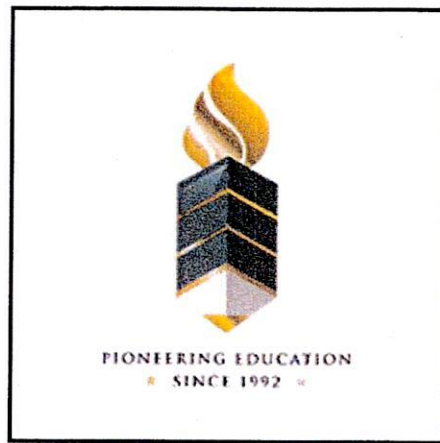


# ENVIRONMENTAL AUDIT REPORT

of

## RAHUL COLLEGE OF EDUCATION

Navghar Raod, Bhayander (East), Thane 401 105



Year: 2021-22

Prepared by:

### ENGRESS SERVICES

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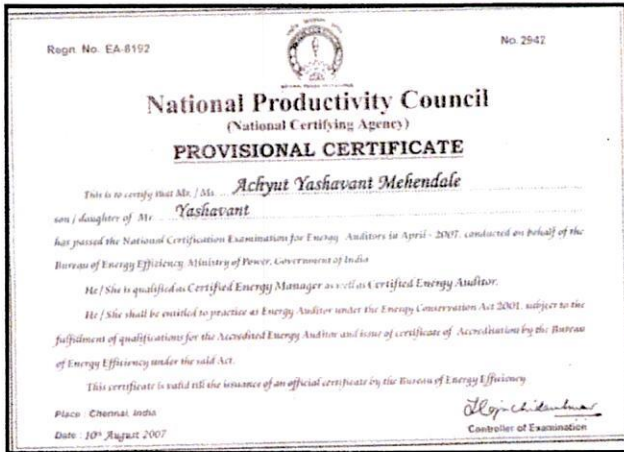
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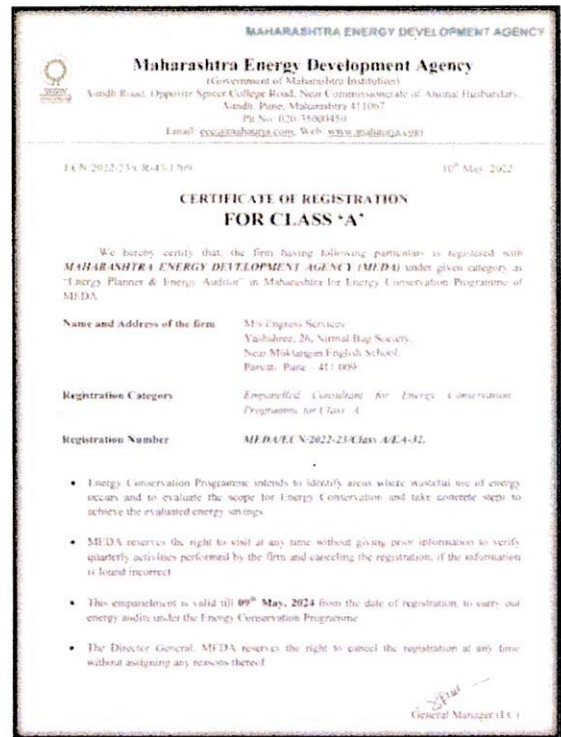
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### REGISTRATION CERTIFICATES



BEE AUDITOR CERTIFICATE



MEDA EMPANELMENT CERTIFICATE



ASSOCHAM GEM CP CERTIFICATE

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Ref: ES/RCOE/21-22/03

Date: 22/7/2022

## CERTIFICATE

This is to certify that we have conducted Environmental Audit at Rahul College of Education, Bhayander (East) Thane 401 105, in the Academic year 2021-22.

The College has adopted following Environment Friendly Practices:

- Usage of Energy Efficient LED Light Fitting
- Maximum Usage of Day Lighting
- Segregation of Waste at source
- Implementation of Rain Water Management Project
- Creation of Awareness on Energy Conservation by Display of Posters

We appreciate the support of Management, involvement of faculty members and students in the process of Energy Conservation & making the campus Green.

For Engress Services,



**A Y Mehendale,**  
Certified Energy Auditor, EA-8192  
ASSOCHAM GEM Certified Professional: GEM: 22/788



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## **ACKNOWLEDGEMENT**

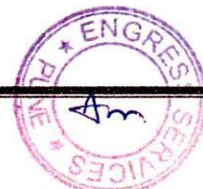
We Engress Services, Pune, express our sincere gratitude to the management of Rahul College of Education, Bhayander (East) Thane 401 105, for awarding us the assignment of Environmental Audit of their Campus for the Year: 2021-22.

We are thankful to all Staff members for helping us during the field study.

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## EXECUTIVE SUMMARY

1. Rahul College of Education, Bhayander, consumes Energy in the form of Electrical Energy; used for various Electrical Equipment..

2. Pollution caused due to College Activities:

- **Air pollution:** Mainly CO<sub>2</sub> on account of Electricity Consumption
- **Solid Waste:** Bio degradable Garden Waste, Recyclable Waste and Human Waste
- **Liquid Waste:** Human Liquid waste

3. Present Energy Consumption & CO<sub>2</sub> Emission:

| No | Parameter/Value | Energy Consumed, kWh | CO <sub>2</sub> Emissions, MT |
|----|-----------------|----------------------|-------------------------------|
| 1  | Total           | 24319                | 21.89                         |
| 2  | Maximum         | 2369                 | 2.13                          |
| 3  | Minimum         | 1763                 | 1.59                          |
| 4  | Average         | 2026.58              | 1.82                          |

4. Usage of Renewable Energy:

- The College has yet to install Roof Top Solar PV Plant.

