GREEN AUDIT REPORT

of

ASM's INSTITUTE OF PROFESSIONAL STUDIES,

Pimpri, Pune 411 018

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

Yashashree, 26, Nirmal Bag Society, Near Muktangan English School,
Parvati, Pune 411 009 Tel: 09890444795 Email: engress123@gmail.com
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/ASMIPS /22-23/02 **Date: 28/6/2023**

This is to certify that we have conducted Green Audit at ASM's Institute of Professional Studies, , Pimpri, Pune 411 018 in the year 2022-23.

The Institute has adopted Green Practices:

- Usage of Energy Efficient LED Fittings
- The Institute has installed 2.18 kWp Roof Top 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 Energy Conservation by Display of Posters

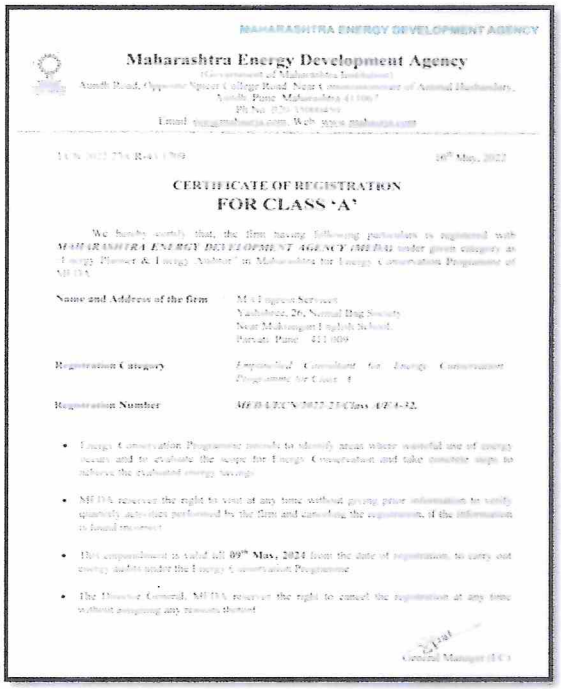
We appreciate the support of Management, involvement of faculty members and students in the process of Energy Conservation & making the campus Green.

For Engress Services,

ENGRESS SERVICES PUNE

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

REGISTRATION CERTIFICATES



MAHARASHTRA ENERGY DEVELOPMENT AGENCY

Maharashtra Energy Development Agency

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, 26, Nutmeg Bag Society, Near Mahalaxmi 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'/A-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 cancelling 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)

MEDA REGISTRATION CERTIFICATE

ASSOCHAM

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

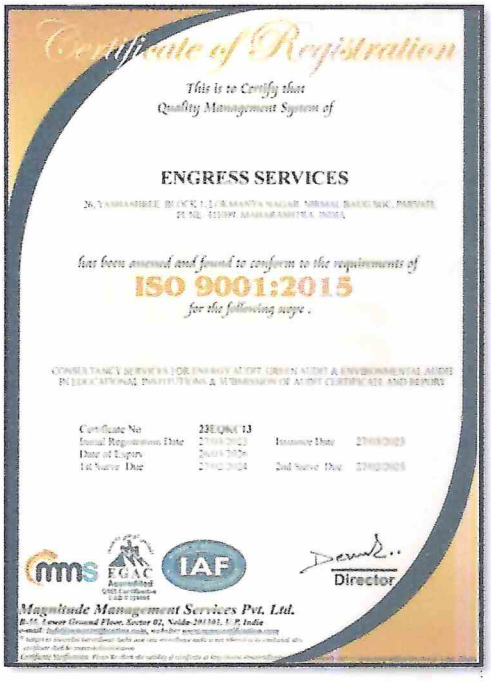
He/she is now eligible to execute the GEM Sustainability Certification Projects. ASSOCHAM feels proud to award the GEM Certified Professional title to him/her.

