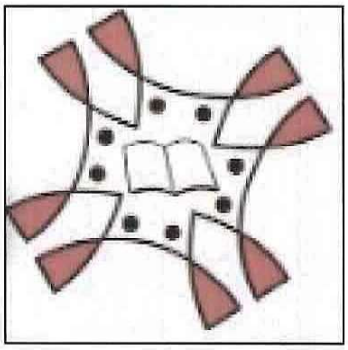
GREEN AUDIT REPORT

of

Harikisan Jajoo Education Sanstha's

College of Management & Computer Science

Naringe Nagar, Dhamangaon Road, Yavatmal 445 001



Year: 2022-23

Prepared by:

ENGRESS SERVICES

Yashashree, 26, Nirmal Bag Society
Near Muktangan English School, Parvati, Pune 411009
Phone: 09890444795 Email: engress123@gmail.com

ENGRESS SERVICES * PUNE *

ENGRESS SERVICES

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MEDA Registration No: ECN/2022-23/CR-43/1709
ISO: 9001-2015 Certified (Cert No: 23EQKC13),
ISO: 14001-2015 Certified (Cert No: 23EEKW20)

GREEN AUDIT CERTIFICATE

Certificate No: ES/CMCS/22-23/02 **Date: 21/10/2023**

This is to certify that we have conducted Green Audit at College of Management & Computer Science, Yavatmal, in the Year 2022-23.

The Institute has adopted following Energy Efficient & Green Practices:

- Usage of Energy Efficient LED Light Fitting
- Installation of 15 kWp Capacity Roof Top Solar PV Plant
- Segregation of Waste at Source
- Installation of Bio Composting Pit
- College has installed septic tanks and it cleans periodically
- Installation of Rain Water Management Project
- Maintenance of good Internal Road
- Tree Plantation in the Campus
- Provision of Ramp for Divyangajan
- Creation of awareness by display of Posters on Resource Conservation

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 Mahendale

A Y Mehendale,
B E- Mech, M Tech-Energy, Certified Energy Auditor, EA-8192
ASSOCHAM GEM Certified Professional: GEM: 22/788

ENGRESS SERVICES * PUNE *

REGISTRATION CERTIFICATES

Maharashtra Energy Development Agency

CERTIFICATE OF REGISTRATION
FOR CLASS 'A'

MEDA Registration Certificate

GEM Certificate

ASSOCHAM hereby certifies that

Mr. A Y Mehendale

has successfully passed the
Green and Eco-friendly Movement Certified Professional Test (GEM CP)
with
"Excellent Performance"
on
06 June, 2022

Pankaj R. Dharkar, Chairman, GEM — GEM CP 22/755 — Deepak Sood, Secretary General, ASSOCHAM

GEM Certified Professional Certificate

Certificate of Registration

This is to Certify that
Quality Management System of

ENGRESS SERVICES

has been assessed and found to conform to the requirements of
ISO 9001:2015
for the following scope :

Director

Magnitude Management Services Pvt. Ltd.

ISO: 9001-2015 Certificate

Certificate of Registration

This is to Certify that
Environmental Management System of

ENGRESS SERVICES

has been assessed and found to conform to the requirements of
ISO 14001:2015
for the following scope :

Director

Magnitude Management Services Pvt. Ltd.

ISO: 14001-2015 Certificate

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ACKNOWLEDGEMENT

We Engress Services, Pune, express our sincere gratitude to the management of College of Management & Computer Science, Yavatmal for awarding us the assignment of Green Audit of their Campus for the Year: 2022-23.

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

EXECUTIVE SUMMARY

1. College of Management & Computer Science, Yavatmal consumes Energy in the form of Electrical Energy; used for various Electrical Equipment, office & other facilities.

2. Present Energy Consumption& CO_2 Emission:

No	Particulars	Value	Unit
1	Annual Energy Consumption	21128	kWh
2	Annual CO_2 Emissions	19.01	MT

3. Renewable Energy & Energy Efficiency Projects:

- Usage of Energy Efficient LED Fittings
- Maximum usage of Day Lighting
- Installation of 15 KWp Solar Power Plant

4. Waste Management:

5.1 Segregation of Waste at Source:

The Waste is segregated at source in separate Waste Bins & is handed over for further action.

