GREEN AUDIT REPORT

of

ASM'S COLLEGE OF COMMERCE, SCIENCE & INFORMATION TECHNOLOGY,

Pimpri, Pune 411 018

Year: 2021-22

Prepared by

ENGRESS SERVICES

Yashashree, 26, Nirmal Bag Society
Near Muktangan English School, Parvati, Pune 411009
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ENGRESS SERVICES PUNE

MAHARASHTRA ENERGY DEVELOPMENT AGENCY

Maharashtra Energy Development Agency

(Government of Maharashtra Institution)
Aundh Road, Opposite Spicer College Road, Near Commissionerate of Animal Husbandary,
Aundh, Pune, Maharashtra 411067
Ph No. 020-35000450
Email: ece@mahaurja.com, Web: www.mahaurja.com

MEDA/ECN/2022-23/CR-4/UI709 — 10th May, 2022

CERTIFICATE OF REGISTRATION
FOR CLASS 'A'

We hereby certify that, the firm having following particulars is registered with ***MAHARASHTRA ENERGY DEVELOPMENT AGENCY (MEDA)*** under given category as "Energy Planner & Energy Auditor" in Maharashtra for Energy Conservation Programme of MEDA.

Name and Address of the firm : M/s Engress Services
Yashshree, 26, Nirmal Bag Society,
Near Muktangan English School,
Parvati, Pune – 411 009.

Registration Category : *Empanelled Consultant for Energy Conservation Programme for Class 'A'*

Registration Number : ***MEDA/ECN/2022-23/Class A/EA-32.***

- Energy Conservation Programme intends to identify areas where wasteful use of energy occurs and to evaluate the scope for Energy Conservation and take concrete steps to achieve the evaluated energy savings.
- MEDA reserves the right to visit at any time without giving prior information to verify quarterly activities performed by the firm and canceling the registration, if the information is found incorrect.
- This empanelment is valid till **09th May, 2024** from the date of registration, to carry out energy audits under the Energy Conservation Programme
- The Director General, MEDA reserves the right to cancel the registration at any time without assigning any reasons thereof.

General Manager (EC)

ENGRESS SERVICES

Yashashree, 26, Nirmal Bag Society,
Near Muktangan English School, Parvati, Pune 411 009
Tel: 020-24220747 Email: engress123@gmail.com

Ref: ES/ASMCSIT/21-22/02

Date: 20/6/2022

CERTIFICATE

This is to certify that we have conducted Green Audit at ASM's College of Commerce, Science & Information Technology, Pimpri, Pune 411 018 in the year 2021-22.

The College has adopted Green Practices:

- Usage of Energy Efficient LED Fittings
- In process installation of Roof Top 2.5 kWp Solar PV Plant
- Segregation of Waste at source
- Installation of Sanitary Waste Incinerator, for disposal of Sanitary Waste
- Installation of Rain Water Management Project
- Maintenance of Good Internal Roads
- Tree Plantation in the campus
- Provision of Ramp for Divyangajan
- Creation of awareness on Resource 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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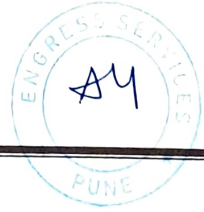
ACKNOWLEDGEMENT

We at Engress Services, Pune, express our sincere gratitude to the management of ASM's College of Commerce, Science & Information Technology, Pimpri, Pune 411 018, for awarding us the assignment of Green Audit of their Pimpri campus for the Year: 21-22

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



EXECUTIVE SUMMARY

1. ASM's College of Commerce, Science & Information Technology, Pimpri, Pune consumes Energy in the form of Electrical Energy; used for various gadgets, Office & other facilities.

2. Energy Consumed and CO_2 Emission:

No	Parameter	Energy Consumed, kWh	CO_2 emissions, MT
1	Total	36909	33.22
2	Maximum	3807	3.43
3	Minimum	2395	2.16
4	Average	3076	2.77

3. Various Majors Adopted for Energy Conservation:

- Usage of Energy Efficient LED fittings
- Maximum Usage of Day Lighting
- In process installation of 2.5 kWp Roof Top Solar PV Plant

4. Usage of Renewable Energy Source:

- The College is in process of installation of 2.5 kWp Roof Top Solar PV Plant.

