Late Chindhuji Laxmanrao Purke Shikshan Prasarak Mandal's

Indira Gandhi Kala Mahavidyalaya,

Ralegaon - 445402, Dist. Yavatmal (M.S.)

Affiliated to Sant Gadge Baba Amravati University

Website -www.igkmralegaon.org **E-mail - igkm490@gmail.com**

GREEN AUDIT

Index

ENGRESS SERVICES

Yashashree, 26, Nirmal Bag Society, Near Muktangan English School, Parvati, Pune 411 009
Tel: 09890444795 Email: engress123@gmail.com
UDYAM Regn. No: UDYAM-MH-26-0135636,
MEDA Regn. No: ECN/2023-24/CR-43/1709
ISO: 9001-2015 Certified (Cert No: 23EQKC13),
ISO: 14001-2015 Certified (Cert No: 23EEKW20)

GREEN AUDIT CERTIFICATE

Certificate No: ES/IGC/23-24/02 **Date: 30/05/2024**

This is to certify that we have conducted Green Audit at Indira Gandhi Kala Mahavidyalaya, Ralegaon, Yavatmal, in the Academic year 2023-24.

.The College has adopted following Green & Sustainable Practices:

- Usage of Energy Efficient LED Light Fitting
- Usage of BEE STAR Rated Energy Efficient Equipment
- Maximum Usage of Day Lighting
- Segregation of Waste at Source
- Installation of Bio Composting Unit for conversion of Organic Waste
- Installation of Rain Water Management Project
- Maintenance of good Internal Road
- Tree Plantation in the campus
- Provision of Ramp for Divyangajan
- Creation of awareness on Water 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

GREEN AUDIT REPORT

INDIRA GANDHI KALA MAHAVIDYALAYA,

RALEGAON DIST: YAVATMAL 445 402

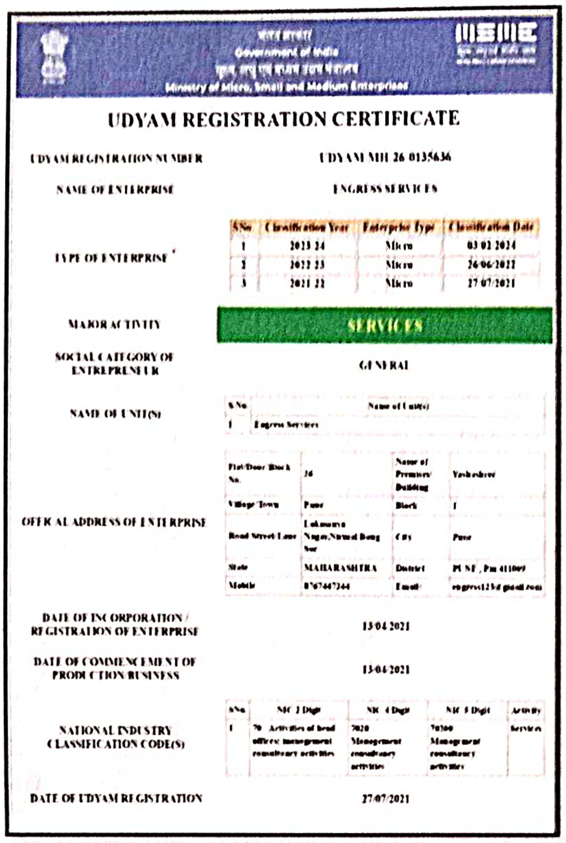
Year: 2023-24

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:



Government of India
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 *	see table below
MAJOR ACTIVITY	SERVICES
SOCIAL CATEGORY OF ENTREPRENEUR	GENERAL
NAME OF UNIT(S)	1. Engress Services
DATE OF INCORPORATION / REGISTRATION OF ENTERPRISE	13/04/2021
DATE OF COMMENCEMENT OF PRODUCTION/BUSINESS	13/04/2021
DATE OF UDYAM REGISTRATION	27/07/2021

