we recognise its existence because of its properties in the forms of heat, light and power. Energy use is clearly an important feature of campus sustainability and needs no explanation for its inclusion in the assessment. For example, an old incandescent bulb uses ~60 to 100W while light emitting diode (LED) uses <10

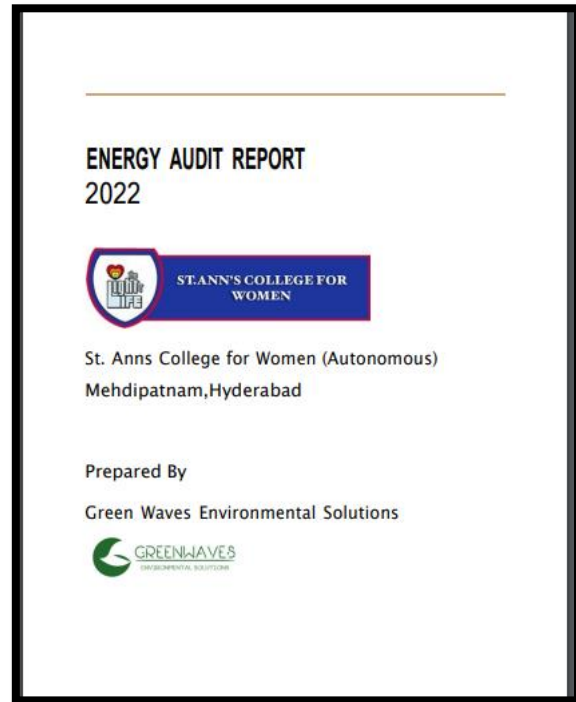
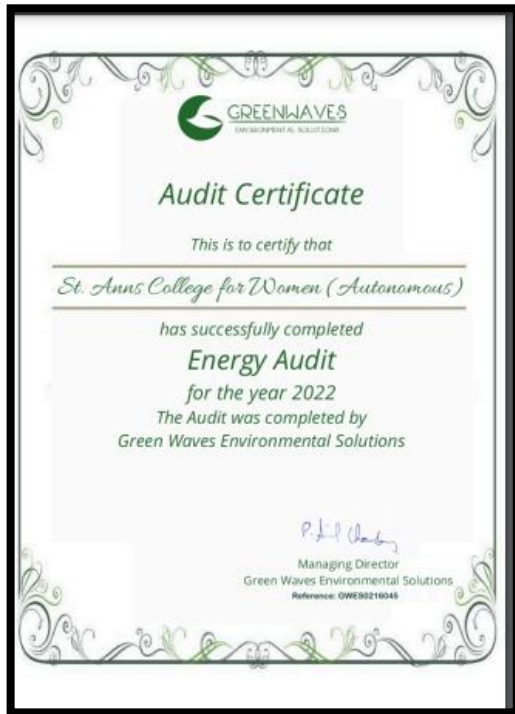
W. Energy auditing offers a guide line to save energy by adopting conservation methods which include 1) Reducing the risk of energy scarcity, 2) Reducing the greenhouse gas emissions, 3) Renewables have overhead costs too and 4) Energy Management saves costs. An energy audit is a useful tool for developing and implementing comprehensive energy management plans.

Scope of an energy audit is to identify the energy efficiency, conservation and savings opportunities at the premises of the audit sites in a systematic manner. The audit process is carried out to review of energy saving opportunities and measures implemented in the audit sites and to identify the various energy conservation measures and saving opportunities. In addition, Implementation of alternative energy resources for energy saving opportunities and decision making in the field of energy management along with creating awareness among the stakeholders on energy conservation and utilization are being carried out.

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***Year 2022-23 Energy Audit Report and certificate***



St. Ann's College for Women has a substantial the energy conservation initiatives with very good savings opportunities. Energy efficient lighting schemes, awareness created among stakeholders and necessary power backups are being practiced by the institution. There are some best Practices followed on Energy Audit in the Organization like Transformers, Generators and UPS are protected properly with fencing and kept awareness boards on 'Dangers' and 'Warnings'. It is observed that the most of places, sign board of 'Switch ON' and 'Switch OFF' are kept towards saving energy measures to the stakeholders. Electrical wires, switch boxes and stabilizers are properly covered without any damage which will cause any problems to the staff and student members.