5.2 Bio Composting Pit:

The Institute has a Bio Composting Pit, to convert the Leafy Waste into Bio Compost.

5.3 Liquid Waste Management:

The Institute has installed Septic Tank and it cleans periodically.

5.4Sanitary Waste Management:

The Institute has installed Sanitary Waste Incinerator, for disposal of the Sanitary Waste.

5.5 E-Waste Management:

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

6. Rain Water Management:

The Institute has installed the Rainwater Management project; the rain water falling on the terrace is collected through pipes and is used for recharging the land water table.

7. Green & Sustainable Practices:

- Maintenance of good Internal Road
- Provision of Ramp and Lift for Divyangajan
- Creation of awareness on Resource Conservation Display of Posters

8. Assumption:

1. 1 kWh of Electrical Energy releases 0.9 Kg of CO_2 into atmosphere

9. Reference:

- For CO_2 Emissions: www.tatapower.com

ABBREVIATIONS

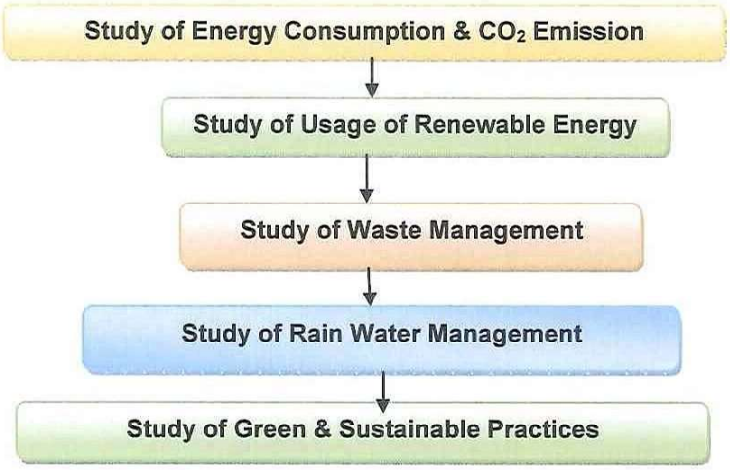
BEE	Bureau of Energy Efficiency
kWh	Kilo Watt Hour
LPD	Liters Per Day
Kg	Kilo Gram
MT	Metric Ton
CO_2	Carbon Di Oxide
Qty	Quantity

CHAPTER-I
INTRODUCTION

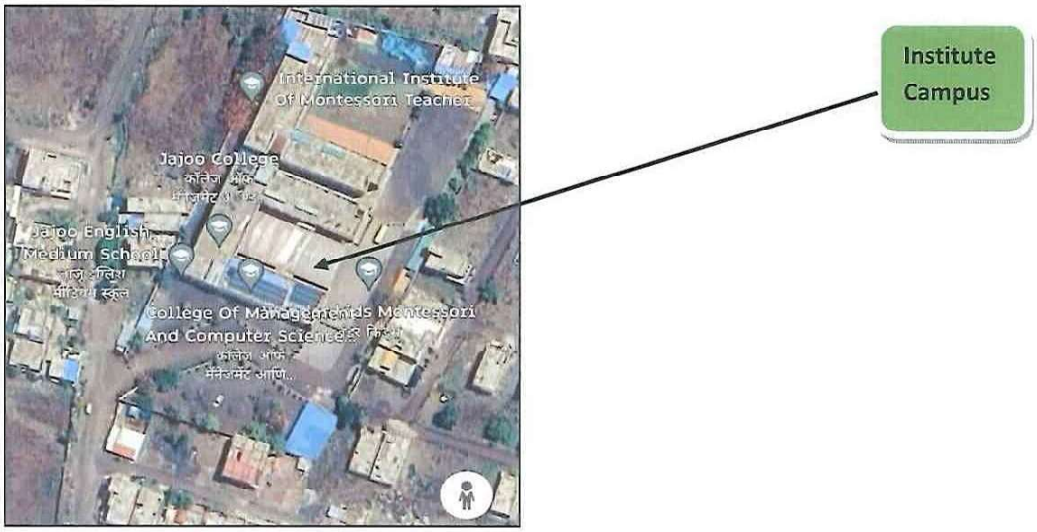
1.1 Introduction:

A Green Audit is conducted at College of Management & Computer Science, Yavatmal.

