ENERGY AUDIT REPORT

Nootan Vidarbha Shikshan Mandal's,

MAHILA MAHAVIDYALAYA, AMRAVATI

Jog Chowk, Amravati 444601

Year: 2023-24

Prepared by:

ENGRESS SERVICES

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

REGISTRATION CERTIFICATES: BEE, UDYAM, MEDA, ISO-9001 & 14001:

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: eec@mahaurja.com, Web: www.mahaurja.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.

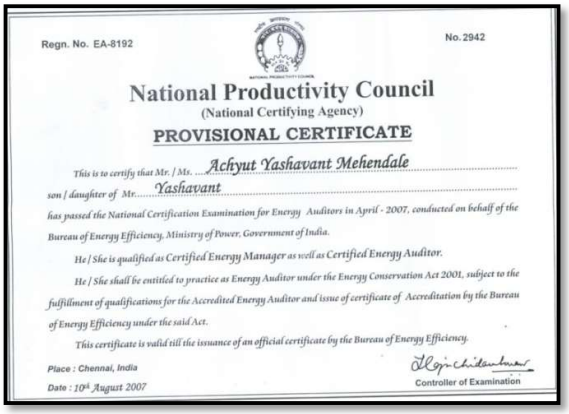
Name and Address of the firm : M/s Engress Services
Yashshree, 26, Nirmal Bag Society,
Near Muktangan English School,
Parvati, Pune – 411 009.

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)



Regn. No. EA-8192 — No. 2942

National Productivity Council
(National Certifying Agency)
PROVISIONAL CERTIFICATE

This is to certify that Mr. / Ms. *Achyut Yashavant Mehendale*
son / daughter of Mr. *Yashavant*
has passed the National Certification Examination for Energy Auditors in April - 2007, conducted on behalf of the Bureau of Energy Efficiency, Ministry of Power, Government of India.

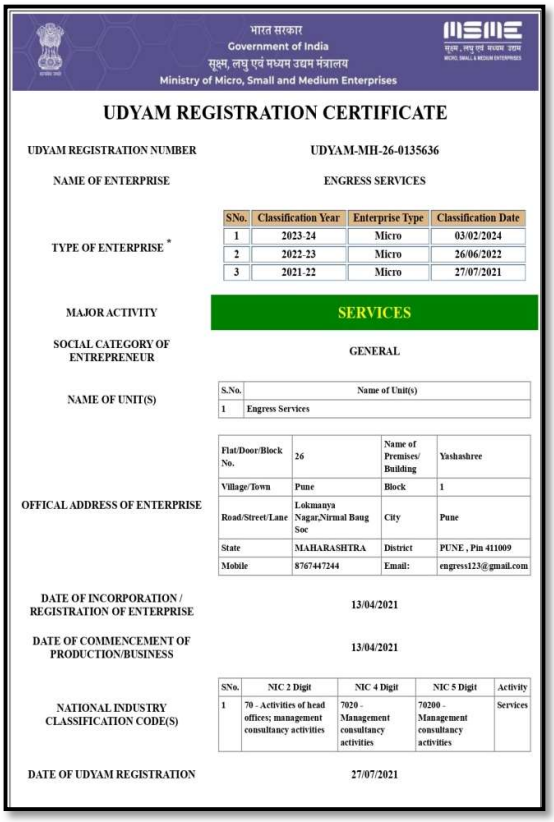
He / She is qualified as Certified Energy Manager as well as Certified Energy Auditor.

He / She shall be entitled to practice as Energy Auditor under the Energy Conservation Act 2001, subject to the fulfillment of qualifications for the Accredited Energy Auditor and issue of certificate of Accreditation by the Bureau of Energy Efficiency under the said Act.

This certificate is valid till the issuance of an official certificate by the Bureau of Energy Efficiency.

Place : Chennai, India
Date : 10th August 2007

Controller of Examination



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

UDYAM REGISTRATION CERTIFICATE

UDYAM REGISTRATION NUMBER	UDYAM-MH-26-0135636
NAME OF ENTERPRISE	ENGRESS SERVICES

TYPE OF ENTERPRISE *

SNo.	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

MAJOR ACTIVITY: SERVICES

SOCIAL CATEGORY OF ENTREPRENEUR: GENERAL

NAME OF UNIT(S)

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

OFFICAL ADDRESS OF ENTERPRISE

Flat/Door/Block No.	26	Name of Premises/ Building	Yashashree
Village/Town	Pune	Block	1
Road/Street/Lane	Lokmanya Nagar,Nirmal Baug Soc	City	Pune
State	MAHARASHTRA	District	PUNE , Pin 411009
Mobile	8767447244	Email:	engress123@gmail.com

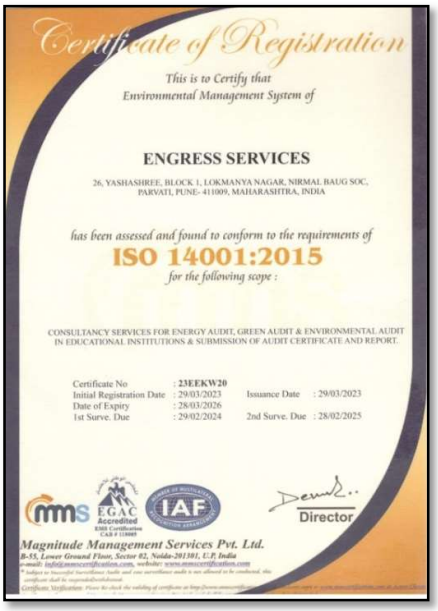
DATE OF INCORPORATION / REGISTRATION OF ENTERPRISE: 13/04/2021

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

NATIONAL INDUSTRY CLASSIFICATION CODE(S)