Adaptation of drip and sprinkler irrigation and solar streetlights in the campus to minimize the *energy potential are well appreciated*. Few recommendations, in addition, can further improve the energy savings of the Organization. This may lead to the flourishing future in the context of Energy Efficiency Campus and thus sustainable eco-friendly environment and community development to the stakeholders in coming years to come. Many of the classrooms and corridors in the college use LED bulbs in place of

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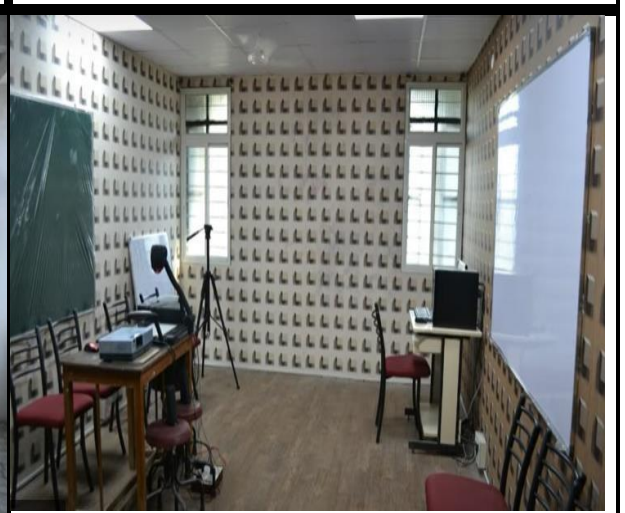
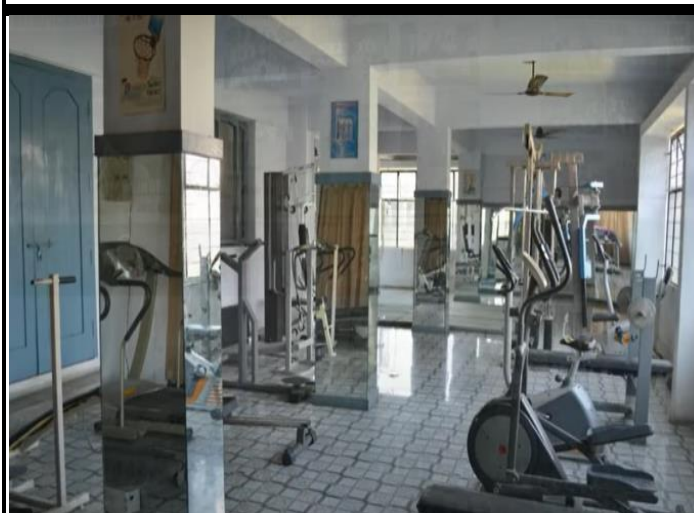


incandescent lights. A few Solar Lamps are also installed in the college campus to light walkways, sports ground and quadrangle. College replaced old refrigerators with Energy Star Refrigerators. All life sciences and physical sciences labs have Energy star certified refrigerators. The more energy efficient a model, the less energy it will use and the less it will cost to run.



*Energy Conservation and Management Activities in  
St. Ann's College for Women, Hyderabad, Telangana*

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## **2. Energy-Efficient Building Design:**

Incorporating energy-efficient designs and materials in the construction or renovation of campus buildings can lead to substantial energy savings in the long run. Strategies include optimizing insulation, utilizing natural lighting, installing energy-efficient systems, and using energy-efficient windows and doors

## **3. Ventilation and Exhaust systems in Buildings**

Ventilation is necessary in the buildings and continuous air flow removes 'stale' air and replace it with 'fresh' air which facilitates to moderate internal temperatures, reduce the accumulation of moisture, odours and other gases. In addition, ventilation create air movement which improves the comfort of occupants. Mechanical (or 'forced') ventilation tends to be driven by exhaust fans to replace stale air with fresh air along with moderating the optimum temperature to the occupants. Natural ventilation is driven by pressure differences from one part of the building to another. Internal partitions may prevent the air paths, hence the creation of draughts adjacent to openings for adequate flow of air. Natural ventilation can be wind driven, or buoyancy driven. If air quality is poor, nature ventilation by means of opening windows may be adopted touse in the building. It may also be useful to reduce the noise level to a greater extent. It is recorded that the St. Ann's College for Women has a large number of ventilators for effective air circulation