Pankaj R. Dhakar
Chairman, GEM

GEM CP 22/786

Deepak Sood
Secretary General, ASSOCHAM

ASSOCHAM GEM CP 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 :

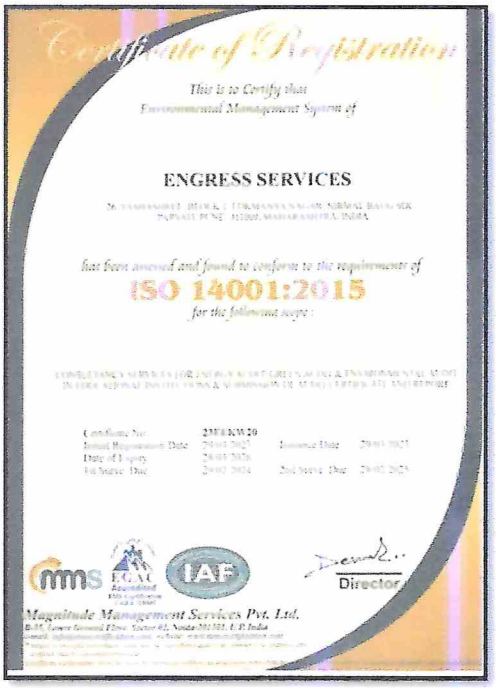
CONSULTANCY SERVICES FOR ENERGY AUDIT, GREEN AUDIT & ENVIRONMENTAL AUDIT IN EDUCATIONAL INSTITUTIONS & SUBMISSION OF AUDIT CERTIFICATE AND REPORT

Certificate No: 23EQMC 13
Initial Registration Date: 27/05/2023 Issuance Date: 27/05/2023
Date of Expiry: 26/05/2026
1st Surve. Due: 27/05/2024 2nd Surve. Due: 27/05/2025

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

ENGRESS SERVICES PUNE

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ACKNOWLEDGEMENT

We at Engress Services, Pune, express our sincere gratitude to the management of ASM's Institute of Professional studies, Pimpri, Pune 411 018, for awarding us the assignment of Green Audit of their Pimpri campus for the Year: 2022-23

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

EXECUTIVE SUMMARY

1. ASM's Institute of Professional studies, Pimpri, Pune consumes Energy in the form of **Electrical Energy;** used for various gadgets, Office & other facilities.

2. Present Energy Consumption & CO_2 Emission:

No	Particulars	Value	Unit
1	Annual Energy Purchased	**44536**	kWh
2	Annual CO_2 Emissions	**40.08**	MT

3. Renewable Energy & Reduction in CO_2 Emissions:

- The Institute has installed Roof Top Solar PV Plant of Capacity **2.180 kWp.**
- The Energy generated by Solar PV Plant in 2022-23 is **784.8 kWh.**
- Reduction in CO_2 Emissions in 2022-23 is **0.706 MT**

4. Waste Management:

No	Head	Particulars
1	Solid Waste	Segregation of Waste at source
2	Organic Waste	Arrangement of Bio Composting Bed
3	Sanitary Waste	Installed Sanitary Waste Incinerator
4	E Waste Management	Disposed of through Authorized Agency

5. Rain Water Management:

The Institute 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.

6. Green & Sustainable Practices:

- Maintenance of good Internal Road
- Tree Plantation in the campus.
- Provision of Ramp for Divyangajan
- Creation of awareness on Energy Conservation Display of Posters

7. Assumptions:

1. **1 kWh** of Electrical Energy releases **0.9 Kg of CO_2** into atmosphere
2. Energy generated by Roof Top Solar PV Plant: **4 kWh/kWp per Day**
3. Annual Solar Energy generation Days: **90 Nos**

8. References:

- For CO_2 Emissions: www.tatapower.com
- For Solar PV Energy generation: www.solarrooftop.gov.in