SNo.	NIC 2 Digit	NIC 4 Digit	NIC 5 Digit	Activity
1	70 - Activities of head offices; management consultancy activities	7020 - Management consultancy activities	70200 - Management consultancy activities	Services

DATE OF UDYAM REGISTRATION: 27/07/2021



Certificate of Registration

This is to Certify that
Environmental Management System of

ENGRESS SERVICES
26, YASHASHREE, BLOCK 1, LOKMANYA NAGAR, NIRMAL BAUG SOC, PARVATI, PUNE- 411009, MAHARASHTRA, INDIA

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

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

Certificate No : 23EEKW20
Initial Registration Date : 29/03/2023 — Issuance Date : 29/03/2023
Date of Expiry : 28/03/2026
1st Surve. Due : 29/02/2024 — 2nd Surve. Due : 28/02/2025

Director

Magnitude Management Services Pvt. Ltd.
B-55, Lower Ground Floor, Sector 02, Noida-201301, U.P, India

Certificate of Registration

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Quality Management System of

ENGRESS SERVICES
26, YASHASHREE, BLOCK 1, LOKMANYA NAGAR, NIRMAL BAUG SOC, PARVATI, PUNE- 411009, MAHARASHTRA, INDIA

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

Certificate No : 23EQKC13
Initial Registration Date : 27/03/2023 — Issuance Date : 27/03/2023
Date of Expiry : 26/03/2026
1st Surve. Due : 27/02/2024 — 2nd Surve. Due : 27/02/2025

Director

Magnitude Management Services Pvt. Ltd.
B-55, Lower Ground Floor, Sector 02, Noida-201301, U.P, India

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ACKNOWLEDGEMENT

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

EXECUTIVE SUMMARY

1. Nootan Vidarbha Shikshan Mandal's, Mahila Mahavidyalaya, Amravati 444 601 consumes Energy in the form of **Electrical Energy;** used for various Electrical Equipment, office & other facilities.

2. Present Connected Load & Energy Consumption:

No	Particulars	Value	Unit
1	Total Connected Load	**41**	kW
2	Annual Energy Consumed	**21848**	kWh

3. Per Capita Energy Consumption:

No	Particulars	Value	Unit
1	Annual Energy Consumed	21848	kWh
2	No of students studying in the College	1202	Nos
3	Per Capita Energy Consumption **= (1) / (2)**	**18.18**	kWh/Annum

4. Study of % Usage of LED Lighting:

No	Particulars	Value	Unit
1	% of Usage of LED Lighting to Total Lighting Load	**99.11**	%

5. Renewable Energy & Energy Efficiency Projects:

- Usage of Energy Efficient LED fittings

6. Assumption:

1. **1 kWh** of Electrical Energy releases **0.93 Kg of CO_2** into atmosphere

7. References:

- Audit Methodology: www.mahaurja.com
- Energy Conservation Building Code: ECBC-2017: www.beeindia.gov.in
- For CO_2 Emissions: www.ccd.gujarat.gov.in

ABBREVIATIONS

AC	:	Air conditioner
LED	:	Light Emitting
PL	:	Pin Type Light Fitting
Qty	:	Quantity
PV	:	Photo Voltaic
PC	:	Personal Computer
kWh	:	kilo-Watt Hour
W	:	Watt
MT	:	Metric Ton

CHAPTER-I
INTRODUCTION

1.1 Introduction:

An Energy Audit is conducted at Nootan Vidarbha Shikshan Mandal's, Mahila Mahavidyalaya, Amravati 444 601.

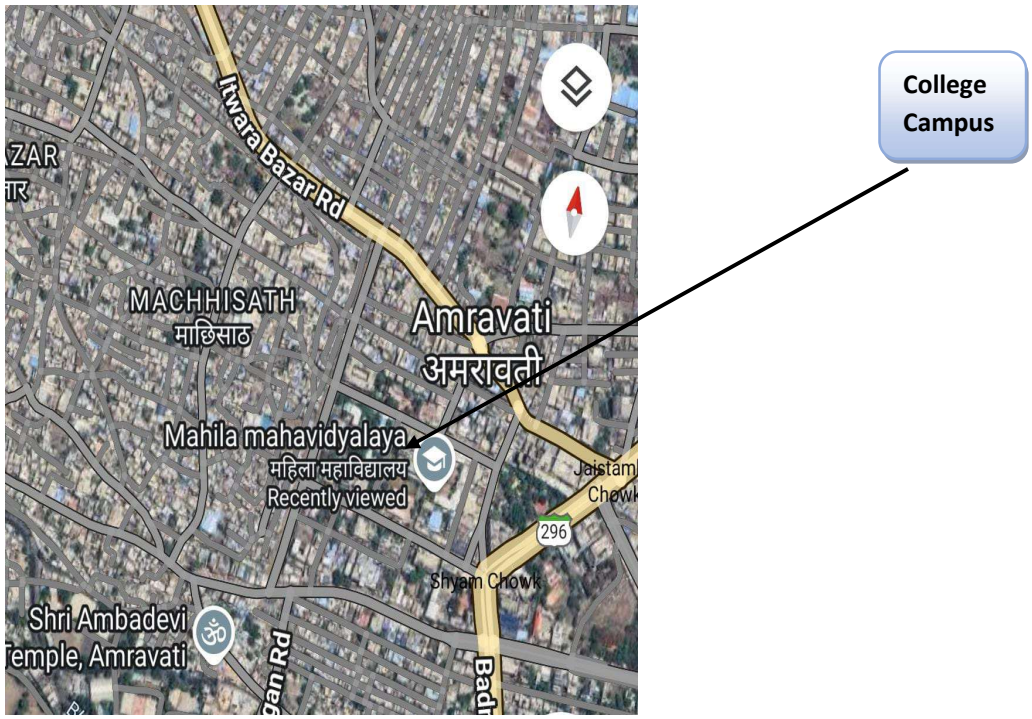
The guidelines followed for conducting the Energy Audit are:

