



# **SREE DATTHA INSTITUTE OF ENGINEERING AND SCIENCE**

Established by Vyjayanthi Educational Society, approved by AICTE and affiliated to JNTUH, accredited by NAAC)  
Nagarjuna Sagar Road, Sheriguda (V), Ibrahimpatnam (M), R.R.Dist., Greater Hyderabad-501510. T.S  
Ph no:8414-320919,Email:info@sreedattha.ac.in,www.sreedattha.ac.in

## **CRITERION-7**

### **7. INSTITUITONAL VALUES AND BEST PRACTICES**

#### **7.1.6 QUALITY AUDITS ON ENVIRONMENT AND ENERGY ARE REGULARLY UNDERTAKEN BY THE INSTITUTION**

##### **7.1.6.1 REPORTS ON ENVIRONMENT AND ENERGY AUDITS SUBMITTED BY THE AUDITING**



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### GREEN AUDIT

The "National Assessment and Accreditation Council"(NAAC) guidelines under "Institutional Values and Social Responsibilities" stipulates campuses to adopt green practices, educate and display sensitivity towards issues like climate change and environmental issues

The accreditation body NAAC declares the institutions as Grade A, Grade B or Grade C according to the scores assigned at the time of accreditation for various initiatives and carry out Green Audit under Criteria -7 for emulating the best practices adopted by the institution with respect to Environmental practices in and out of the campus.

#### **Definition**

Green audit is the process by which institutions/ organizations adopt a methodology for identification, quantification & verification of best practices with respect to environmental initiatives such as energy efficiency, water conservation, waste management and carbon emissions. The outcome of such audit would enable institutions benchmark themselves and adopt best practices and contribute towards better environmental goals of the organization/institution.

#### **Objectives of the Study**

The main objective of green audit is to access the performance and activities related to environmental conservation and management in the campus. The purpose of this initiative is also to promote projects for environment protection and sustainability and use the findings of Green Audit as a guidance tool

- To bring in accountability for environment conservation
- To create concern among students for environment and sustainability.
- To minimize human exposure to-risk from environmental ,health and safety problems.





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### Scope of the Audit

The audit examines the data and the activities with respect to broad parameters and metrics used to measure and monitor environmental performance such as

- ❖ Energy conservation
- ❖ Renewable Energy
- ❖ Water conservation
- ❖ Waste Management and Recycling
- ❖ Carbon sequestration
- ❖ Training and skill development
- ❖ Recommendation & Suggestions
- ❖ Conclusions

### ACKNOWLEDGEMENT

Ecsol India extends its warm thanks to Sree Dattha Institute of Engineering and Sciences for the opportunity and support rendered during the course of the Green/Environmental Audit.

We appreciate the interest, enthusiasm, and commitment of the management towards pursuing energy conservation activities within the facility.

Ecsol India would also like to specially thank the Sree Dattha Institute of Engineering and Sciences team comprising of Principal Dr.Parameswara Rao , for the relentless support and time dedicated towards this study.

We also extend our special thanks to all the personnel from various departments who have helped us during this audit.







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**GREEN AUDIT**

**SREEDATTHA INSTITUTE OF ENGINEERING AND SCIENCES**  
**SHERIGUDA(V)IBRAHIMPATNAM(M) RANGAREDDY (D)**

**-2023-24**



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Sree Dattha Institute of Engineering and Sciences is one of the premier institutions providing both undergraduate and Post-graduate courses in the pharmacy education in Hyderabad. It was established by Vyjayanthi Educational Society in 2005. The college offers B.Tech, M. Tech courses.

The college has a total student strength of around 5800 students in various branches. The institution has a total of area of about 7 596 sq.mts in which the constructed area occupies 4271 sq.mts. The institution has been forefront in sustainable practices and is in compliance to latest practices. It has laid major emphasis on energy efficiency improvement and green initiatives. Some of them are a dedicated energy use policy which stipulates

### **GREEN& ENERGY POLICY**

- Evaluate effectiveness of the Energy Management System through regular audits and management reviews
- Replacement of electrical equipment with energy efficient equipment of higher energy efficiency rating.
- Purchase energy-efficient products and services.
- Ensure involvement and participation of staff & students by providing training and awareness.
- Ensure availability of information and all necessary resources to achieve energy objectives and targets.
- Adopt best practices with respect to use of energy mix with minimal ecological footprint
- Use Renewable Energy as major source of energy
- Minimize wastages through efficient use of resources by adopting 3R (Reduce, Reuse & Recycle) practices.
- Use of energy efficient air conditioners and lighting system
- Good green landscape to building area ratio







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### **Other Green initiatives**

The campus has adopted measures to reduce Ecological Footprint. Some of the measures are

### **Green Transportation**

- Carpooling by staff and students to reduce GHG footprint
- Smart routing of the college transport bus to maximize staff and student movement and reduced no of trips
- In addition to this the college carries out tree plantation as part of Haritha haram by Telangana Govt.

