

ENVIRONMENTAL AUDIT REPORT

Dnyanoday Prashikshana Sevabhavi Sanstha's,
FORESIGHT COLLEGE OF COMMERCE,
Rasta Peth, Pune 411 002



Year: 2023-24

Prepared by:

ENGRESS SERVICES

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



Registration Certificates: UDYAM, MEDA, ASSOCHAM GEM-CP, ISO: 9001 & 14001:


 भारत सरकार
 Government of India
 सूक्ष्म, नपु एवं मध्यम उद्यम विभाग
 Ministry of Micro, Small and Medium Enterprises

UDYAM REGISTRATION CERTIFICATE

UDYAM REGISTRATION NUMBER: UDYAM-MH-26-0135636

NAME OF ENTERPRISE: ENGRESS SERVICES

S.No.	Classification Year	Enterprise Type	Classification Date
1	2023-24	Micro	03/02/2024
2	2022-23	Micro	26/06/2022
3	2021-22	Micro	27/07/2021

TYPE OF ENTERPRISE: SERVICES

MAJOR ACTIVITY: SERVICES

SOCIAL CATEGORY OF ENTREPRENEUR: GENERAL

NAME OF UNIT(S):

S.No.	Name of Unit(s)
1	Engress Services

OFFICIAL ADDRESS OF ENTERPRISE:

Flat/Door/Block No.	Name of Premises/ Building	Village/Town	Block
26	Yashashree	Pune	1

Road/Street/Lane: Lokmanya Nagar/Nirmal Baug Soc
 City: Pune
 State: MAHARASHTRA District: PUNE, Pin 411009
 Mobile: 8767447244 Email: engress12@gmail.com

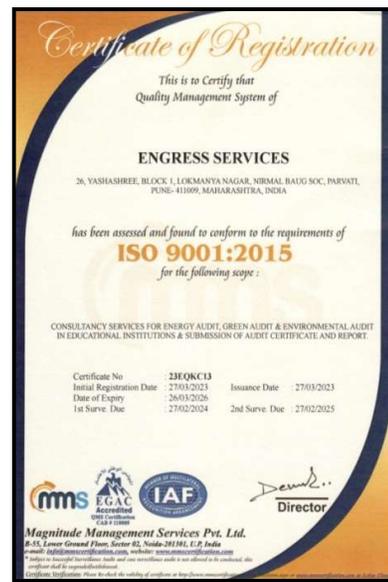
DATE OF INCORPORATION / REGISTRATION OF ENTERPRISE: 13/04/2021

DATE OF COMMENCEMENT OF PRODUCTION/BUSINESS: 13/04/2021

S.No.	NIC 2 Digit	NIC 4 Digit	NIC 5 Digit	Activity
1	79 - Activities of head offices; management consultancy activities	7920 - Management consultancy activities	79200 - Management consultancy activities	Services

NATIONAL INDUSTRY CLASSIFICATION CODE(S):

DATE OF UDYAM REGISTRATION: 27/07/2021




 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: eee@maharaja.com, Web: www.maharaja.com

ECN/2022-23/CR-43/1709 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
Yashashree, 26, Nirmal Baug Society, Near Muktaganj 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.

Deepak Sood
General Manager (EC)



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ACKNOWLEDGEMENT

We at Engress Services, Pune, express our sincere gratitude to the management of Dnyanoday Prashikshana Sevabhavi Sanstha's Foresight College of Commerce, Pune, for awarding us the assignment of Environmental Audit of their campus for the Year: 2023-24.

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

EXECUTIVE SUMMARY

1. Dnyanoday Prashikshana Sevabhavi Sanstha's Foresight College of Commerce, Rasta Peth, Pune 411 002, consumes Energy in the form of **Electrical Energy**; used for various gadgets, Office & other facilities

2. Pollution due to Institute Activities:

- **Air pollution:** Mainly CO₂ on account of Electricity Consumption
- **Solid Waste:** Bio degradable Garden Waste, Paper & Plastic Waste
- **Liquid Waste:** Human liquid waste

3. Present Energy Consumption & CO₂ Emission:

No	Particulars	Value	Unit
1	Annual Energy Consumed	4864	kWh
2	Annual CO ₂ Emissions	4.52	MT

4. Usage of Renewable Energy:

- The College has yet to install Solar PV Plant.