- BEE India's Energy Conservation Building Code: ECBC-2017
- Maharashtra Energy Development Agency (www.mahaurja.com)
- Tata Power: www.tatapower.com

1.2 Key Study Points:

No	Particulars
1	Study of Present Connected Load
2	Study of Present Energy Consumption
3	Study of Per Capita Energy Consumption
4	Study of Lighting
5	Study of Energy Efficiency & Renewable Energy

1.3 College Location Image:



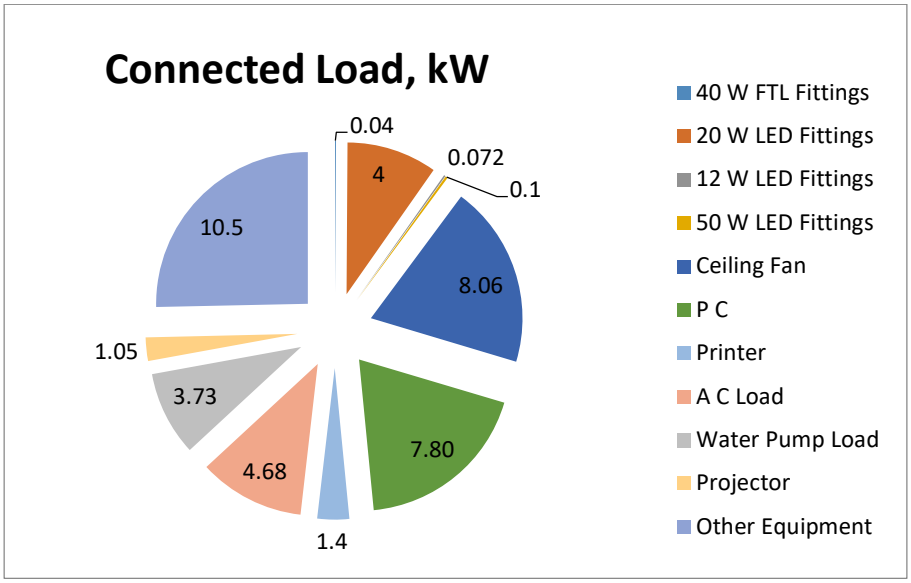
CHAPTER-II
STUDY OF CONNECTED LOAD

The major contributors to the connected load of the College include:

Table No 1: Study of Equipment wise Connected Load:

No	Equipment	Qty	Load, W/unit	Load, kW
1	40 W FTL Fittings	1	40	0.04
2	20 W LED Fittings	200	20	4
3	12 W LED Fittings	6	12	0.072
4	50 W LED Fittings	2	50	0.1
5	Ceiling Fan	124	65	8.06
6	P C	52	150	7.80
7	Printer	8	175	1.4
8	A C Load	3	1560	4.68
9	Water Pump Load	1	3730	3.73
10	Projector	3	350	1.05
11	Other Equipment	42	250	10.5
12	40 W FTL Fittings	1	40	0.04
13	**Total**			**41**

Chart No 1: Study of Connected Load:



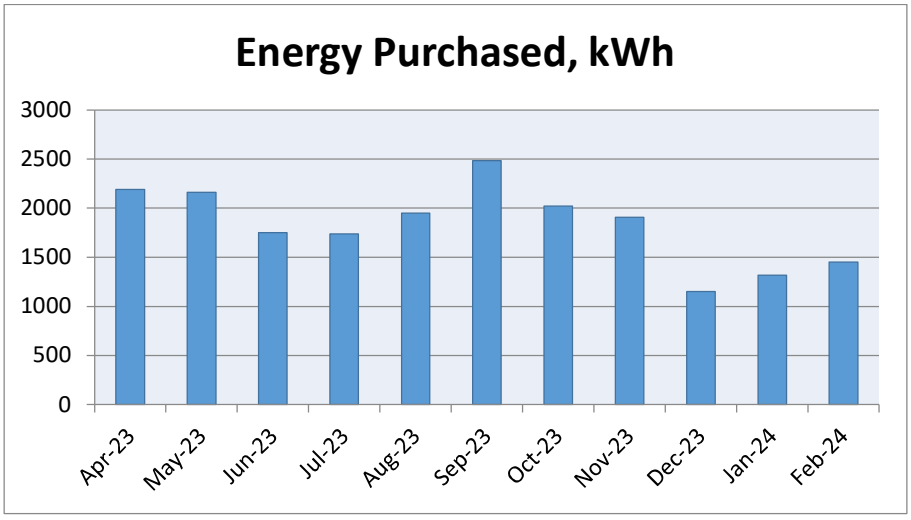
CHAPTER-III
STUDY OF PRESENT ENERGY CONSUMPTION

In this chapter, we present the analysis of Electrical Energy Consumption.

Table No 2: Study of Electrical Energy Consumption Analysis: 2023-24:

No	Month	Energy Consumed, kWh	CO_2 Emissions, MT
1	Apr-23	2190	2.04
2	May-23	2164	2.01
3	Jun-23	1750	1.63
4	Jul-23	1738	1.62
5	Aug-23	1949	1.81
6	Sep-23	2484	2.31
7	Oct-23	2021	1.88
8	Nov-23	1908	1.77
9	Dec-23	1152	1.07
10	Jan-24	1318	1.23
11	Feb-24	1453	1.35
12	Mar-24	1721	1.60
13	Total	21848	20.32
14	Maximum	2484	2.31
15	Minimum	1152	1.07
16	Average	1820.67	1.69

Chart No 2: Variation in Monthly Energy Consumption:



CHAPTER-IV
STUDY OF PER CAPITA ENERGY CONSUMPTION

Per Capita Energy Consumption Index: Per Capita Energy Consumption Index of an educational College/College is its Annual Energy Consumption in Kilo Watt Hours per student studying in the College/College.