### **ENERGY EFFICIENCY**

Electrical energy requirements of the campus is met through grid electricity, captive generation through Diesel Generator is used for emergency purposes The institution is committed to continual improvement in energy efficiency in all areas of our operations.

- Replacement of normal Air conditioners with 3-star energy efficient Air conditioners
- Replacement of old ceiling fans with energy efficient fans
- Retrofitting of LED tubes in the conventional tube holders
- Replacement of Old CRT monitors with LCD monitors

### **Energy consumption pattern**

The energy consumption at the campus for the year 2023-24 is 43,093.8 (Consumption in KVAH)





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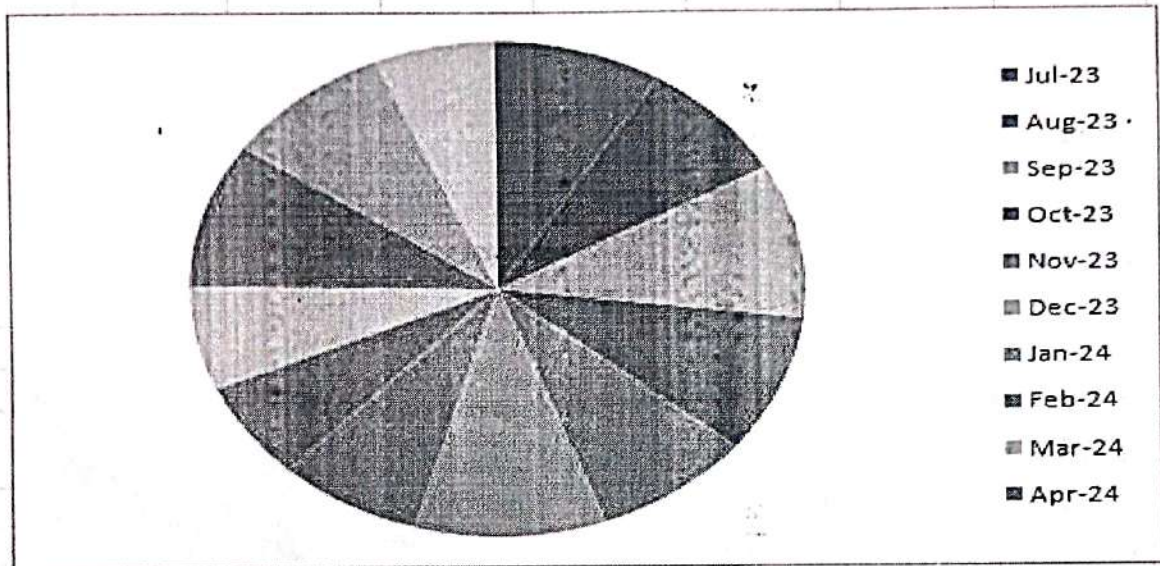




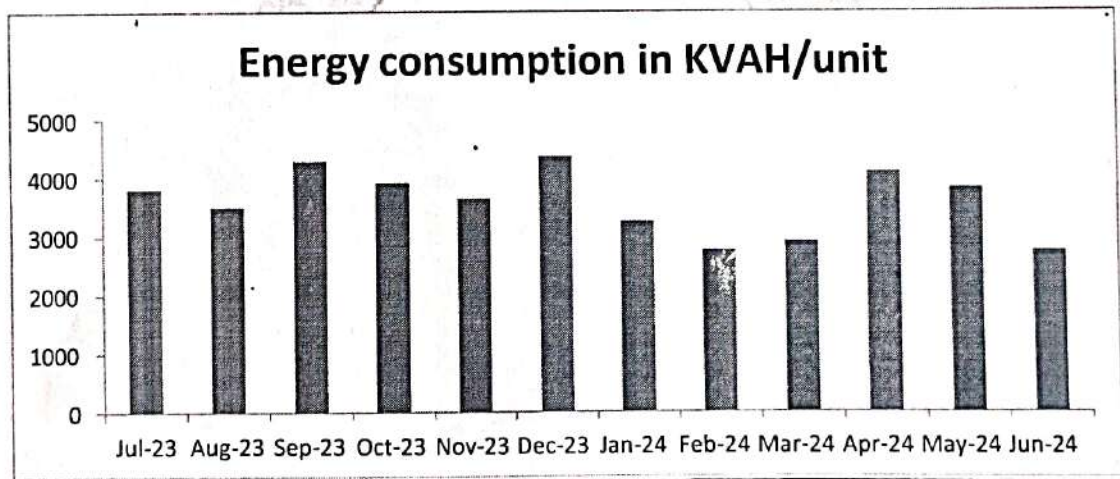


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Graphical representation of power consumption in SDES block