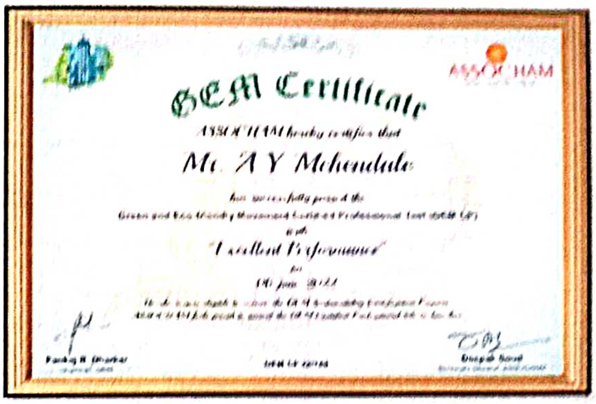
S.No.	Classification Year	Enterprise Type	Classification Date
1	2023-24	Micro	03/02/2024
2	2022-23	Micro	26/06/2022
3	2021-22	Micro	27/07/2021

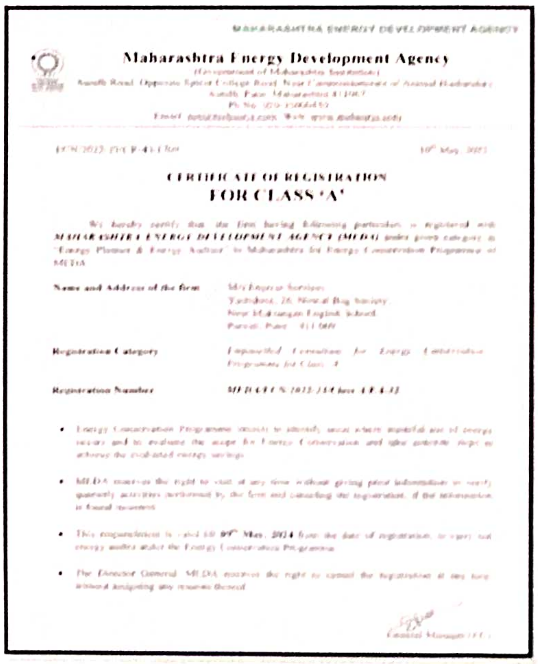
OFFICIAL ADDRESS OF ENTERPRISE

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

NATIONAL INDUSTRY CLASSIFICATION CODE(S)

S.No.	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





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ACKNOWLEDGEMENT

We Engress Services, Pune, express our sincere gratitude to the management of Indira Gandhi Kala Mahavidyalaya, Ralegaon, Yavatmal 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. Indira Gandhi Kala Mahavidyalaya, Ralegaon, 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 Consumed	**8336**	kWh
2	Annual CO_2 Emissions	**7.50**	MT

3. Usage of Renewable Energy:

- It is recommended to install Solar Power Project on the College Building.

4. Waste Management:

No	Head	Particulars
1	Solid Waste	Segregation of Waste at source
2	Organic Waste	Provision of Bio Composting Bed
3	Sanitary Waste	It is recommended to Install Sanitary Waste Incinerator
4	E Waste	Disposed of through Authorized Agency

5. Rain Water Management:

The College has installed the Rainwater Management project; the rain water falling on the terrace is collected and is used for recharging the bore well.

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. Assumption:

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

8. 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

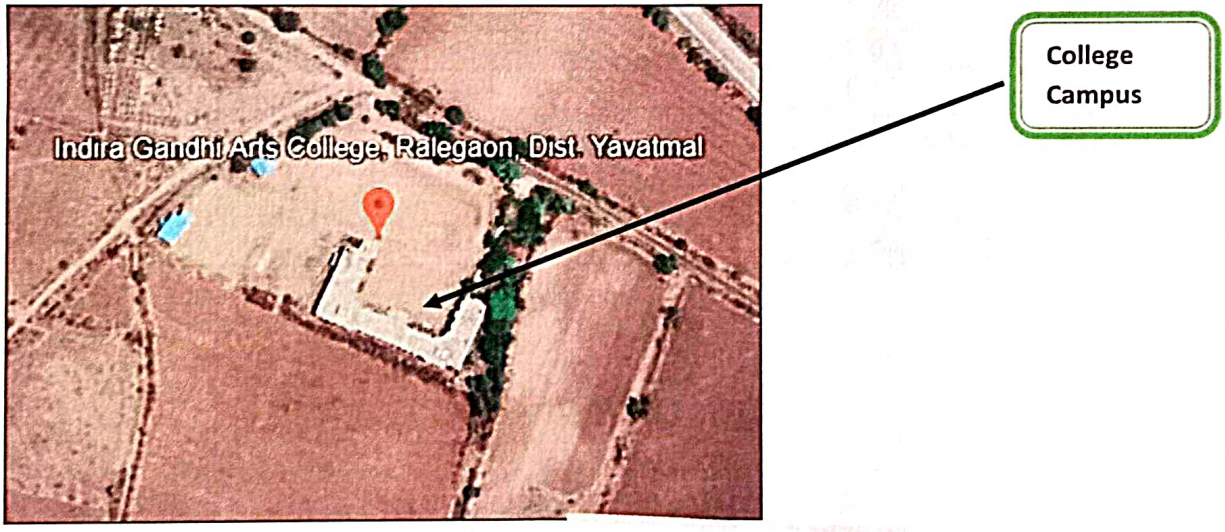
1.1 Introduction:

A Green Audit is conducted at Indira Gandhi Kala Mahavidyalaya, Ralegaon, Yavatmal.

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:



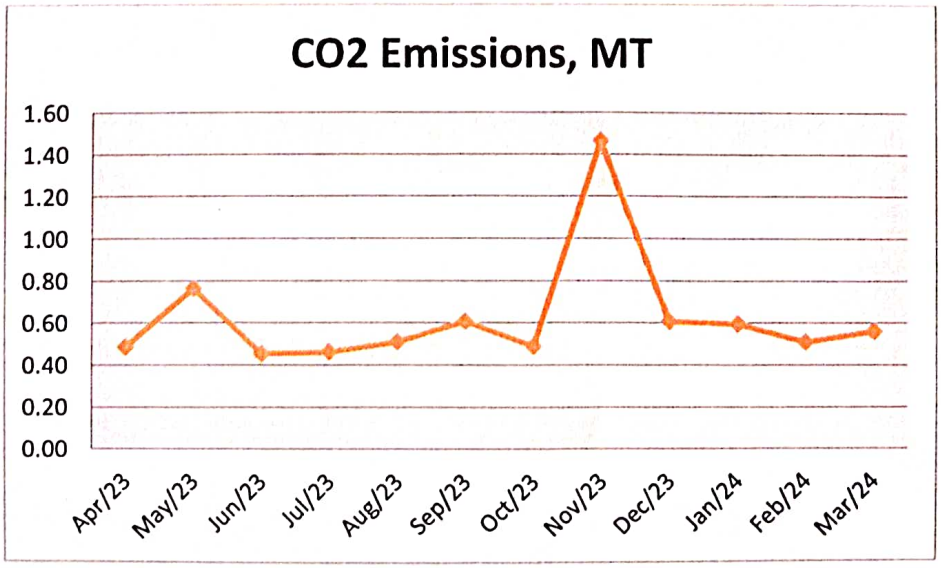
CHAPTER-II
STUDY OF ENERGY CONSUMPTION & CO_2 EMISSION

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 **0.9 Kg of CO_2** into atmosphere.

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

No	Month	Energy Consumed, kWh	CO_2 Emissions, MT
1	Apr-23	540	0.49
2	May-23	848	0.76
3	Jun-23	504	0.45
4	Jul-23	515	0.46
5	Aug-23	565	0.51
6	Sep-23	673	0.61
7	Oct-23	542	0.49
8	Nov-23	1626	1.46
9	Dec-23	675	0.61
10	Jan-24	660	0.59
11	Feb-24	565	0.51
12	Mar-24	623	0.56
13	Total	8336	7.50
14	Maximum	1626	1.46
15	Minimum	504	0.45
16	Average	694.667	0.63

Chart No 1: Month wise CO_2 Emissions:



CHAPTER III
STUDY OF USAGE OF RENEWABLE ENERGY

3.1 Usage of Renewable Energy:

As on today College has not install solar roof-top PV plant, Solar thermal water heating plant; the percentages of uses of alternate energy to the annual energy demand work to be zero percent.