It is determined by:

$$\text{Per Capita Energy Consumption Index} = \frac{\text{Annual Energy Consumption in kWh}}{\text{Total No of students studying}}$$

Table No 3: Computation of Energy Performance Index:

No	Particulars	Value	Unit
1	Annual Energy Consumed	21848	kWh
2	No of students studying in the College	1202	Nos
3	Per Capita Energy Consumption **= (1) / (2)**	**18.18**	kWh/Annum

CHAPTER-V
STUDY OF LIGHTING

Terminology:

1. Lumen is a unit of light flow or luminous flux. The lumen rating of a lamp is a measure of the total light output of the lamp. The most common measurement of light output (or luminous flux) is the lumen. Light sources are labeled with an output rating in lumens.

2. Lux is the metric unit of measure for illuminance of a surface. One lux is equal to one lumen per square meter.

3. Circuit Watts is the total power drawn by lamps and ballasts in a lighting circuit under assessment.

4. Installed Load Efficacy is the average maintained illuminance provided on a horizontal working plane per circuit watt with general lighting of an interior. Unit: lux per watt per square metre (lux/W/m²)

5. Lamp Circuit Efficacy is the amount of light (lumens) emitted by a lamp for each watt of power consumed by the lamp circuit, i.e. including control gear losses. This is a more meaningful measure for those lamps that require control gear. Unit: lumens per circuit watt (lm/W)

In this Chapter we compute the percentage usage of LED Lighting to total Lighting Load of the College.

Table No. 4: Percentage Usage of LED Lighting to Total Lighting Load:

No	Particulars	Value	Unit
1	No of 40 W FTL Fittings	1	Nos
2	Load/Unit of 40 W FTL Fitting	40	W/unit
3	Total Load of 40 W FTL Fitting	**0.04**	kW
4	No of 20 W LED Fittings	200	Nos
5	Load/Unit of 20 W LEDL Fitting	20	W/unit
6	Total Load of 20 W LED Fitting	**4**	kW
7	No of 12 W LED Fittings	6	Nos
8	Load/Unit of 12 W LEDL Fitting	16	W/unit
9	Total Load of 12 W LED Fitting	**0.096**	kW
10	No of 12 W LED Fittings	6	Nos
11	Load/Unit of 12 W LEDL Fitting	12	W/unit
12	Total Load of 12 W LED Fitting	**0.072**	kW
13	No of 50 W LED Fittings	2	Nos
14	Load/Unit of 50 W LEDL Fitting	150	W/unit
15	Total Load of 50 W LED Fitting	**0.3**	kW

16	Total LED Lighting Load=6+9+12+15	**4.47**	kW
17	Total Lighting Load= 3+6+9+12+15	**4.51**	kW
18	**% of LED to Total Lighting Load=16*100/17**	**99.11**	%

CHAPTER-VI
STUDY OF RENEWABLE ENERGY & ENERGY EFFICIENCY

6.1 Usage of Renewable Energy:

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

6.2 Energy Efficiency Projects:

- Usage of Energy Efficient LED Lighting

Photographs of LED Lighting:

ENVIRONMENTAL AUDIT REPORT

Nootan Vidarbha Shikshan Mandal's,

MAHILA MAHAVIDYALAYA, AMRAVATI

Jog Chowk, Amravati 444601

Year: 2023-24

Prepared by:

ENGRESS SERVICES

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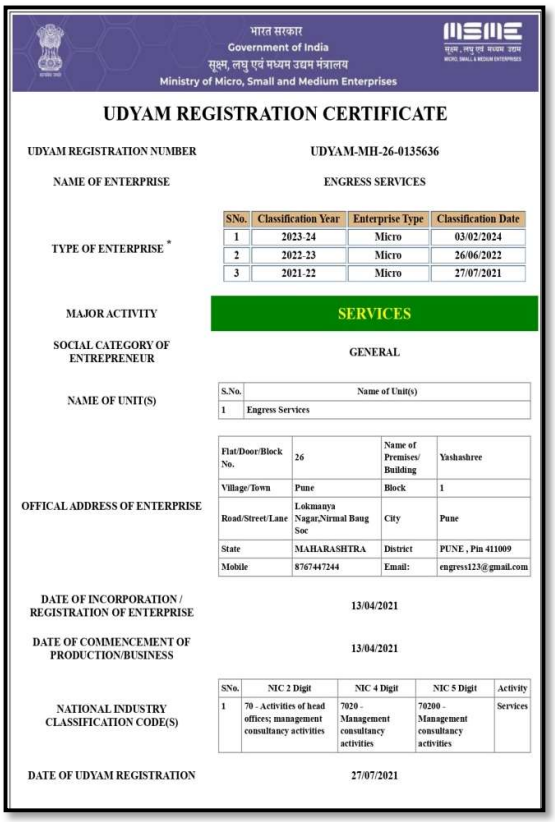

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MAJOR ACTIVITY: SERVICES

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Road/Street/Lane	Lokmanya Nagar,Nirmal Baug Soc	City	Pune
State	MAHARASHTRA	District	PUNE , Pin 411009
Mobile	8767447244	Email:	engress123@gmail.com