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## RENEWABLE ENERGY:

### BIOGAS

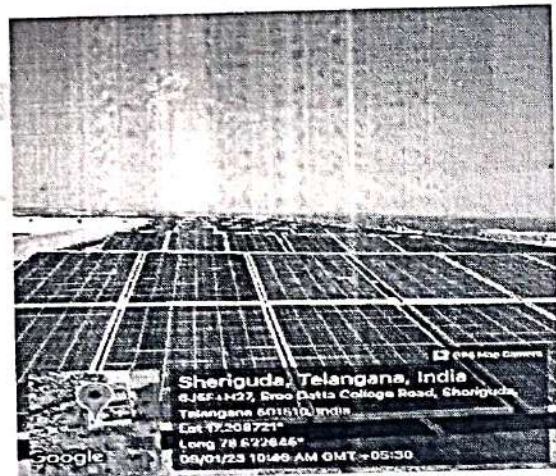
The institution also utilizes the canteen waste for generating biogas through an anaerobic digester or technology-based biogas plant of 25 - 30 kg canteen waste as raw material and which can generate about 5 to 10 kg of gas.

### SOLAR ENERGY

The institution has taken up installation of 500 units generation capacity solar PV Roof top system of 573.797 MWH per year capacity grid integrated system with net metering facility.

The campus has utilized the full roof top capacity for solar PV and Solar hot water system.

generation. The solar PV system is a grid system with state-of-the-art net metering



ESTD 2005



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### SOLAR WATER HEATING SYSTEM

The institute also installed solar water heating system to meet their hot water requirement.



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### WATER CONSERVATION AND WASTE WATER MANAGEMENT

The campus uses fresh water from two sources

- Municipality water
- Ground water from bore wells

The water obtained from the two sources is stored in the underground water tanks and through overhead tanks it then distributed. The average annual water consumption of the campus is as follows

Water Source	Consumption in KL/day	Annual Consumption KL/Annum
Drinking water From Municipality	1	300
Groundwater from Bore wells	2	600
Total Consumption	3	900
The value is obtained for 300 days of annual working days of the institution		

The need for efficient and effective use of water has been paramount for the institution. Some of the best practices in water conservation are

- Installation of water efficient fixtures for minimal use of water
- Maximum water recharging system through RWH pits with gravity design







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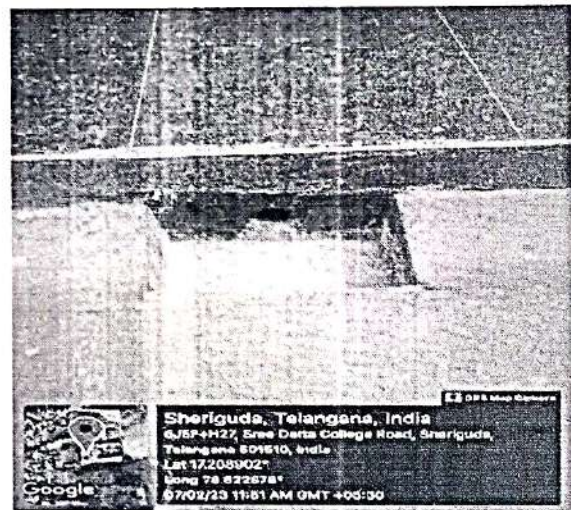
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### RAIN WATER HARVESTING/HARVESTING PIT:

The landscape and water channels at the institution have been efficiently designed to facilitate gravity flow(energy efficient process) to the water recharging pits for ground water recharging thus providing water availability for majority of the time during the year.

The college has also made provisions for collection of rainwater for ground water recharge for which a rain water harvesting pit is located in the campus. The dimensions of the pit are as follows

Length-14feet,Width-7feet,Depth-6feet,Height-2.5feet.