ABBREVIATIONS

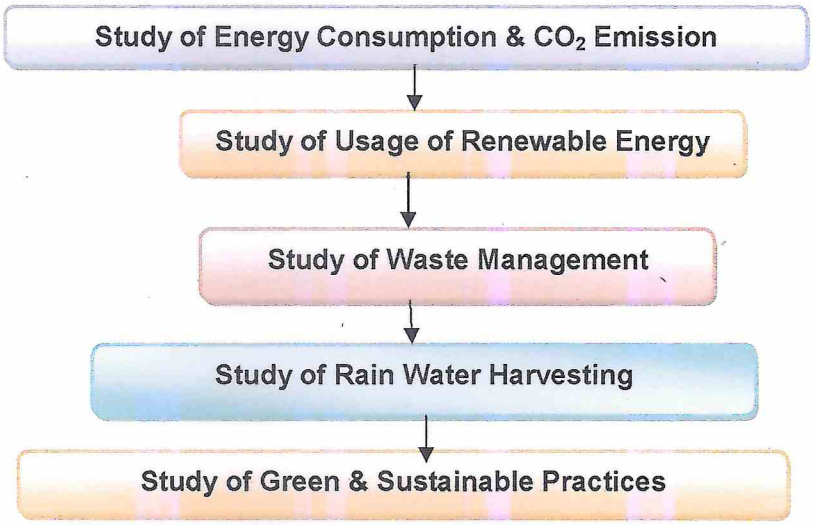
ASM	:	Audyogik Shikshan Mandal
LED	:	Light Emitting Diode
kWh	:	kilo-Watt Hour
MT	:	Metric Ton
CO_2	:	Carbon Di Oxide

CHAPTER-I
INTRODUCTION

1.1 Introduction:

A Green Audit is conducted at Sinhgad Technical Education Society's Sinhgad Institute of Business Administration & Research, Kondhwa, Pune.

1.2 Audit Procedural Steps:



1.3 Institute Location Image:

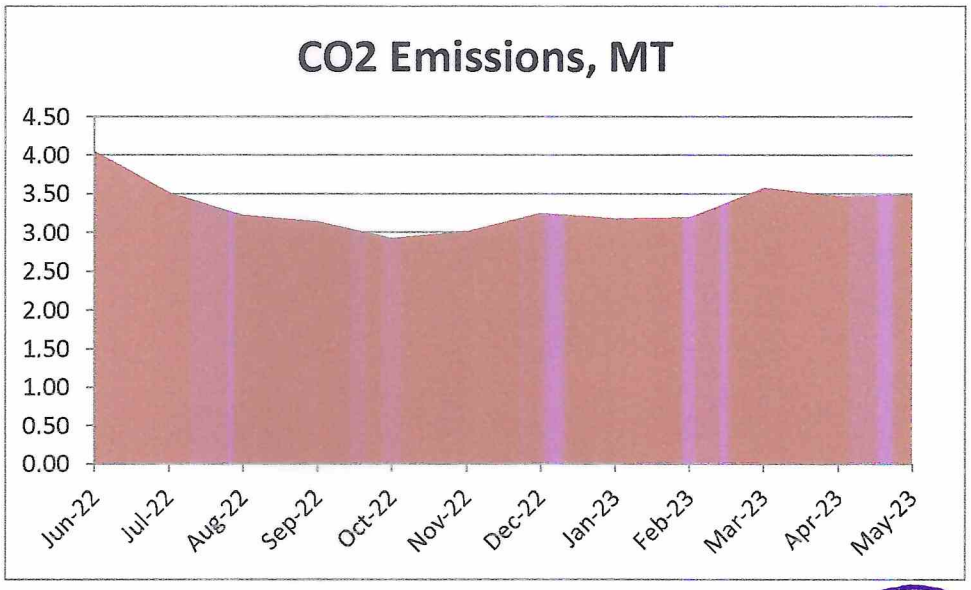
CHAPTER-II
STUDY OF ENERGY CONSUMPTION & CO_2 EMISSION

A Carbon Foot print is defined as the Total Greenhouse Gas emissions, emitted due to various activities. **Basis for computation of CO_2 Emissions: 1 kWh** of Electrical Energy releases **0.9 Kg of CO_2** into atmosphere.