**Sufficient Ventilation in St. Ann's College for Women Campus Buildings**

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College is built with enough cross ventilation , depending mostly on natural light and ventilation ,air flow so as to avoid unnecessary usage of artificial lights and fans





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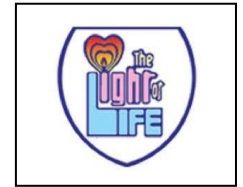


#### 4. Renewable Energy Sources:

Investing in renewable energy sources like solar panels, can significantly reduce an institution's reliance on fossil fuels. Higher education institutions can generate their electricity, lower operational costs, and even sell excess energy back to the grid, creating a source of revenue. St. Ann's has taken a step towards this by installing solar panels/grid this academic year 2022-23. Solar lamps to light the pathways and playground and quadrangle are already in place since 2015



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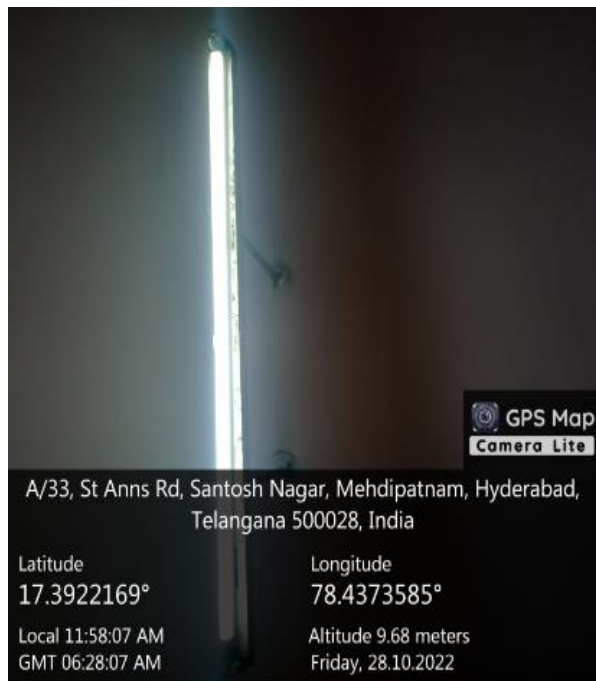


## 5. Energy-Efficient Lighting:

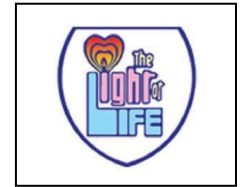
Replacing traditional incandescent and fluorescent lighting with energy-efficient LED lighting can result in substantial energy savings. LED lights consume less electricity, have a longer lifespan, and provide better quality lighting. Furthermore, installing motion sensors and timers can ensure that lights are only used when necessary. Motion sensor LED bulbs are very useful in areas of the office where people often forget to turn off the lights.

Dark areas have been lighted with Motion sensor led Bulbs at St. Ann's, including hallways, restrooms, and corridors. The installation of these motion sensor LED Bulbs, which not only contribute to a safer environment but also save energy and money on electricity bills, has been planned.

**15 Motion sensor bulbs were installed in dark areas of the campus.** Motion sensor illumination is based on the detection of humans, animals, and objects in motion. Motion sensor lights can be turned ON or OFF without touching them To detect motion in such sensors, a variety of techniques are used. Passive infrared (PIR) sensors and microwave radar sensors are used in the two major approaches.



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#### **6. Sustainable Transportation:**

Promoting sustainable transportation options among students and staff can contribute to energy conservation. Encourage biking, walking, carpooling, and the use of electric or hybrid vehicles. Some of the Staff travel by car pooling, few others come by walk and others use metro rail or public transportation, while most of the students go for auto pooling . Few students use bicycles , while some are switching over to battery powered vehicles.