1.2 Audit Procedural Steps:



1.3 Institute Location Image:



CHAPTER-II
STUDY OF ENERGY CONSUMPTION & CO_2 EMISSION

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 Institute for performing its day to day activities

The Institute 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 is as under

- **1 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 Institute due to its Day to Day operations

Table No1: Month wise CO_2 Emissions:

No	Month	Energy Consumed, kWh	CO_2 Emissions, MT
1	Apr-22	1273	1.145
2	May-22	1529	1.376
3	Jun-22	2638	2.374
4	Jul-22	1894	1.704
5	Aug-22	1796	1.616
6	Sep-22	2941	2.646
7	Oct-22	1772	1.594
8	Nov-22	1716	1.544
9	Dec-22	1675	1.507
10	Jan-23	1311	1.179
11	Feb-23	624	0.561
12	Mar-23	1959	1.763
13	Total	21128	19.015
14	Maximum	2941	2.646
15	Minimum	624	0.561
16	Average	1760.66	1.584

Chart No 1: Month wise CO_2 Emissions:

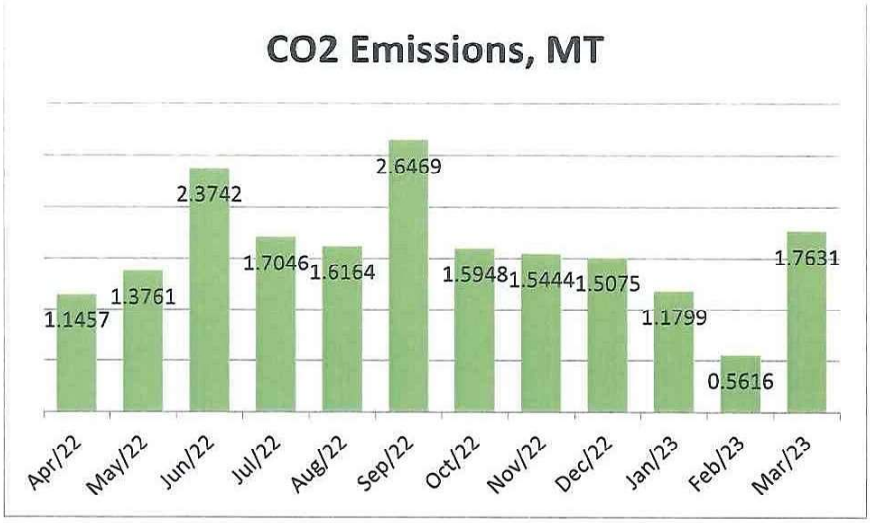


Table No2: Important Parameters:

No	Parameter/ Value	Energy Consumed, kWh	CO_2 Emissions, MT
1	Total	21128	19.015
2	Maximum	2941	2.646
3	Minimum	624	0.561
4	Average	1760.66	1.584

CHAPTER III
STUDY OF USAGE OF RENEWABLE ENERGY

The Institute has installed a **15 kWp** capacity Roof top Solar PV Plant this year.
Now we compute the Percentage of Alternate Energy to Annual Energy demand:

Table No 7: Computation of % Annual Energy Demand met by Alternate Energy:

No	Particulars	Value	Unit
1	Energy Purchased from MSEDCL	21128	kWh
2	Installed Roof Top Solar PV Plant Capacity	15	kWp
3	Average Daily Energy Generated	4	kWh/kWp
4	Annual Generation Days	300	Nos
5	Annual Solar Energy Generated	18000	kWh
6	Total Energy Demand = (1) + (5)	39128	kWh
7	Expecting % of Usage of Alternate Energy to Total Annual Energy Demand for Current Year Consumption= (5)*100/ (6)	46	%

Photograph of Roof Top Solar PV Plant:

CHAPTER IV
STUDY OF WASTE MANAGEMENT

4.1 Segregation of Waste at Source:

The Waste is segregated at source in separate Waste Bins & is handed over for further action.

Photograph of Waste Collection Bins:

4.2 Bio Composting Pit:

The Institute has a Bio Composting Pit, to convert the Leafy Waste into Bio Compost.