Table No 1: Month wise Energy Consumption & CO_2 Emissions:

No	Month	Energy Purchased, kWh	CO_2 Emissions, MT
1	Jun-22	4506	4.06
2	Jul-22	3913	3.52
3	Aug-22	3587	3.23
4	Sep-22	3497	3.15
5	Oct-22	3255	2.93
6	Nov-22	3352	3.02
7	Dec-22	3614	3.25
8	Jan-23	3536	3.18
9	Feb-23	3553	3.20
10	Mar-23	3977	3.58
11	Apr-23	3859	3.47
12	May-23	3887	3.50
13	Total	44536	40.08
14	Maximum	4506	4.06
15	Minimum	3255	2.93
16	Average	3711	3.34

Chart No 1: Month wise CO_2 Emissions:



CHAPTER-III
STUDY OF USAGE OF RENEWABLE ENERGY

The Institute has installed Roof Top Solar PV Plant of Capacity **2.180 kWp**
In the following Table, we present the reduction in CO_2 emissions due to Solar Energy:

Table No 3: Computation of Reduction in CO_2 Emissions:

No	Particulars	Value	Unit
1	Installed Capacity of Roof Top Solar PV Plant Capacity	**2.180**	kWp
2	Energy Generated in per kWp	4	4 kWh/kWp
3	Annual Solar Energy generation Days	90	Nos
4	Energy Generated in the Year: 2022-23	**784.8**	kWh
5	1 kWh of Electrical Energy saves	**0.9**	Kg/kWh
6	**Qty of CO_2 Saved by Solar PV Plant =(4)*(5) /1000**	**0.706**	**MT of CO_2**

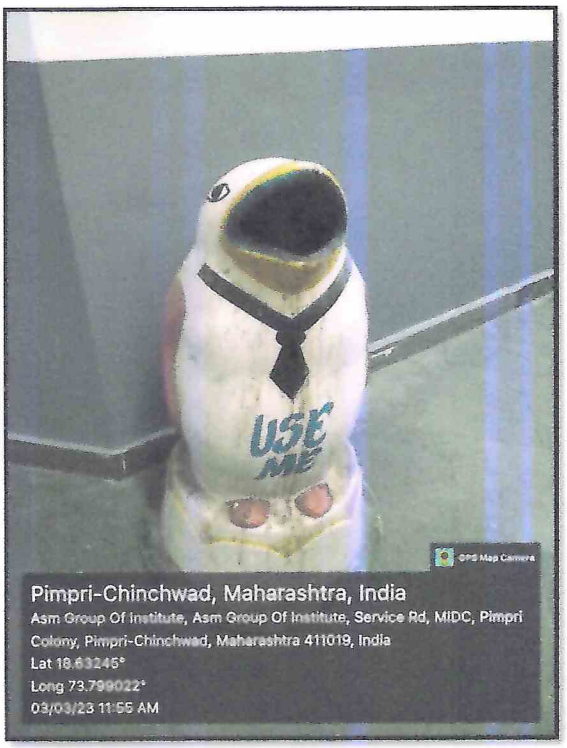
Photograph of Roof Top Solar PV Plant:

CHAPTER-IV
STUDY OF WASTE MANAGEMENT

4.1 Segregation of Waste at Source:

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

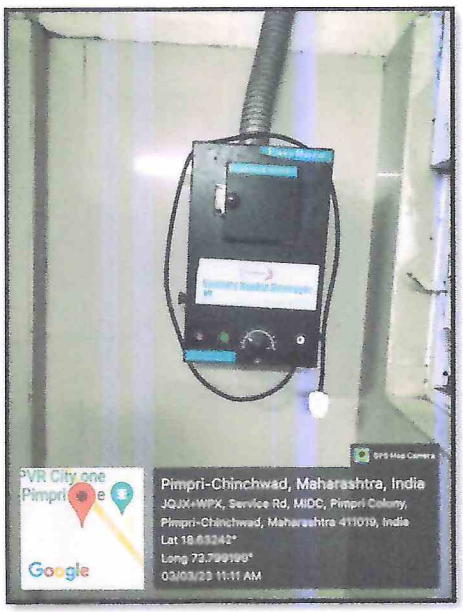
Photograph of Separate Waste Collection Bin:



4.2 Sanitary Waste Management:

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

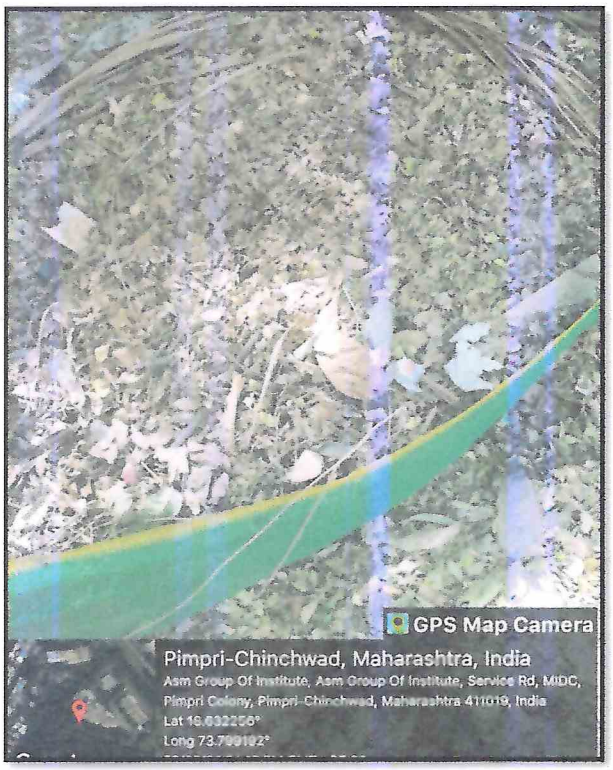
Photograph of Sanitary Waste Incinerator:



4.3 Organic Waste Management:

The Institute has installed Bio Composting Pit to compost the organic waste like leafy and canteen waste.

Photograph of Bio Composting Bed:



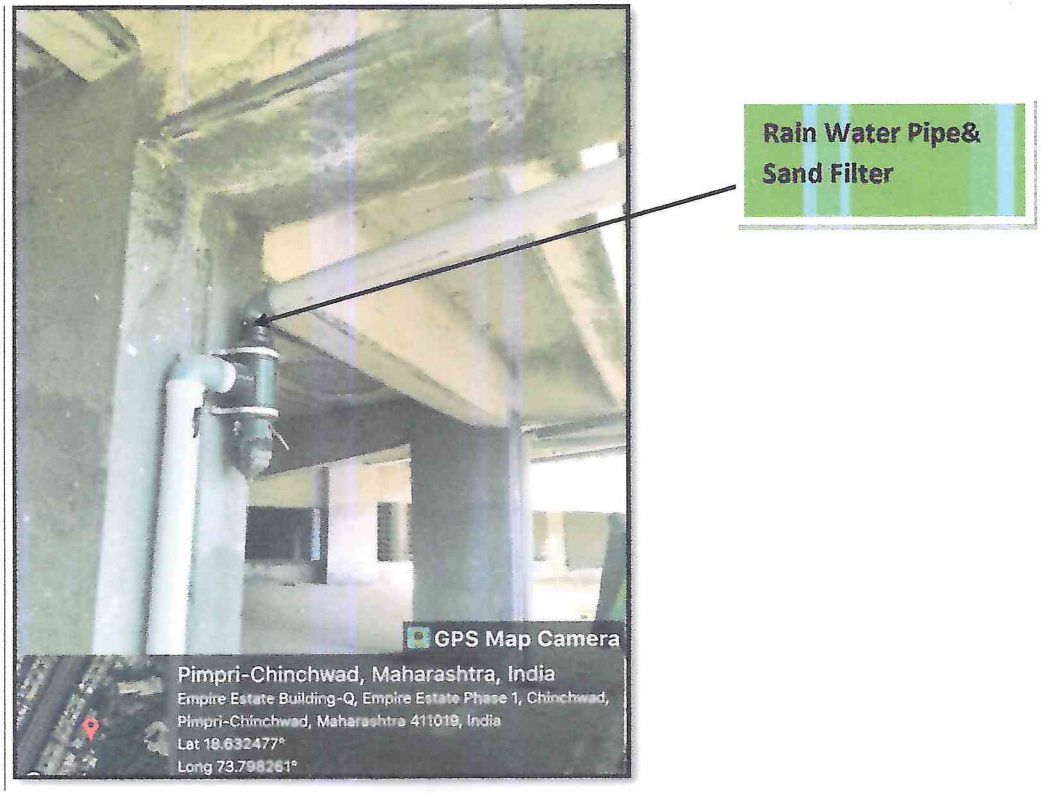
4.4 E-Waste Management:

It is disposed of the through Authorized Agency.

CHAPTER-V
STUDY OF RAIN WATER MANAGEMENT

The Institute has implemented the Rain Water Harvesting Project. The Institute 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 & Sand Filter:

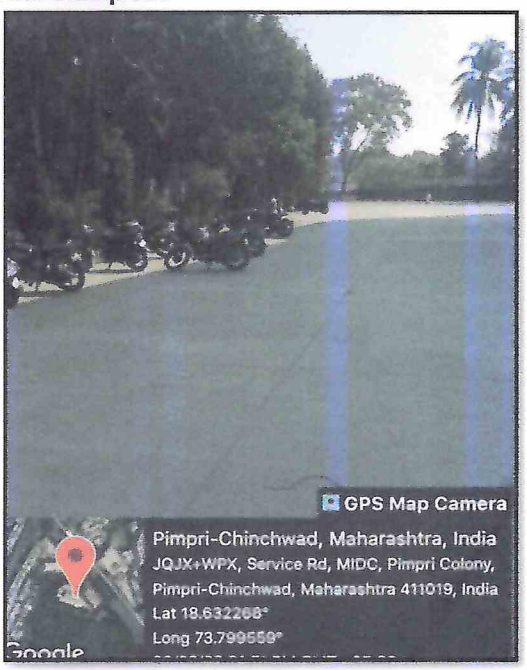


CHAPTER-VI
STUDY OF GREEN & SUSTAINABLE PRACTICES

6.1 Pedestrian Friendly Roads:

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

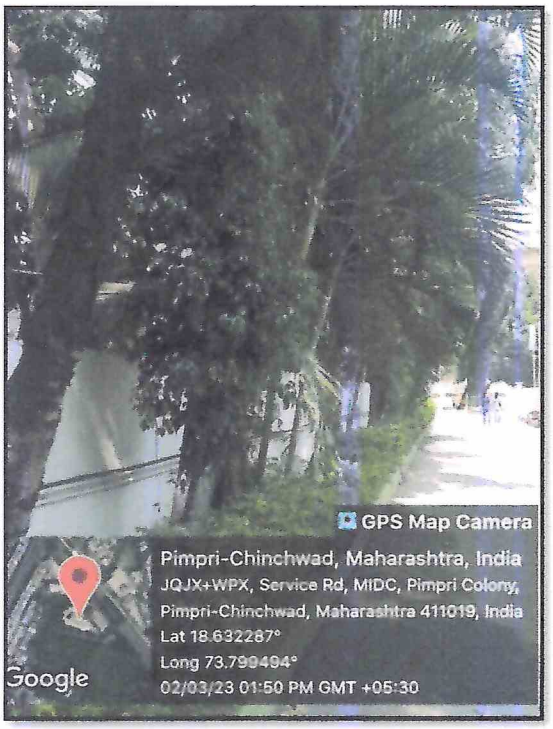
Photograph of Road within campus:



6.2 Internal Tree Plantation:

The Institute has well maintained Tree Plantation.