3.2 Energy Efficiency Measures Adopted:

- The Institute has adopted Energy Efficient LED Lighting.

CHAPTER IV
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	**Photo of Waste Collection Bin:** 
2	**Organic Waste**	Provision of Bio Composting Bed: For conversion into Bio Compost	**Photo of Bio Composting Bed:** 
3	**Sanitary Waste**	Provision of Sanitary Waste Collection Bin & Disposal through an Incinerator	**Sanitary Waste Incinerator :** It is recommended installed Sanitary Waste Incinerator for sanitary waste disposal

4	**E Waste**	Provision of E Waste Collection Bin & disposal through Authorized Agency	**Photograph of E Waste Collection Bin** 

CHAPTER-V
STUDY OF RAIN WATER MANAGEMENT

The College has implemented the Rain Water Management Project. The College has installed Pipes from the terrace and the Rain water falling on the terrace is gathered and is used for recharging the bore well.

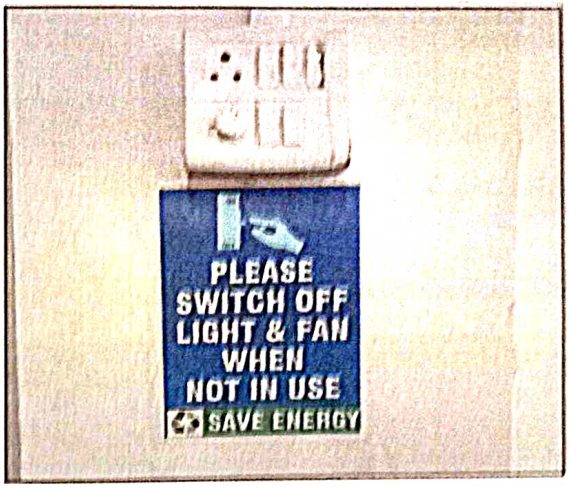
Photograph of Rain Water Management Bore well Recharge Section:

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	**Photo of Internal Road:** 
2	**Tree Plantation**	Internal Tree Plantation in the Campus	**Photo of Internal Tree Plantation:** 
3	**Facilities for Divyangajan**	Provision of Sloppy Structure for Divyangajan	**Sloppy Structure for Divyangajan:** 

4	**Creation of Awareness among Stake Holders**	Display of Poster on Energy Conservation	**Photograph of Poster on Energy Conservation:** 

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

Sr.No.	Name of Plants/Trees	Quantity	Sr.No.	Name of Plants/Trees	Quantity
1	Mehandi	76	24	Ajwan	1
2	Ashoka	12	25	Shatavari	1
3	Kadunimb	18	26	Ashwganda	1
4	Chakri	1	27	Adulsa	1
5	Palm	13	28	Rui	1
6	Angerji Chinch	14	29	Aloevera	3
7	Ghantoli	7	30	Beetle nut	1
8	Kanher	6	31	Prajakta	1
9	Zandu	15	32	Raktchandan	1
10	Bakul	2	33	Shevaga	1
11	Sadafully	10	34	Mosambi	1
12	Jabhul	3	35	Custer apple	1
13	Teak wood	73	36	Gauva	1
14	Pimple	1	37	Coconut	1
15	Karanj	10	38	Akashnim	1
16	Champa	1	39	Java Apple	1
17	Jaswand	7	40	Karvand	1
18	Kadamb	1	41	Lemaon	1
19	Rose	21	42	Curry Leaves	1
20	Thuja	11	43	Sonchafa	1
21	Stobush	1	44	Copper Leaf	4
22	Bramhi	1	45	Awala	2
23	Mogra	9			

GREEN AUDIT REPORT

OF

INDIRA GANDHI KALA MAHAVIDYALAYA,

RALEGAON DIST: YAVATMAL 445 402

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/IGC/22-23/02 **Date: 06/07/2023**

This is to certify that we have conducted Green Audit at Indira Gandhi Kala Mahavidyalaya, Ralegaon, Yavatmal, in the Year 2022-23.

The Institute has adopted following Energy Efficient & Green Practices:

- Usage of Energy Efficient LED Light Fitting
- 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 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

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

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

Director

Magnitude Management Services Pvt. Ltd.