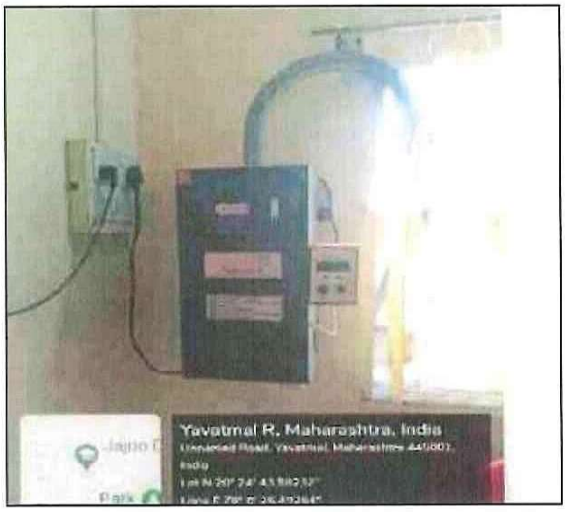
Photograph of Bio Composting Pit:

4.3Liquid Waste Management:

The Institute has installed Septic Tanks it cleans periodically.

4.4 Sanitary Waste Management:

The Institute has installed Sanitary Waste Incinerator, for disposal of the Sanitary Waste.



4.5 E Waste Management:

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

CHAPTER V
STUDY OF RAIN WATER MANAGEMENT

The Institute has implemented the Rain Water Management Project. The Institute has installed Pipes from the terrace and the Rain water falling on the terrace is gathered and is used for recharging the land water table and gardening purpose.

Photograph of Rain Water Management & Pipe Section:

CHAPTER VI
STUDY OF GREEN & SUSTAINABLE PRACTICES

6.1 Internal Pedestrian:

The College has well maintained internal Pedestrian to facilitate the easy movement of the students within the campus.

Photograph of Internal Pedestrian:

6.2 Internal Tree Plantation:

The College has well maintained landscaped garden in the campus.

Photograph of Tree plantation:

6.3 Provision of Ramp for Divyangajan:

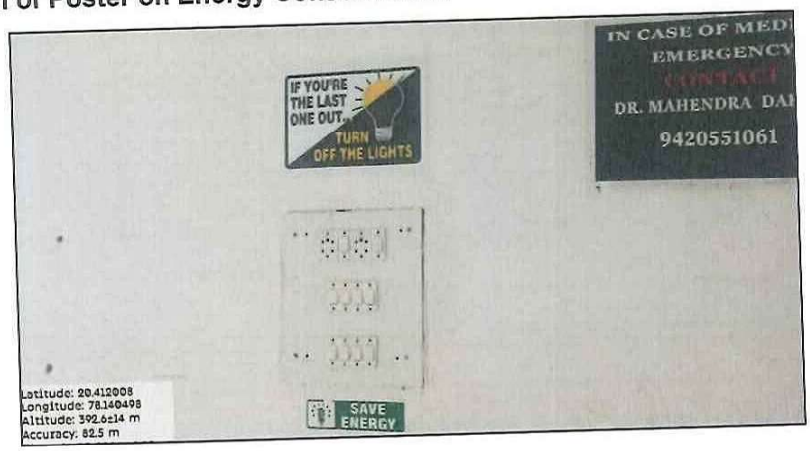
For easy movement of Divyangajan, the Institute has made provision of Ramp.

Photograph of Ramp:

6.3 Creation of Awareness about Energy Conservation:

The Institute has displayed posters emphasizing on importance of Energy Conservation.

Photograph of Poster on Energy Conservation:



ANNEXURE-I

LIST OF TREES & PLANTS IN THE CAMPUS

Presently the College Campus has more than 100 trees:

Sr No	Trees Name	Quantity
1	Gulmohar	49
2	Karanji	20
3	Mango	05
4	Vidya (Thuja)	19
5	Ashoka Tree	28
6	Awala (Indian Gooseberry)	01
7	Jambhul (Java Plum)	01
8	Sagwan (Teak)	01
9	Kadulimb (Neem)	10
10	Cheri	02
11	Badam (Almond)	03
12	Umbar (Cluster Fig)	02
13	Rose Tree	01
14	Tulas (Basil)	02
15	Palm Tree	02
16	Aloe Vera	40
17	Christmas	05
18	Gulmohar	01
Total		210