5. Waste Management:

5.1 Segregation of Waste at Source:

The Waste is segregated at source and the recyclable waste like Paper waste, Plastic Waste is handed over to authorized agency.

5.2 Sanitary Waste Management:

The College has installed Sanitary Waste Incinerator, for disposal of Sanitary Waste.

5.3 Organic Waste Management:

It is recommended to compost the organic waste like leafy and canteen waste.

5.4 E-Waste Management:

It is recommended to dispose of the E-Waste through Authorized Agency.

6. Rain Water Management:

The College has installed Rainwater Management Project. The rain water falling on the terrace is collected through pipes and is used to increase the underground water table.

7. Green & Sustainable Practices:

- Good Internal Roads
- Internal Tree Plantation
- Provision of Ramp for Divyangajan
- Creation of Awareness on Resource Conservation by Display of Posters

8. Assumption:

- 1 kWh (Unit) of Electrical Energy releases 0.9 Kg of CO_2 into atmosphere

9. Reference:

- For CO_2 calculations: www.tatapower.com

ABBREVIATIONS

ASM	:	Ayudyogik Shikshan Mandal
LED	:	Light Emitting Diode
kWh	:	kilo-Watt Hour
MT	:	Metric Ton
CO_2	:	Carbon Di Oxide

CHAPTER-I
INTRODUCTION

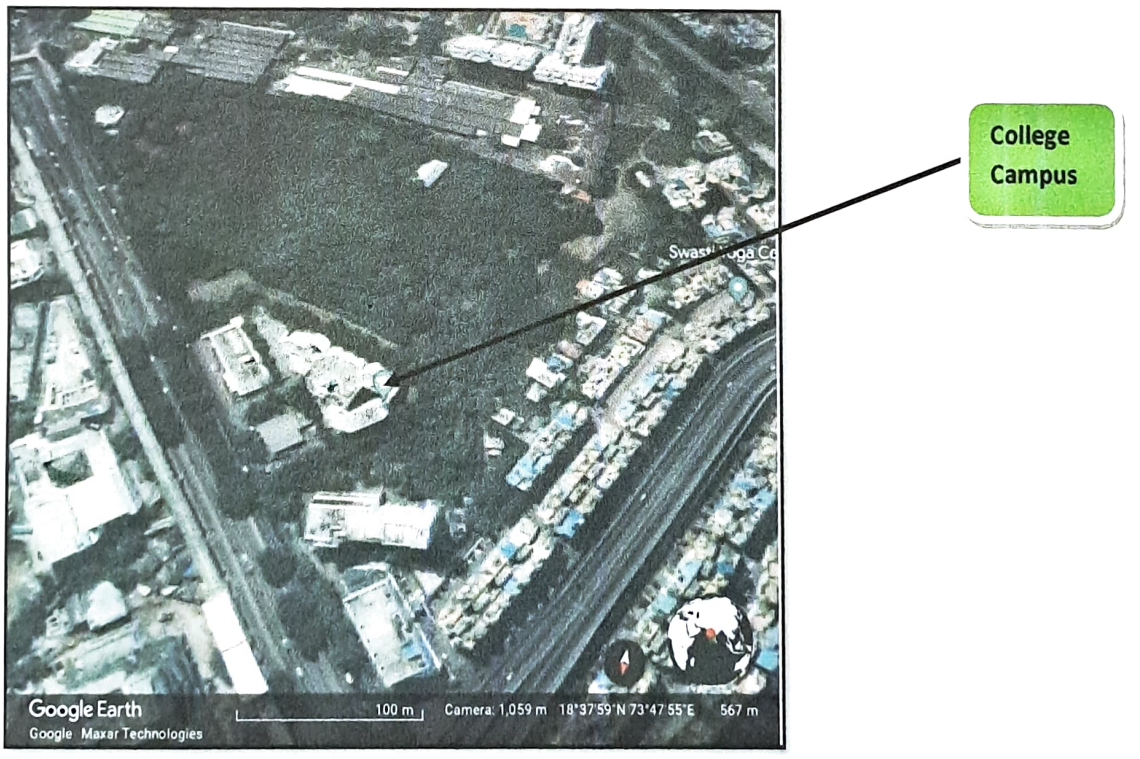
1.1 Objectives:

1. To study present Energy Consumption
2. To Study the present CO_2 emissions
3. To study Usage of Renewable Energy
4. To study Waste Management practices
5. To study Green & Sustainable Practices

1.2 Table No-1: General Details of College:

No	Head	Particulars
1	Name	ASM's College of Commerce, Science & Information Technology
2	Address	Pimpri, Pune 411 018
3	Year of Establishment	2001
3	Affiliation	Savitribai Phule Pune University

1.3 Google Earth Image:



CHAPTER-II
STUDY OF PRESENT ENERGY CONSUMPTION

In this chapter, we present the analysis of last year Electricity Energy Consumption

Table No 2: Electrical Energy Purchase Analysis- 21-22:

No	Month	Energy Consumed, kWh
1	Apr-21	2531
2	May-21	2395
3	Jun-21	2885
4	Jul-21	3385
5	Aug-21	2680
6	Sep-21	2769
7	Oct-21	3367
8	Nov-21	3249
9	Dec-21	3807
10	Jan-22	3655
11	Feb-22	3079
12	Mar-22	3109
13	Total	36909
14	Maximum	3807
15	Minimum	2395
16	Average	3076

Chart No 1: To study the variation of Month wise Energy Consumed, kWh:

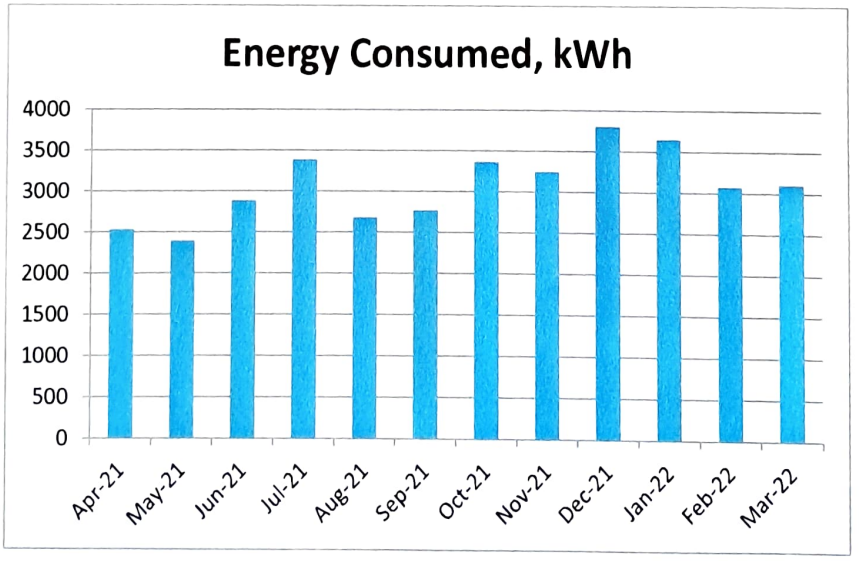


Table No 3: Important parameters:

No	Parameter	Energy consumed, kWh
1	Total	36909
2	Maximum	3807
3	Minimum	2395
4	Average	3076

CHAPTER-III
CARBON FOOTPRINTING

A Carbon Foot print is defined as the Total Greenhouse Gas emissions, emitted due to various activities.

In this we compute the emissions of Carbon-Di-Oxide, by usage of the various forms of Energy used by the College for performing its day to day activities

The College uses Electrical Energy for various Electrical gadgets.

Basis for computation of CO_2 Emissions:

The basis of Calculation for CO_2 emissions due to Electrical Energy are: 1 Unit (kWh) of Electrical Energy releases **0.9 Kg of CO_2** into atmosphere.