ISO: 9001-2015 Certificate

Certificate of Registration

ENGRESS SERVICES

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

Director

ISO: 14001-2015 Certificate

INDEX

ACKNOWLEDGEMENT

We Engress Services, Pune, express our sincere gratitude to the management of Indira Gandhi Kala Mahavidyalaya, Ralegaon, 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. **Indira Gandhi Kala Mahavidyalaya, Ralegaon, 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	9062	kWh
2	Annual CO_2 Emissions	8.15	MT

3. **Renewable Energy & Energy Efficiency Projects:**

- Usage of Energy Efficient LED Fittings
- Maximum usage of Day Lighting

4. **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.

4.2 Bio Composting Pit:

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

4.3 Liquid Waste Management:

The College has installed Septic Tank and it cleans periodically.

4.4 Sanitary Waste Management:

The College has not installed Sanitary Waste Incinerator for sanitary waste disposal. It is recommended to install Sanitary Waste Incinerator.

4.5 E Waste Management:

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

5. 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.

6. Green & Sustainable Practices:

- Maintenance of good Internal Road
- Maintenance of Internal Garden: 100 plus Trees in the campus.
- Provision of Ramp for Divyangajan
- Creation of awareness on Resource Conservation Display of Posters

7. Assumption:

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

8. Reference:

- For CO_2 Emissions: www.tatapower.com

ABBREVIATIONS

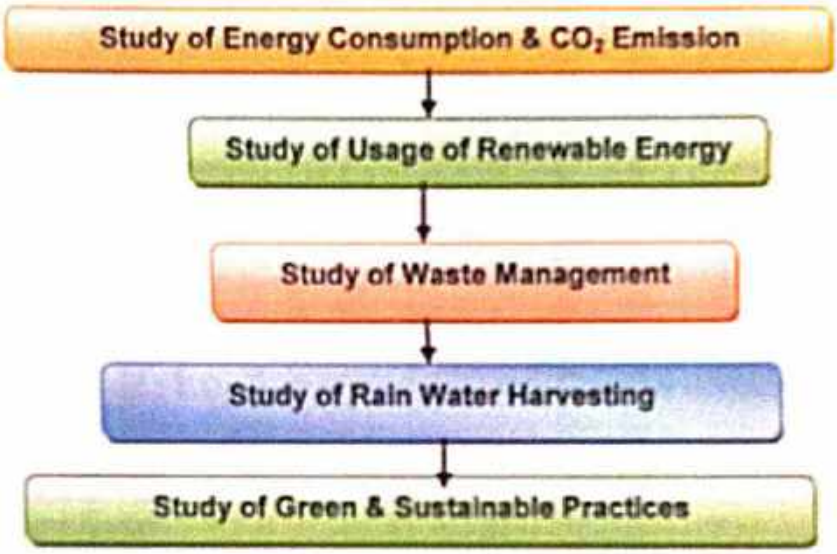
BEE	Bureau of Energy Efficiency
kWh	Kilo Watt Hour
LPD	Liters Per Day
Kg	Kilo Gram
MT	Metric Ton
CO_2	Carbon Di Oxide
Qty	Quantity