5. Indoor Air Quality Parameters:

No	Parameter/Value	AQI	PM-2.5	PM-10
1	Maximum	80	48	60
2	Minimum	70	42	53

6. Indoor Lux & Noise Level Parameters:

No	Parameter/Value	Lux Level	Noise Level, dB
1	Maximum	241	47
2	Minimum	216	41.2

7. Waste Management:

No	Head	Particulars
1	Solid Waste	Segregation of Waste at source
2	E Waste	Recommended to dispose of through Authorized Agency

8. Rain Water Management:

The College is in process of installing the Rainwater Harvesting Project.

9. Environment Friendly Initiatives:

- Tree Plantation in the campus.
- Creation of awareness on Energy Conservation by Display of Posters

10. Assumption:

1. **1 kWh** of Electrical Energy releases **0.93 Kg of CO₂** into atmosphere

11. References:

- For CO₂ Emissions: www.ccd.gujarat.gov.in
- For Various Indoor Air Parameters: www.ishrae.com
- For AQI Quality Standards: www.cpcb.com

ABBREVIATIONS

Kg	: Kilo Gram
MSEDCL	: Maharashtra State Distribution Company Limited
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
ISHRAE	: The Indian Society of Heating & Refrigerating & Air Conditioning Engineers

CHAPTER-I INTRODUCTION

1. Important Definitions:

1.1. Environment: Definition as per environment Protection Act: 1986

Environment includes water, air and land and the inter-relationship which exists among and between Water, Air, Land and Human beings, other living creatures, plants microorganism and property

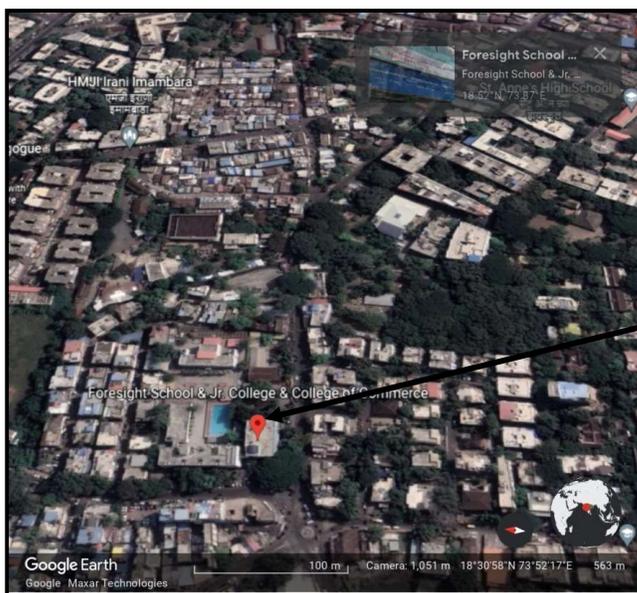
1.2. Environmental Audit: Definition:

According to UNEP, 1990, "Environmental audit can be defined as a management tool comprising systematic, documented and periodic evaluation of how well environmental organization management and equipment are performing with an aim of helping to regularize the environment

1.3 Key Study Points:

No	Particulars
1	Study of Present Resource Consumption & CO ₂ Emission
2	Study of Usage of Renewable Energy
3	Study of Indoor Air Quality
4	Study of Indoor Lux & Noise Level
5	Study of Water Management
6	Study of Waste Management Practices
7	Study of Environment Friendly Practices