Based on the above Data we compute the CO_2 emissions which are being released in to the atmosphere by the College due to its Day to Day operations

Table No 4: Month wise CO_2 Emissions:

No	Month	Energy Consumed, kWh	CO_2 Emissions, MT
1	Apr-21	2531	2.28
2	May-21	2395	2.16
3	Jun-21	2885	2.60
4	Jul-21	3385	3.05
5	Aug-21	2680	2.41
6	Sep-21	2769	2.49
7	Oct-21	3367	3.03
8	Nov-21	3249	2.92
9	Dec-21	3807	3.43
10	Jan-22	3655	3.29
11	Feb-22	3079	2.77
12	Mar-22	3109	2.80
13	Total	36909	33.22
14	Maximum	3807	3.43
15	Minimum	2395	2.16
16	Average	3076	2.77

Chart No 2: Representation of Month wise CO_2 emissions:

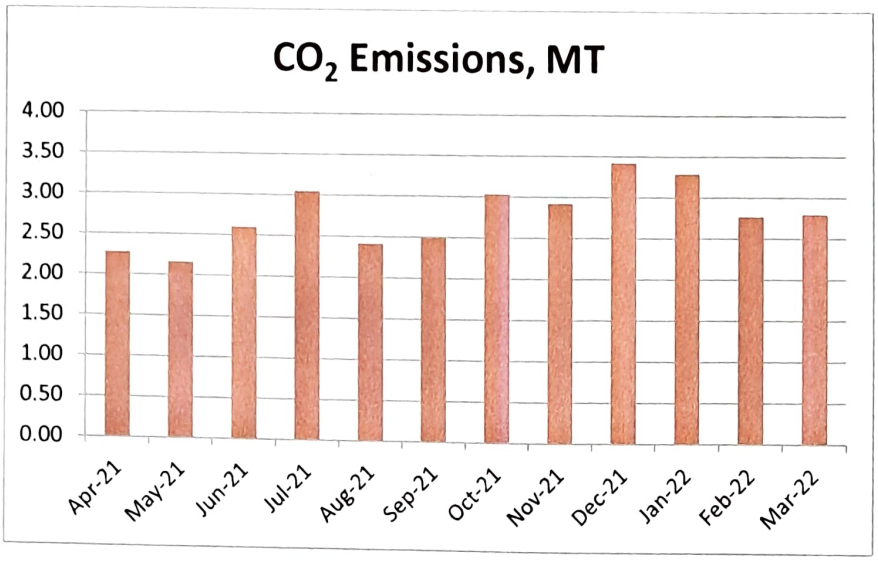


Table No 5: Key observations:

No	Parameter	Energy Consumed, kWh	CO_2 Emissions, MT
1	Total	36909	33.22
2	Maximum	3807	3.43
3	Minimum	2395	2.16
4	Average	3076	2.77

CHAPTER-IV
STUDY OF USAGE OF RENEWABLE ENERGY

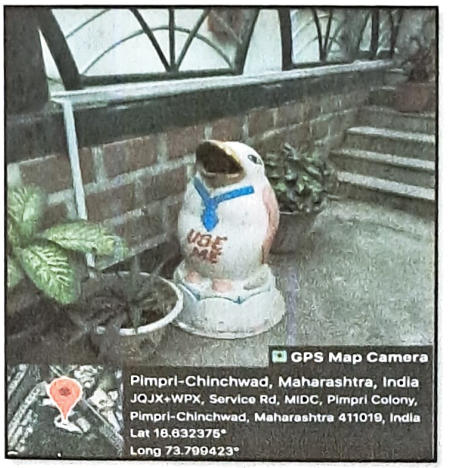
The College is in process of installation of **2.5 kWp** Roof top Solar PV Plant.