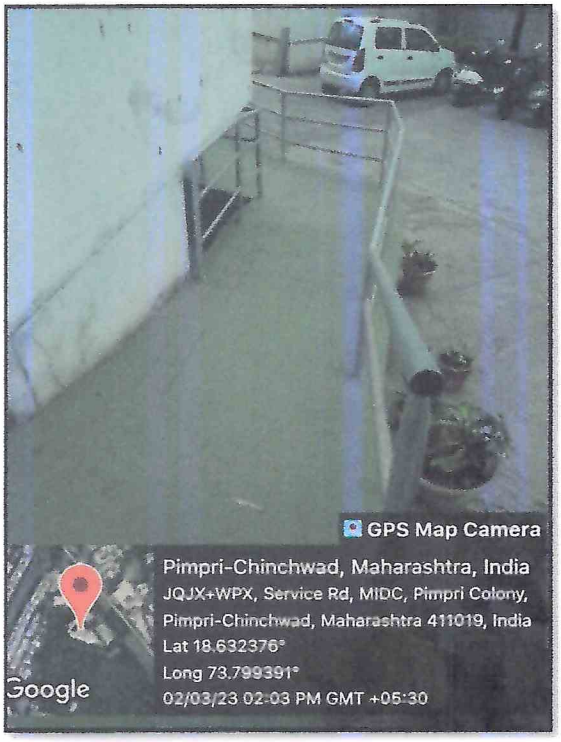
Photograph of Tree Plantation:



6.3 Provision of Ramp for Divyangajan:

The Institute has made provision of Ramp for the Divyangajan.

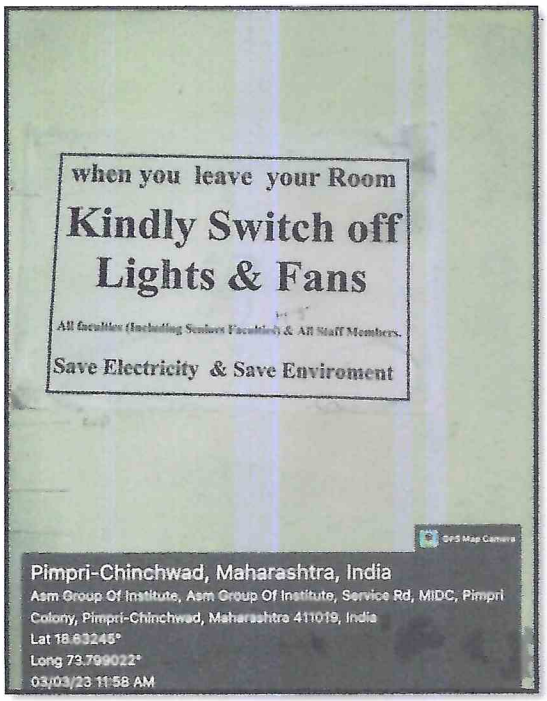
Photograph of Ramp for Divyangajan:

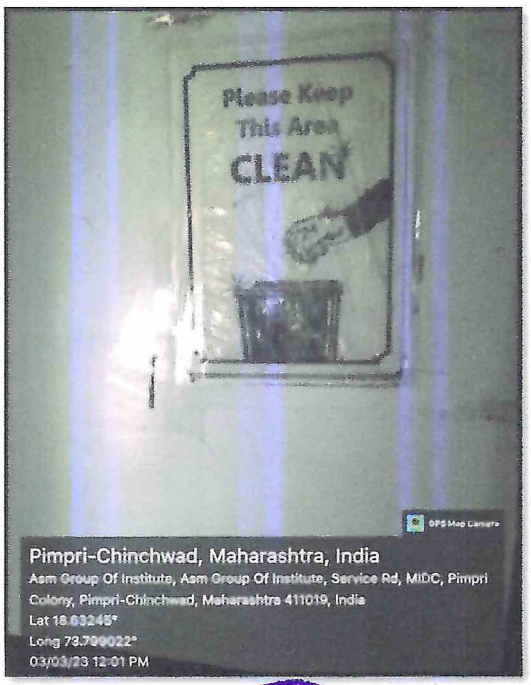


6.4 Creation of Awareness by Display of Posters:

The Institute has displayed posters on conservation of Resource.& Cleanliness.

Photograph of Poster Display Board on Resource Conservation & Cleanliness:





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