1.4 College Location Image:



College
Campus

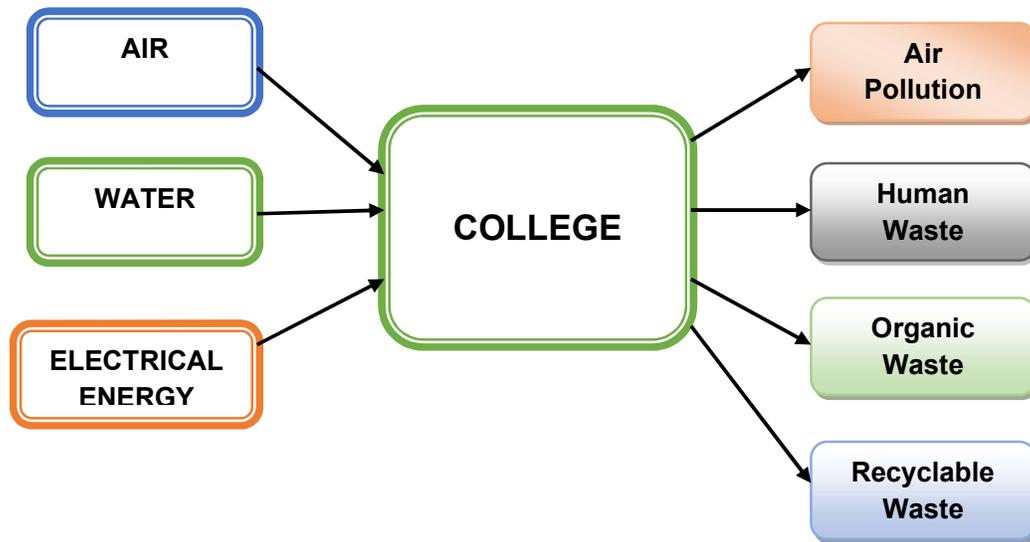
CHAPTER-II STUDY OF RESOURCE CONSUMPTION & CO₂ EMISSION

The Institute consumes following basic/derived Resources:

1. Air
2. Water
3. Electrical Energy

We try to draw a schematic diagram for the Institute System & Environment as under.

Chart No 1: Representation of Resource Requirement & Waste of a Institute:



Now we compute the Generation of CO₂ on account of consumption of Electrical Energy. The basis of Calculation for CO₂ emissions due to Electrical Energy is as under.

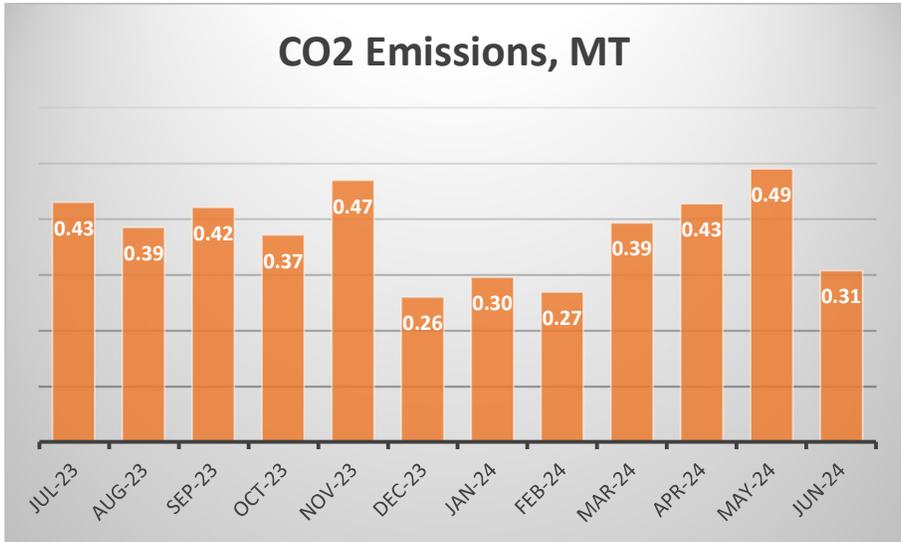
- **1 kWh** of Electrical Energy releases **0.93 Kg of CO₂** into atmosphere

Table No 1: Study of Consumption of Electrical Energy & CO₂ Emissions: 23-24:

No	Month	Energy Consumed, kWh	CO ₂ Emissions, MT
1	Jul-23	463	0.43
2	Aug-23	414	0.39
3	Sep-23	453	0.42
4	Oct-23	400	0.37
5	Nov-23	505	0.47
6	Dec-23	280	0.26
7	Jan-24	318	0.30
8	Feb-24	290	0.27
9	Mar-24	423	0.39

10	Apr-24	460	0.43
11	May-24	527	0.49
12	Jun-24	331	0.31
13	Total	4864	4.52
14	Maximum	527	0.49
15	Minimum	280	0.26
16	Average	405.33	0.38

Chart No 2: Month wise CO₂ Emissions:



CHAPTER III
STUDY OF USAGE OF RENEWABLE ENERGY

The College has yet to install Roof Top Solar PV Plant

CHAPTER IV STUDY OF INDOOR AIR QUALITY

1. Air: The common name given to the atmospheric gases used in breathing and photosynthesis.

2. Air quality is a measure of the suitability of air for breathing by people, plants and animals.

3. Air Quality Index: Air Quality Index (AQI) is a number used by government agencies to measure the **Air Pollution** levels and communicate it to the population.