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

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

NATIONAL INDUSTRY CLASSIFICATION CODE(S)

SNo.	NIC 2 Digit	NIC 4 Digit	NIC 5 Digit	Activity
1	70 - Activities of head offices; management consultancy activities	7020 - Management consultancy activities	70200 - Management consultancy activities	Services

DATE OF UDYAM REGISTRATION: 27/07/2021

ASSOCHAM

GEM Certificate

ASSOCHAM hereby certifies that

Mr. A Y Mehendale

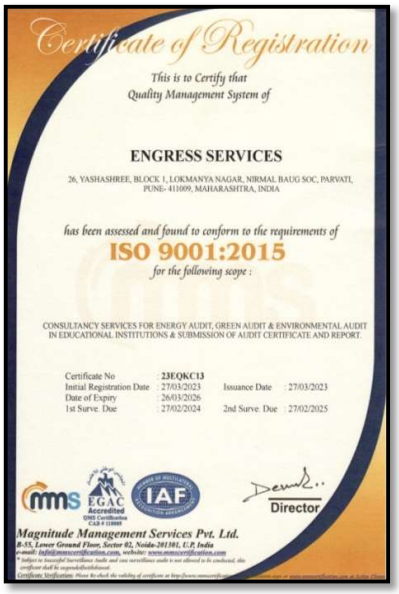
has successfully passed the
Green and Eco-friendly Movement Certified Professional Test (GEM CP)
with
"Excellent Performance"
on
06 June, 2022

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. Dharkar
Chairman, GEM

GEM CP 22/788

Deepak Sood
Secretary General, ASSOCHAM



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Magnitude Management Services Pvt. Ltd.

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@mahaurja.com, Web: www.mahaurja.com

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

EXECUTIVE SUMMARY

1. Nootan Vidarbha Shikshan Mandal's, Mahila Mahavidyalaya, Amravati consumes Energy in the form of **Electrical Energy;** used for various Electrical Equipment, office & other facilities.

2. Pollution due to College Activities:

- **Air pollution:** Mainly CO_2 on account of Electricity Consumption
- **Solid Waste:** Bio degradable Garden Waste
- **Liquid Waste:** Human liquid waste

3. Present Energy Consumption & CO_2 Emission:

No	Particulars	Value	Unit
1	Annual Energy Consumed	**21848**	kWh
2	Annual CO_2 Emissions	**20.32**	MT

4. Usage of Renewable Energy & Reduction in CO_2 Emissions:

- The College has yet to installed Roof Top Solar PV Plant

5. Indoor Air Quality Parameters:

No	Parameter/Value	AQI	PM-2.5	PM-10
1	Maximum	**92**	**51**	**86**
2	Minimum	**91**	**49**	**84**

6. Indoor Lux & Noise Level Parameters:

No	Parameter/Value	Lux Level	Noise Level, dB
1	Maximum	**230**	**46.9**
2	Minimum	**205**	**44.4**

7. Waste Management:

No	Head	Particulars
1	Solid Waste	Segregation of Waste at source
2	E Waste	Disposed of by the Parent Society

8. Rain Water Management:

The College has installed Pipes from the terrace and the Rain water falling on the terrace is used to increase the Underground Water Table.

9. Environment Friendly Initiatives:

- Tree Plantation in the campus.
- Creation of awareness on Plastic Free Campus by Display of Poster.

10. Assumptions:

1. **1 kWh** of Electrical Energy releases **0.93 Kg** of **CO_2** into atmosphere

11. References:

- For CO_2 Emissions: www.ccd.gujarat.gov.in
- For Various Indoor Air Parameters: www.ishrae.com
- For AQI Quality Standards: www.cpcb.com

ABBREVIATIONS

Qty	:	Quantity
kWh	:	kilo-Watt-hour
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:

1.1.1 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

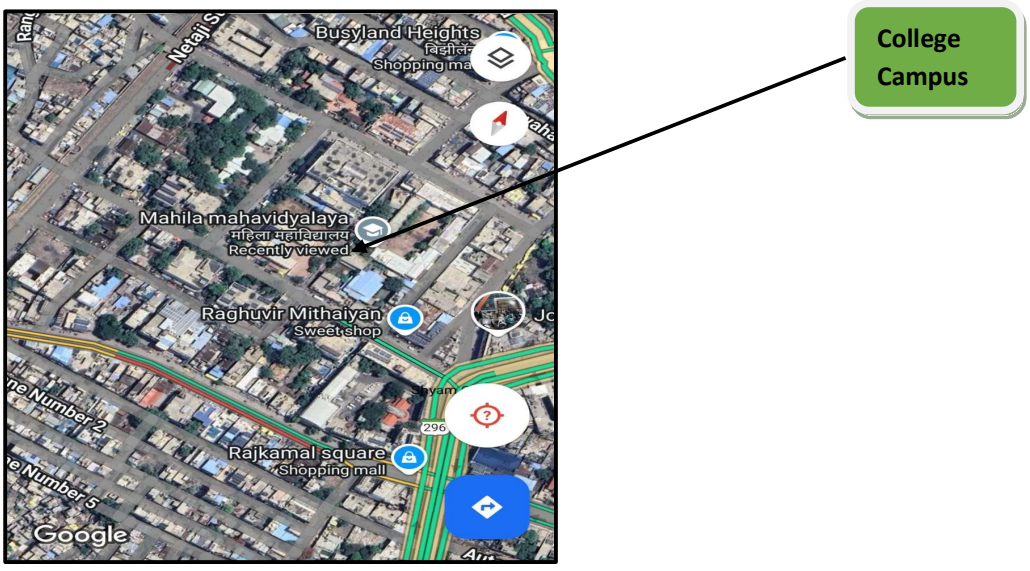
1.1.2 Environmental Audit: Definition:

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:



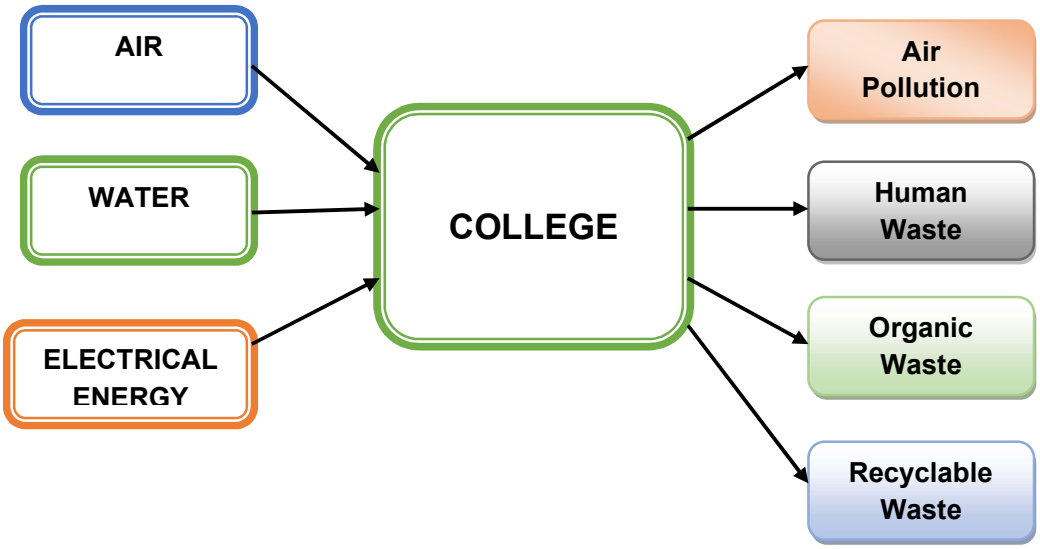
CHAPTER-II
STUDY OF RESOURCE CONSUMPTION & CO_2 EMISSION

The College consumes following basic/derived Resources:

1. Air
2. Water
3. Electrical Energy

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

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



Now we compute the Generation of CO_2 on account of consumption of Electrical Energy. The basis of Calculation for CO_2 emissions due to Electrical Energy is as under.

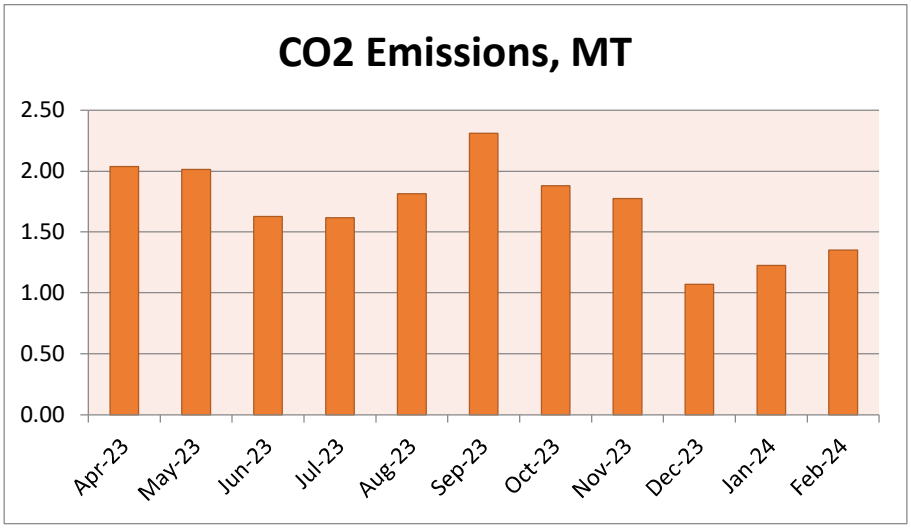
- **1 kWh** of Electrical Energy releases **0.93 Kg of CO_2** into atmosphere

Table No 1: Study of Purchase of Energy & CO_2 Emissions: 23-24:

No	Month	Energy Consumed, kWh	CO_2 Emissions, MT
1	Apr-23	2190	2.04
2	May-23	2164	2.01
3	Jun-23	1750	1.63
4	Jul-23	1738	1.62
5	Aug-23	1949	1.81
6	Sep-23	2484	2.31

7	Oct-23	2021	1.88
8	Nov-23	1908	1.77
9	Dec-23	1152	1.07
10	Jan-24	1318	1.23
11	Feb-24	1453	1.35
12	Mar-24	1721	1.60
13	Total	21848	20.32
14	Maximum	2484	2.31
15	Minimum	1152	1.07
16	Average	1820.67	1.69

Chart No 2: Month wise CO_2 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	Admin Office	92	51	87
2	Class Room	92	51	87
3	Library	91	49	85
4	Geography Department	92	51	85
5	Music Department	91	49	85
	Maximum	**92**	**51**	**87**
	Minimum	**91**	**49**	**85**

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 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 & Noise Parameters:

No	Location	Lux Level	Noise Level, dB
1	Admin Office	210	46.1
2	Class Room	230	45.2
3	Library	215	44.4
4	Geography Department	230	45.6
5	Music Department	225	46.9
	Maximum	**230**	**46.9**
	Minimum	**205**	**44.4**

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 has installed Rain Water Management Project; the Rain Water from the terrace the collected through Pipes and increase the Underground Water table.