#### **7. Energy Conservation Education:**

At. St. Ann's energy conservation and sustainability is incorporated into the curriculum and extracurricular activities. Awareness is raised about the importance of energy conservation through workshops, seminars, and awareness campaigns. Also research on energy-efficient technologies and practices is encouraged. Energy conservation education and awareness activities are incorporated through Environment Education course as Co Curricular activity course and AECC course on Environmental science .

#### **8. Behavioral Changes:**

The campus community is engaged in energy-saving behaviors. Students and staff are encouraged to turn off lights, appliances, and electronics when not in use. Promotion of the responsible use of heating and cooling systems, and implement policies to reduce energy wastage in common areas like classrooms and laboratories is done. Almost all departments in the college follow measures to save electricity When not in use fans ,lights and other equipment, printers, computers are turned off.

Slogans and posters are displayed at various points as a reminder to turn off lights and fans when not in use.

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### **Department of Microbiology, Genetics, Biochemistry**

#### **Efforts for Energy Conservation:**

Efforts for reducing consumption of electricity

Use of sunlight –electromagnetic radiation instead of artificial illumination for microscopy in the department.

Periodic Checks and cleaning of all Gas stoves and Bunsen burners in the laboratories.

### **Department of Physics and electronics**

#### **Energy conservation:**

Regular servicing of Electrical and Electronic equipment.

Usage of voltage stabilisers for all the devices to avoid damage due to surge current and voltage fluctuations

Conducting an orientation program for all students on the safety norms to be followed while handling the Electrical equipment and highlight the significance of energy conservation.

### **Department of Biotechnology**

The department conserves energy by switching off all lights, fans and other equipments when not in use.

**The Department of Commerce** educates the students to save electricity and water.

### **Department of Physics and electronics**

Servicing and replacing the old equipment of the laboratories has been taken up, which is otherwise consuming more power.

The department has taken up the e-5 programs as an initiative towards saving paper.

### **Partnerships and Collaborations:**

The college is trying to Collaborate with local energy providers, government agencies, and environmental organizations to access grants, incentives, and technical support for energy

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conservation projects. The college has an MOU with Green waves Environmental solutions who are authorised to conduct Energy audit and give us recommendations on a timely basis.

### National Energy Conservation Day 2021

- Dept of Physics and Electronics observed National Energy Conservation Day NEC2k21 by organizing a National Webinar in collaboration with IIC on “Measures taken to conserve energy in the construction of multi storied buildings” on 14th December,2021.

S.No	Slaves	Chgs	Wfr	Wd	Wd	Wd
1	Water Heating - pumping from base to 20th floor	1	20	20	40	10
2	Hot water - Heating	1	1	1	1	1
3	Garbage water	1	1	1	1	1
4	LA	1	1	1	1	1
5	FA	1	1	1	1	1
6	Lights	1	1	1	1	1
7	Air conditioning	1	1	1	1	1
8	Chillers	1	1	1	1	1
9	Hoisting machines	1	1	1	1	1
10	OT systems	1	1	1	1	1
11	TV and other accessories	1	1	1	1	1
Total for						60

### Observing Energy Conservation Day 2022

### National Energy Conservation Day 2022

- A National Webinar on Energy Efficiency Systems on December 13th 2022
- The Department of Physics & Electronics has Organized A National Webinar On Energy Efficiency Systems on December 13<sup>th</sup> 2022 in Collaboration With Institutional Innovative Council (IIC)
- Dr. Sanjay Dhage Scientist “E”, ARCI & Dr Eashwara Moorthy Ramaswamy Scientist “E”, ARCI being the two eminent Scientist speakers of the seminar have enlightened the students with their immense knowledge.

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**Internship on Energy Conservation-at Energy Department Government of  
Telangana**

**TSREDCO : HYDERABAD**

**ADMIN SECTION**

**ORDER**

**Ref:- REDCO-ADMN/542573/2023-ADMIN SECTION-**

**Dt.28.02.2023**

**Sub:-** Internship of St. Ann's College for Women Students of 6 Nos to TSREDCO for study on Renewable Energy (Solar, Wind, Geo thermal, EV Vehicles and upcoming Technologies like Hydrogen, Biomass and Electrical Safety -Admin Section – Allotment -Orders Issued - Reg

**Ref:-** 1. Letter No. 1/Peshi /2023 Dt. 17.02.2023 of Special Chief Secretary to Government, Energy Department.  
2.Approval of VC & MD in note file E -Office No. 542573 Dt.28.02.2023.