CHAPTER-V
STUDY OF WASTE MANAGEMENT

5.1 Segregation of Waste at Source:

The Waste is segregated at source. Waste bins are located at various locations

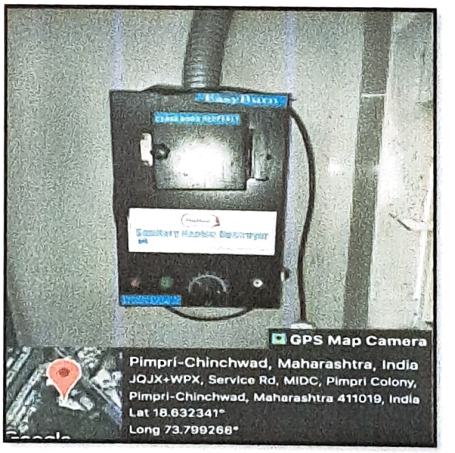
Photograph of Separate Waste Collection Bin:



5.2 Sanitary Waste Management:

The College has a Sanitary Waste Incinerator, to dispose of the Sanitary Waste.

Photograph of Sanitary Waste Incinerator:



5.3 Organic Waste Management:

It is recommended to compost the organic waste like leafy and canteen waste.

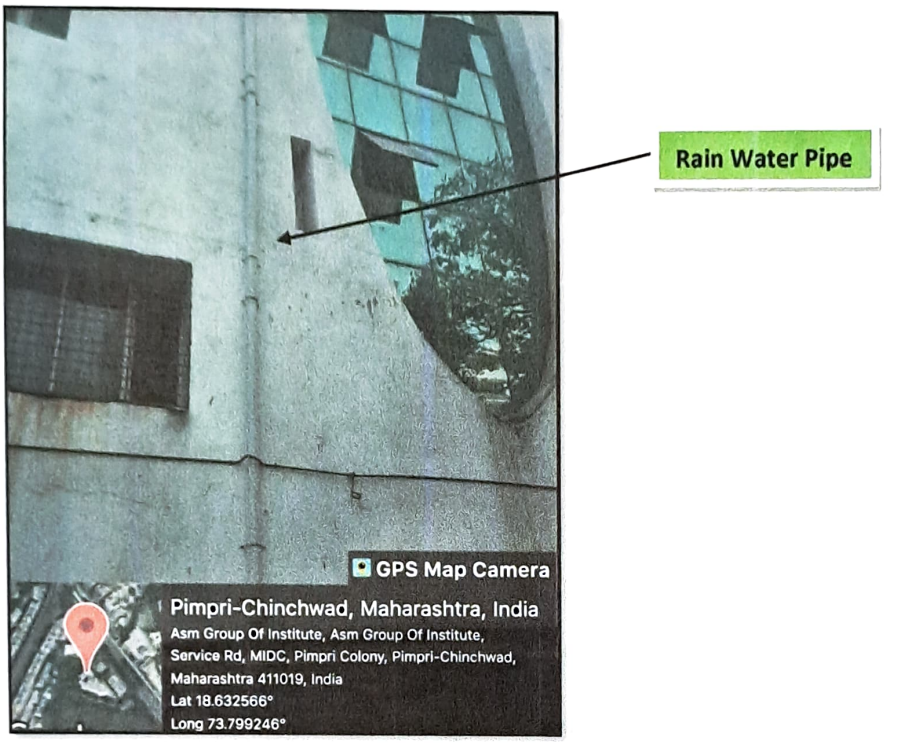
5.4 E-Waste Management:

It is recommended to dispose of the E-Waste through Authorized Agency.

CHAPTER-VI
STUDY OF RAIN WATER MANAGEMENT

The College has implemented the Rain Water Harvesting Project. The College has installed Pipes from the terrace and the Rain water falling on the terrace is gathered and is used to increase the underground water table.

Photograph of Rain Water Carrying Pipe:

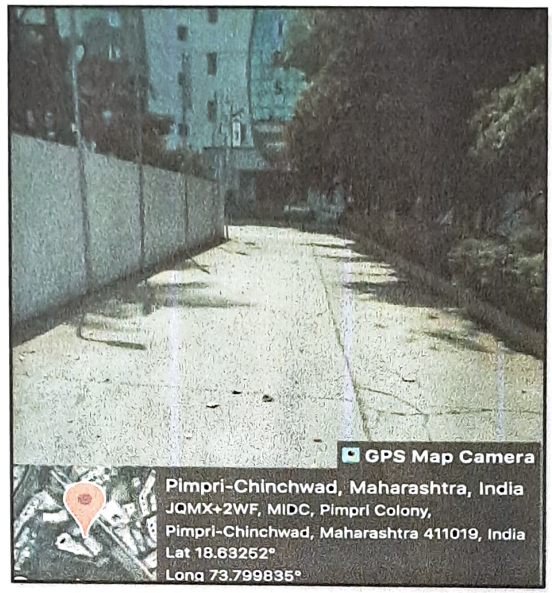


CHAPTER-VII
STUDY OF GREEN & SUSTAINABLE PRACTICES

7.1 Pedestrian Friendly Roads:

The College has well maintained pedestrian road as to facilitate the easy movement of the students within the campus.