Photograph of Rain Water Carrying Pipe:

CHAPTER-VII
STUDY OF WASTE MANAGEMENT

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

Details of Waste Management Practices:

No	Head	Observation	Photograph
1	**Solid Waste**	Segregation of Waste at Source: Provision of Waste Collection Bins	**Waste Collection Bin** 
2.	**E-Waste**	Provision of E Waste Collection Bin & Disposal through Parent Society.	**E-Waste Collection Bin:** 

CHAPTER-VIII
STUDY OF ECO-FRIENDLY PRACTICES

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

Details of Eco-Friendly Practices:

No	Head	Observation	Photograph
1	**Tree Plantation**	Internal Tree Plantation in the Campus	**Internal Tree Plantation:** 
2	**Plastic Free Campus**	Internal Plastic Free in the Campus	**Poster on Plastic Free Campus:** 

GREEN AUDIT REPORT

Nootan Vidarbha Shikshan Mandal's,

MAHILA MAHAVIDYALAYA, AMRAVATI

Jog Chowk, Amravati 444601

Year: 2023-24

Prepared by:

ENGRESS SERVICES

Yashashree, 26, Nirmal Bag Society
Near Muktangan 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, लघु एवं मध्यम उद्यम मंत्रालय
Ministry of Micro, Small and Medium Enterprises

UDYAM REGISTRATION CERTIFICATE

UDYAM REGISTRATION NUMBER	UDYAM-MH-26-0135636
NAME OF ENTERPRISE	ENGRESS SERVICES

TYPE OF ENTERPRISE *

SNo.	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

MAJOR ACTIVITY: SERVICES

SOCIAL CATEGORY OF ENTREPRENEUR: GENERAL

NAME OF UNIT(S)

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

OFFICAL ADDRESS OF ENTERPRISE

Flat/Door/Block No.	26	Name of Premises/ Building	Yashashree
Village/Town	Pune	Block	1
Road/Street/Lane	Lokmanya Nagar,Nirmal Baug Soc	City	Pune
State	MAHARASHTRA	District	PUNE , Pin 411009
Mobile	8767447244	Email:	engress123@gmail.com

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

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

NATIONAL INDUSTRY CLASSIFICATION CODE(S)

SNo.	NIC 2 Digit	NIC 4 Digit	NIC 5 Digit	Activity
1	70 - Activities of head offices; management consultancy activities	7020 - Management consultancy activities	70200 - Management consultancy activities	Services

DATE OF UDYAM REGISTRATION: 27/07/2021

GEM Certificate

ASSOCHAM

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. Dharkar
Chairman, GEM

GEM CP 22/788

Deepak Sood
Secretary General, ASSOCHAM

Certificate of Registration

This is to Certify that
Quality Management System of

ENGRESS SERVICES

26, YASHASHREE, BLOCK 1, LOKMANYA NAGAR, NIRMAL BAUG SOC, PARVATI, PUNE- 411009, MAHARASHTRA, INDIA

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 : 23EQKC13
Initial Registration Date : 27/03/2023 Issuance Date : 27/03/2023
Date of Expiry : 26/03/2026
1st Surve. Due : 27/02/2024 2nd Surve. Due : 27/02/2025

EGAC Accredited
IAF

Director

Magnitude Management Services Pvt. Ltd.
B-55, Lower Ground Floor, Sector 02, Noida-201301, U.P. India

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: eec@mahaurja.com, Web: www.mahaurja.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
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)

Certificate of Registration

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ENGRESS SERVICES

26, YASHASHREE, BLOCK 1, LOKMANYA NAGAR, NIRMAL BAUG SOC, PARVATI, PUNE- 411009, MAHARASHTRA, INDIA

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INDEX

ACKNOWLEDGEMENT

We at Engress Services, Pune, express our sincere gratitude to the management of Nootan Vidarbha Shikshan Mandal's, Mahila Mahavidyalaya, Amravati 444 601, for awarding us the assignment of Green Audit of their Campus for the Year: 2023-24.

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

EXECUTIVE SUMMARY

1. Nootan Vidarbha Shikshan Mandal's, Mahila Mahavidyalaya, Amravati 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 Consumed	**21848**	kWh
2	Annual CO_2 Emissions	**20.32**	MT

3. Renewable Energy & Reduction in CO_2 Emissions:

- The College has yet to installed Roof Top Solar PV Plant

4. Waste Management:

No	Head	Particulars
1	Solid Waste	Segregation of Waste at source
2	E Waste	Disposed of by the Parent Society

5. Rain Water Management:

The College has installed Pipes from the terrace and the Rain water falling on the terrace 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 Plastic Free Campus by Display of Poster.

7. Assumption:

1. **1 kWh** of Electrical Energy releases **0.93 Kg** of **CO_2** into atmosphere