In this Chapter, we present three important Parameters: **AQI-** Air Quality Index, **PM-2.5-** Particulate Matter of Size 2.5 micron and **PM-10-** Particulate Matter of Size 10 micron

Table No 2: Indoor Air Quality Parameters:

No	Location	AQI	PM2.5	PM10
1	Classroom	75	45	54
2	Office	76	46	56
3	IQAC	80	48	60
4	Exam Strong Room	70	42	53
5	Principal Office	71	43	53
	Maximum	80	48	60
	Minimum	70	42	53

Table No 3: Air Quality Index Values & Concentration of PM 2.5 & PM10: (By CPCB):

No	Category	AQI Value	Concentration Range, PM 2.5	Concentration Range, PM 10
1	Good	0 to 50	0 to 30	0 to 50
2	Satisfactory	51 to 100	31 to 60	51 to 100
3	Moderately Polluted	101 to 200	61 to 90	101 to 250
4	Poor	201 to 300	91 to 120	251 to 350
5	Very Poor	301 to 400	121 to 250	351 to 430
6	Severe	401 to 500	250 +	430 +

Conclusion:

From the above measured values, we conclude that the observed values of AQI, PM-2.5 & PM-10 are in the **Satisfactory Range**, as per the guidelines given by Central Pollution Control Board.

CHAPTER V STUDY OF INDOOR LUX & NOISE PARAMETERS

In this Chapter, we present the various Indoor Comfort Parameters measured during the Audit. The Parameters include: **Lux Level and Noise Level.**

Table No 4: Study of Indoor Lux Level and Noise Level Parameters:

No	Location	Lux Level	Noise Level, dB
1	Classroom	241	43.6
2	Office	219	41.2
3	IQAC	226	42
4	Exam Strong Room	216	45.6
5	Principal Office	232	47
	Maximum	241	47
	Minimum	216	41.2

Recommended Lux & Noise Level: As per BEE & ISHRAE Guidelines:

A) Noise Level Reference:		
No	Location	Noise Level Range, dB
1	Offices	45-50
2	Occupied Class Room	40-45
3	Libraries	35-40
B) Reference Lux Level, Lumens:		
1	For Class Rooms	200 Plus
2	For Reading Rooms	200 Plus

Conclusion:

From the above measured values, we conclude that:

- The Noise Level is within the prescribed Limit
- The Lux Level at various locations is Okay

CHAPTER VI STUDY OF RAIN WATER MANAGEMENT

The College is in a process of installing the Rainwater Harvesting Project.

CHAPTER-VII STUDY OF WASTE MANAGEMENT

In this Chapter, we present the Waste Management Practices, followed by the Institute.

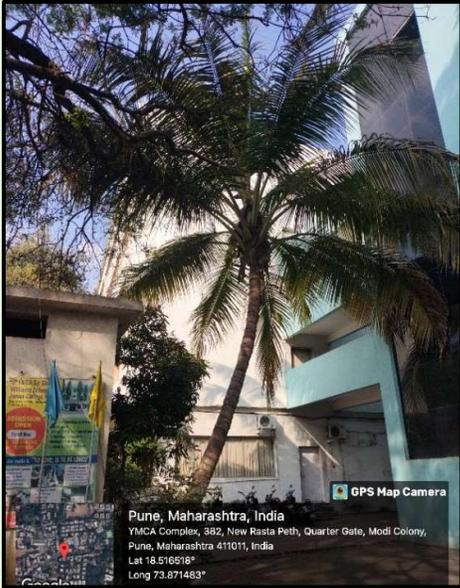
Details of Waste Management Practices:

No	Head	Observation	Photograph
1	Solid Waste	Segregation of Waste at Source: Provision of Waste Collection Bins	<p>Waste Collection Bin:</p>  <p>Pune, Maharashtra, India Survey No. 382, Quarter Gate, YMCA Complex, New, Modi Colony, Rasta Peth, Pune, Maharashtra 411011, India Lat 18.5166° Long 73.871498°</p>
2	E Waste	Recommended to dispose of through Authorized Agency.	

CHAPTER-VIII STUDY OF ECO-FRIENDLY PRACTICES

In this Chapter, we present the Eco-Friendly Practices, followed by the Institute.

Details of Eco-Friendly Practices:

No	Head	Observation	Photograph
1	Tree Plantation	Internal Tree Plantation in the Campus	<p>Internal Tree Plantation:</p> 
2	Creation of Awareness among Stake Holders	Display of Poster on Energy Conservation	<p>Poster on Energy Conservation:</p> 