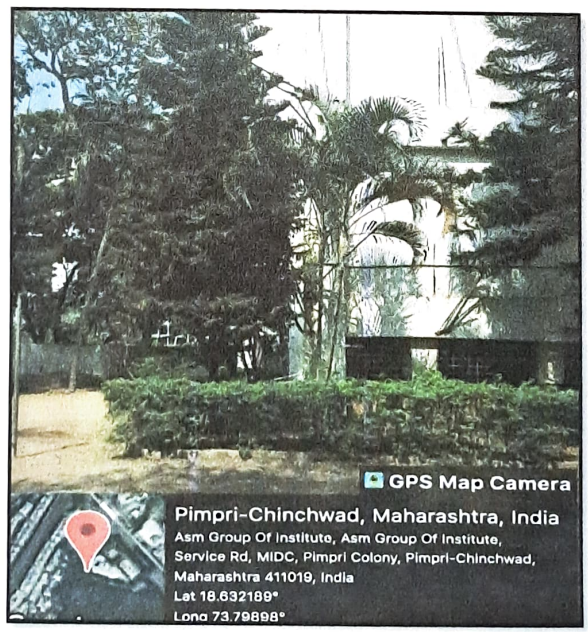
Photograph of Road within campus:



7.2 Internal Tree Plantation:

The College has well maintained Tree Plantation.

Photograph of Tree Plantation:



7.3 Provision of Ramp for Divyangajan:

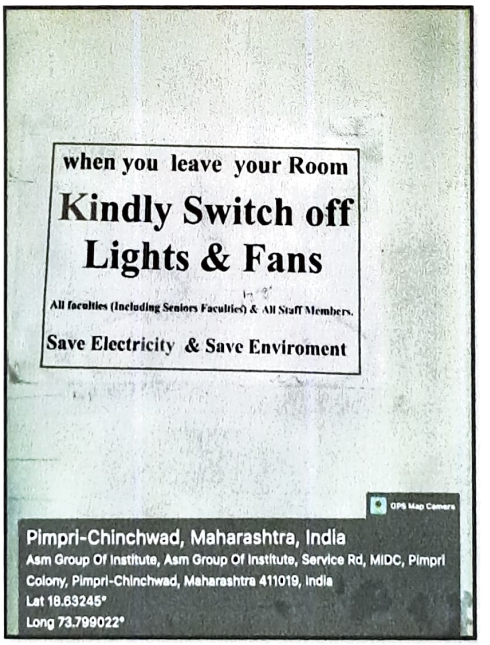
The College has made provision of Ramp for the Divyangajan.

Photograph of Ramp for Divyangajan:

7.4 Creation of Awareness by Display of Posters:

The College has displayed posters on conservation of Resource.

Photograph of Poster Display Board on Resource Conservation:



ANNEXURE
LIST OF TREES & PLANTS IN THE CAMPUS

1. List of Trees:

No	Common Name of Tree
1	Coconut
2	Mango
3	Kaduneem
4	Cluster Fig
5	Peepal
6	Vad
7	Ashoka
8	Sonchampa
9	Almond
10	Wild tamarind
11	Flame tree
12	English Tamarind
13	Charismas Tree
14	Coconut Palm
15	Palm
16	Custard apple
17	Sweet Lime
18	Nagchampa

2. List of Plants:

No	Common Name of Plant
1	Adulsa
2	Hibiscus
3	Duranta
4	Moses
5	Kardal
6	Drecena
7	Exora
8	Rhoeo
9	Croton