8. Reference:

- For CO_2 Emissions: www.ccd.gujarat.gov.in

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

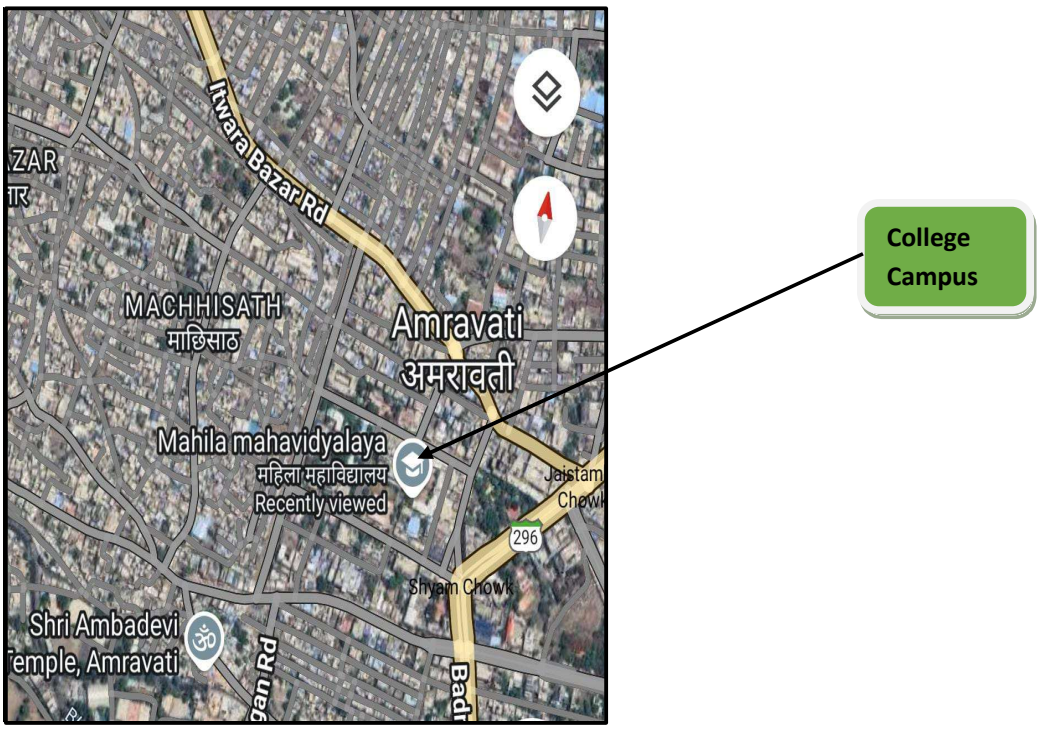
1.1 Introduction:

A Green Audit is conducted at Shri. Nootan Vidarbha Shikshan Mandal's, Mahila Mahavidyalaya, Amravati.

1.2 Key Study Points:

No	Particulars
1	Study of Present Energy Consumption & CO_2 Emission
2	Study of Usage of Renewable Energy
3	Study of Waste Management Practices
4	Study of Rain Water Management
5	Study of Green & Sustainable Initiatives

1.3 College 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 **0.93 Kg of CO_2** into atmosphere.

Table No 1: Month wise CO_2 Emissions:

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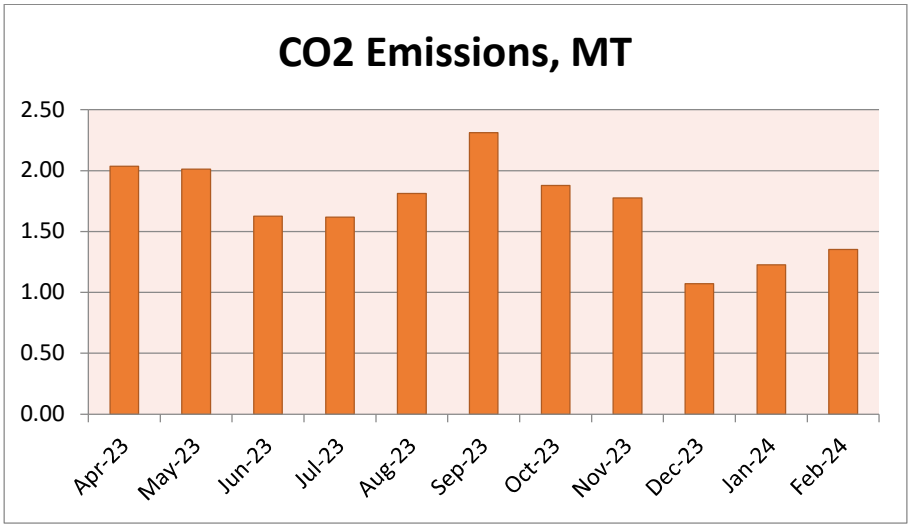

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STUDY OF RAIN WATER MANAGEMENT

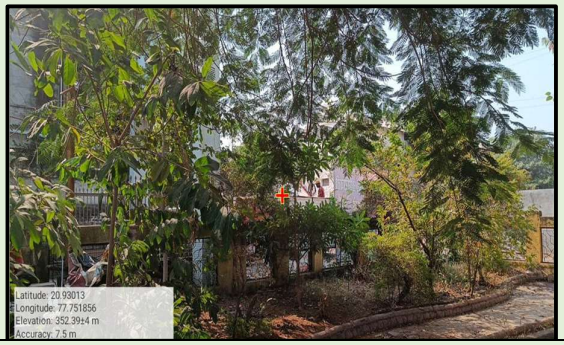
The College has installed Rain Water Management Project; the Rain Water from the terrace the collected through Pipes and increase the Underground Water table.

Photograph of Rain Water Collecting Pipe:

CHAPTER-VI
STUDY OF GREEN & SUSTAINABLE PRACTICES

In this Chapter, we present the Green & Sustainable Practices followed by the College.

Green & Sustainable Practices:

No	Head	Observation	Photograph
1	**Easy Movement of Stake Holders**	Provision of Good Internal Road within the Campus	**Internal Road:** 
2	**Tree Plantation**	Internal Tree Plantation in the Campus	**Internal Tree Plantation:** 
3	**Facilities for Divyangajan**	Provision of Ramp Structure & wheel Chair for Divyangajan	**Ramp for Divyangajan:** 

ANNEXURE-1:
LIST OF TREES & PLANTS IN THE CAMPUS:

Trees in the Campus:

No	Name of Tree/Plant
1	Millingtonia
2	Delonix regia
3	Azadirachta
4	Ashoca
5	Polyalthiya longitolia
6	Pimenta
7	Indian Beeh Tree
8	Honge Tree
9	Pongam Tree
10	Palm