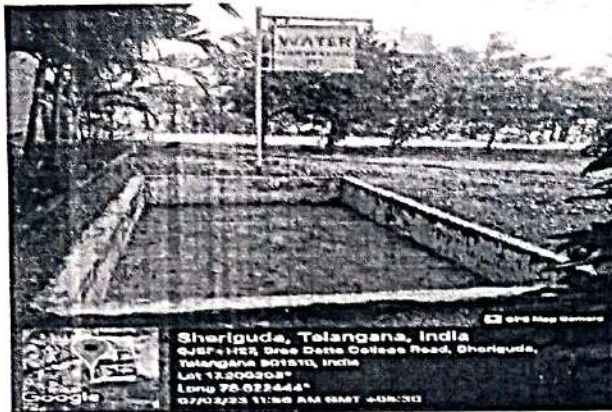
### DRAINS FACILITATING WATER GRAVITY FLOW TO RAIN WATER HARVESTING PIT





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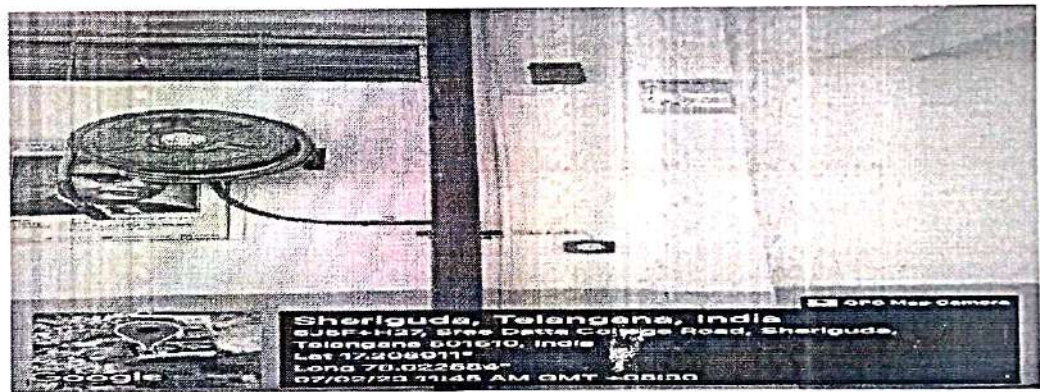


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### FIRE SECURITY SERVICES:

The campus provides efficient fire protection services. Fire extinguishers are installed in all labs and floors and fire alarm monitoring systems have also been provided to combat the emergencies







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### WASTE GENERATION AND RECYCLING

- The institution has taken several initiatives to minimize, segregate and dispose waste in an efficient manner.
- There are two types of waste which is generated in the campus.
- **Wet waste**—canteen
- **Dry waste**—dry leaves, paper, plastic etc
- The waste generation in the campus is on average.

Type of the waste	Quantit yin Kg/day	Use
Wet waste	12kg/day	1-5 Kg for Biogas used
Dry organic waste	23kg/day	Composting and environment friendly disposal
Inorganic waste	Inventorisation of other waste such as plastics and material waste are initiated and will be reported going forward	

The waste is carefully segregated and disposed of through the local municipal body. The different solid wastes collected such as paper, food, plastic, biodegradable, construction, glass, dust etc. was classified into **recyclable and non-recyclable** further it was quantified and some of them were recycled in-house and others have been sent to responsible recycling organizations. The waste inventory record has been for the last 5 years and steps have been taken to reduce and recycle waste.





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Quantity of waste kg/annum				
Year	Canteen waste in kgs/day	Canteen Waste/annum	Dry organic waste/day	Dry organic waste/annum
2023-24	13	5000	25	9,000

### E-WASTE GENERATION

E-waste generated in the campus is very less in quantity. The irreparable e-waste like non-working CDs, old batteries, unusable mouse, cables, extension wires and other computer accessories are disposed off through recognized agencies. Monitors and CPUs are repaired and reused in most of the cases.

### BIOMEDICAL WASTE

Engineering Experiments for UG students were conducted using simulated software's. The biomedical waste generated is of minimum quantity and is collected in separate closed bins. GJ Multiclave (India) Pvt. Ltd is providing biomedical waste management services to the institute on a regular basis







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### ENVIRONMENTAL INITIATIVES AND THEIR IMPACT

The initiatives taken by SDES team in the area of energy and environment is substantial and appreciable. .

Name of the initiative	Action taken	Benefits
<b>Water Management Implementation</b>	<ul style="list-style-type: none"><li>• Systematic plan of rain water harvesting in place</li><li>• Tracks the amount of water collected from the rooftops</li><li>• Several small vertical and narrow harvesting pits for seepage of water under the ground at various places.</li><li>• Plans to filter the rainwater and store in a tank for future purposes.</li></ul>	Utilization of rain water and recharging the ground
<b>E-waste management</b>	<ul style="list-style-type: none"><li>• E-waste from the computer Lab is collected and segregated</li><li>• E-waste should be given to Authorized agencies for Further disposal/processing as described by Pollution control Board</li></ul>	E-Waste is responsibly
<b>Indoor Air Quality</b>	<ul style="list-style-type: none"><li>• The classrooms have good window to wall ratio</li><li>• Thus, the fresh air quality is maintained</li></ul>	Overall CO <sub>2</sub> content of the classrooms is less and it Offers better indoor air quality disposed
<b>Carbon Sequestration</b>	The campus has good number of trees with satisfactory green canopy	The college is in the process of accounting the trees







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## **ENERGY AUDIT**

**SREEDATTHA INSTITUTE OF ENGINEERING AND SCIENCE**

**SHERIGUDA(V)IBRAHIMPATNAM(M) RANGAREDDY (D)**

**2023-24**



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