%%%

It is to submit that, with reference 1<sup>st</sup> cited above the Special Chief Secretary to Government, Energy Department had issued letter to TSREDCO for Internship of St. Ann's College for Women Students of 6 Nos to TSREDCO for study on Renewable Energy (Solar, Wind, Geo thermal, EV Vehicles and upcoming Technologies like Hydrogen, Biomass and Electrical Safety.

Further, as per the approval of VC & MD in the E- Office Note File 542573 Dt.28.02.2023 has instructed the admin section to take up the matter hence the following allotment was done accordingly.

1. 2 Students to Solar Section.
2. 2 Students to EC Section.
3. 2 Students to PBDS & EVI Section.

In this regard the concerned sections are requested to take necessary action accordingly

**Manger (Admin)**

To

1. Project Director , Solar Section, Head Office, Hyderabad.
2. Deputy General Manager (Technical), EC & WE Section, Head Office, Hyderabad..
3. Project Director, PBDS & EVI Section, Head Office, Hyderabad.
4. Head of Department of History, ST. Ann's College for Women, Hyderabad.

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**SUNIL SHARMA I.A.S.,**  
Special Chief Secretary to Government



**ENERGY DEPARTMENT**

Government of Telangana  
7<sup>th</sup> Floor, B-Block, BRKR Bhavan,  
T.S. Secretariat, Hyderabad - 500063.  
Off: +91-40-23453305, Fax: +91-40-23455452  
E-mail: splcs\_energy@telangana.gov.in

Lr. 1/Peshi/2023

Dt: 17.02.2023

The St. Ann's College for Women has requested for Internship related to Renewable Energy (Solar, Wind, Geothermal, EV Vehicles (storage), and upcoming Technologies like Hydrogen, Biomass, ) and Electrical Safety for the following students

1. Trishita
2. G Pavani
3. K Neha
4. Disha Mukherji
5. Astha Singh
6. Meghana

Hence you may take necessary action and arrange the internship for the students from March 1<sup>st</sup> to 10<sup>th</sup>.

TSRedco from March 1<sup>st</sup> to 8<sup>th</sup>

Electrical inspector from March 9<sup>th</sup> and 10<sup>th</sup>.

Regards

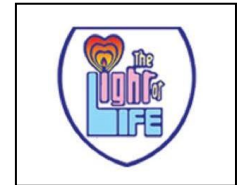
*Sunil Sharma*  
17.2.23

(Sunil Sharma)

Encl.: Copy of Request Letter.

1. VC & MD, TSREDCO, Hyderabad
2. Chief Electrical Inspector, Hyderabad
3. Copy to Head Department of History, St. Ann's College for Women, Hyderabad

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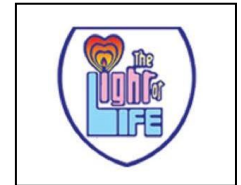


**Dharini Eco club observed Earth hour 2023** by creating awareness about the event in student and Faculty groups and also social media handles to spread the word and see that maximum people participate in the event. On Saturday 25<sup>th</sup> March 2023 Earth hour was observed by switching off lights for an hour. Our student volunteers designed posters and created a short video on Significance of Earth Hour and why we should take part in it. Also students conducted a Awareness Quiz on Earth Hour importance in the student groups.






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In conclusion, our institution is trying to lead by example in the transition to a more sustainable future. Implementing energy conservation measures not only reduces operational costs but also fosters a culture of sustainability among students, staff, and the broader community. By investing in energy efficiency and renewable energy, we can make significant strides toward mitigating climate change and promoting a greener, more sustainable campus environment.



  
Dr. Sr. P. Amrutha  
*Principal*  
**St. Ann's College For Women**  
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