5. Indoor Air Quality Parameters:

| No | Parameter/Value | AQI | PM-2.5 | PM-10 |
|----|-----------------|-----|--------|-------|
| 1  | Maximum         | 103 | 61     | 78    |
| 2  | Minimum         | 93  | 56     | 69    |

6. Indoor Comfort Condition Parameters:

| No | Parameter/Value | Temperature, °C | Humidity, % | Lux Level | Noise Level, dB |
|----|-----------------|-----------------|-------------|-----------|-----------------|
| 1  | Maximum         | 29.1            | 42          | 132       | 45              |
| 2  | Minimum         | 28.7            | 41          | 98        | 42.7            |

7. Waste Management:

7.1 Segregation of Waste at Source:

The Dry and Wet waste is segregated at the source. Waste collection Bins are kept at various points.

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#### 8. Rain Water Management:

The Rain water falling on terrace is used to increase the Underground Water Table.

#### 9. Eco Friendly Initiatives:

- Creation of awareness on Energy Conservation by Display of Posters

#### 10. Assumption:

1. 1 kWh of Electrical Energy releases 0.9 Kg of CO<sub>2</sub> into atmosphere

#### 11. References:

1. For Various Indoor Air Parameters: [www.ishrae.com](http://www.ishrae.com)
2. For AQI Standards: [www.cpcb.com](http://www.cpcb.com)
3. For CO<sub>2</sub> calculations: [www.tatapower.com](http://www.tatapower.com)

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## ABBREVIATIONS

|        |   |                                       |
|--------|---|---------------------------------------|
| Kg     | : | Kilo Gram                             |
| MT     | : | Metric Ton                            |
| kWh    | : | kilo-Watt Hour                        |
| LPD    | : | Liters per Day                        |
| LED    | : | Light Emitting Diode                  |
| AQI    | : | Air Quality Index                     |
| PM-2.5 | : | Particulate Matter of Size 2.5 Micron |
| PM-10  | : | Particulate Matter of Size 10 Micron  |
| CPCB   | : | Central Pollution Control Board       |

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At Rahul College of Education, we have pioneered a robust and innovative waste management system, setting a benchmark for environmental sustainability and campus cleanliness. Our system is unique in its comprehensive approach, which includes several key components. This system contributes to a cleaner and greener campus and provides numerous benefits to our college community, such as a healthier environment, reduced waste disposal costs, and opportunities for learning and engagement.

**1. Segregation of Waste:**

- We have adopted a dual-bin system with clearly labelled bins for dry and wet waste, placed strategically throughout the campus. Dry waste includes paper, plastic, and metals, while wet waste consists of organic materials like food scraps and garden waste. This segregation facilitates efficient waste processing and recycling.

**2. Awareness Programs:**

- Comprehensive awareness campaigns are conducted regularly for all college community members, including students, teachers, administrative staff, and support staff like peons. These programs emphasise the importance of proper waste segregation, the environmental impact of waste, and individual responsibilities in maintaining campus cleanliness.

**3. Canteen Initiatives:**

- The college canteen plays a crucial role in our waste management efforts. Staff members are trained to manage food portions carefully to minimise waste. Additionally, any food waste generated is adequately segregated and managed to reduce its environmental footprint. The canteen also encourages students and staff to avoid wastage by promoting mindful eating practices.

**4. Compost Bin:**

- A compost bin is maintained on campus to handle organic waste. The organic waste collected in the wet waste bins is processed in the compost bin and converted into nutrient-rich compost. This compost is then used to nourish the college gardens and green spaces, creating a sustainable cycle of waste reuse and contributing to a greener campus.

**5. E-Waste Management:**

- E-waste, such as discarded electronic devices and components, is managed through a dedicated collection and disposal system. Special drives are conducted, and students and staff collect waste. The collected e-waste is then sent to certified e-waste recycling facilities, ensuring that hazardous materials are disposed of safely and valuable components are reused.

**6. Annual Green Audit:**

- We conduct an annual green audit to evaluate the effectiveness of our waste management practices and overall environmental performance. The green audit involves a thorough assessment of waste segregation practices, recycling efforts, and the impact of our initiatives on reducing the campus's carbon footprint.

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**7. Recycling Programs:**

- In addition to composting organic waste, we have established recycling programs for materials like paper, plastic, and electronic waste. Special bins and collection points are designated for recyclable materials, ensuring they are properly processed and diverted from landfills.

**8. Student Involvement:**

- Students play an active role in our waste management efforts. We have eco-clubs and environmental groups organising events, workshops, and clean-up drives to raise awareness and promote sustainable practices. These student-led initiatives foster a culture of environmental responsibility and encourage peer-to-peer learning.

Through these comprehensive waste management initiatives, Rahul College of Education reaffirms its commitment to fostering an eco-friendly environment and promoting sustainable practices. By educating our community and implementing effective waste management strategies, we aim to set an example of environmental stewardship and contribute to a cleaner, greener future.

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## WET AND DRY WASTE SEGREGATION



## DRIP IRRIGATION



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