CHAPTER-I
INTRODUCTION

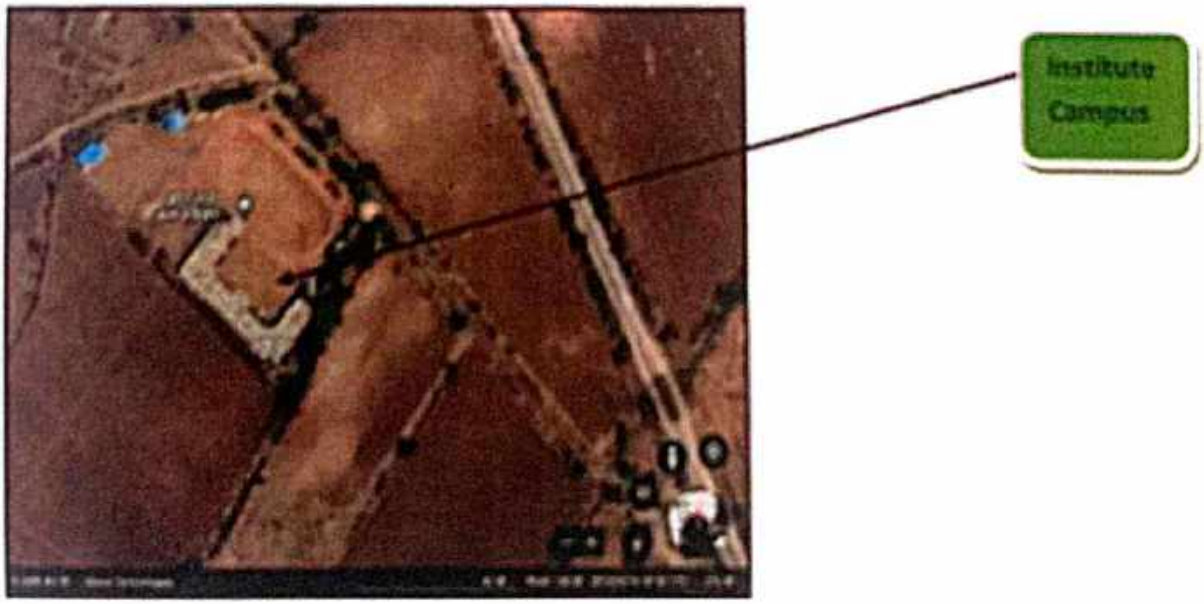
1.1 Introduction:

A Green Audit is conducted at Indira Gandhi Kala Mahavidyalaya,Ralegaon, 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 No 1: Month wise CO_2 Emissions:

No	Month	Energy Consumed, kWh	CO_2 Emissions, MT
1	Apr-22	853	0.767
2	May-22	945	0.850
3	Jun-22	1004	0.903
4	Jul-22	545	0.490
5	Aug-22	407	0.366
6	Sep-22	673	0.605
7	Oct-22	542	0.487
8	Nov-22	1626	1.463
9	Dec-22	675	0.607
10	Jan-23	680	0.612
11	Feb-23	533	0.479
12	Mar-23	579	0.521
13	Total	9062	8.155
14	Maximum	1626	1.463
15	Minimum	407	0.366
16	Average	755.167	0.679

Chart No 1: Month wise CO_2 Emissions:

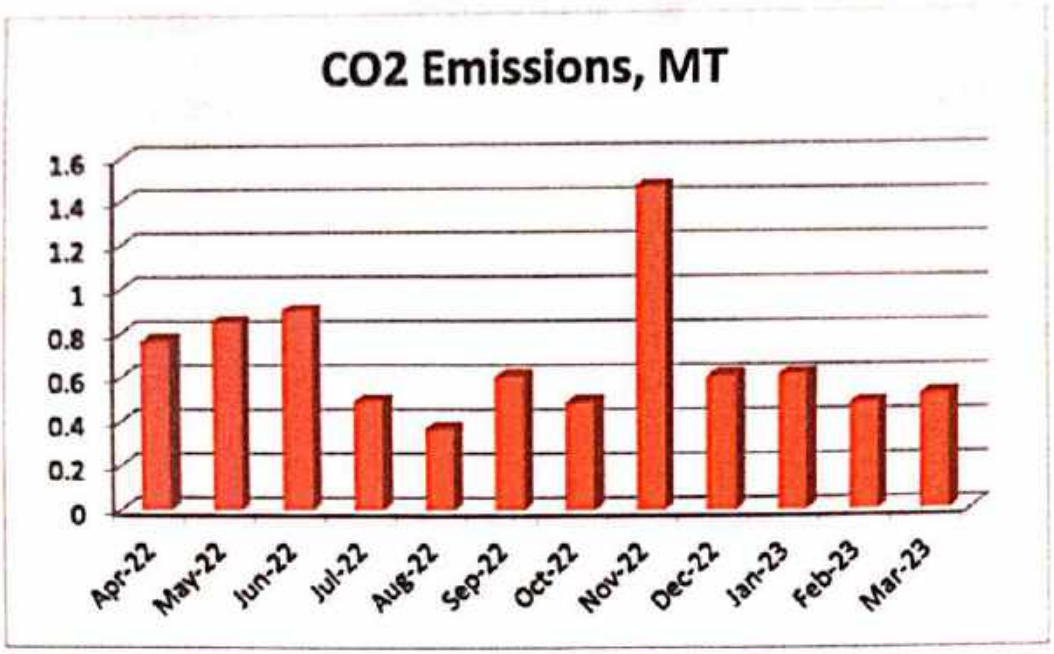


Table No 2: Important Parameters:

No	Parameter/ Value	Energy Consumed, kWh	CO_2 Emissions, MT
1	Total	9062	8.155
2	Maximum	1626	1.463
3	Minimum	407	0.366
4	Average	755.167	0.679

CHAPTER III
STUDY OF USAGE OF RENEWABLE ENERGY

The Institute has not installed Roof Top Solar PV Plant. It is recommended to install 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:

4.3 Liquid Waste Management:

The Institute has installed Septic Tanks it cleans periodically.

4.4 Sanitary Waste Management:

The College has not installed Sanitary Waste Incinerator for sanitary waste disposal. It is recommended to install Sanitary Waste Incinerator.

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 College has installed the Rainwater management project and bore well charging project, is used to increase the underground water table, but the piping system for rain water collection is under maintenance. It is recommended for intact the project.

Photograph of Rain Water Charging:

CHAPTER VI
STUDY OF GREEN & SUSTAINABLE PRACTICES

6.1 Pedestrian Friendly Road & Internal Tree Plantation:

The Institute has well maintained internal road to facilitate the easy movement of the students within the campus. The Institute has well maintained landscaped garden in the campus.

Photograph of Internal Road & Tree plantation:

6.2 Provision of Ramp for Divyangajan:

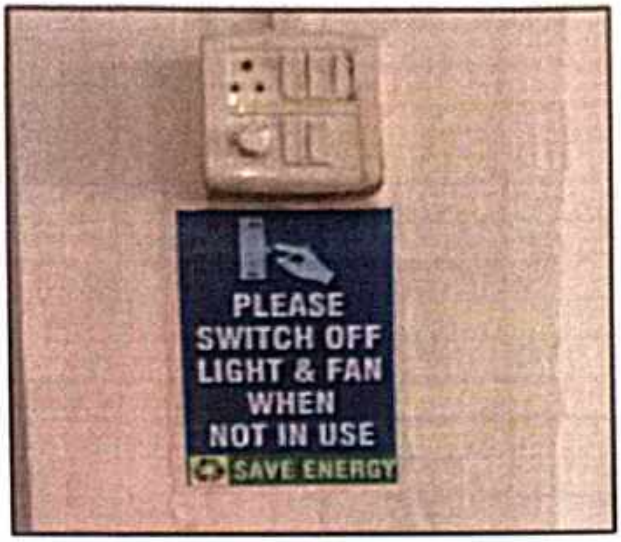
For easy movement of Divyangajan, the Institute has made provision of Ramp.

Photograph of Ramp:

6.3 Creation of Awareness about Water & Energy Conservation:

The Institute has displayed posters emphasizing on importance of Water & Energy Conservation

Photograph of Poster on Water Conservation:



6.4 Best Practices and Initiative for Social Awareness:

The College has taken initiative for different social awareness program, like water conservation, trees plantations, society cleanness etc under National Service Scheme.

Photograph of Best Practices:

ANNEXURE-1:

LIST OF TREES & PLANTS IN THE CAMPUS:

Presently the College has well maintained landscaped garden within the Campus and planted more than 100 trees, some of listed below:

Sr.No.	Name of Plants/Trees	Quantity
1	Mehandi	76
2	Ashoka	12
3	Kadunimb	18
4	Chakri	1
5	Palm	13
6	Angerji Chinch	14
7	Ghantoli	7
8	Kanher	6
9	Zandu	15
10	Bakul	2
11	Sadafully	10
12	Jabhul	3
13	Teak wood	73
14	Pimple	1
15	Karanj	10
16	Champa	1
17	Jaswand	7
18	Kadamb	1
19	Rose	21
20	Thuja	11
21	Stobush	1
22	Bramhi	1
23	Mogra	9
24	Ajwan	1
25	Shatavari	1
26	Ashwganda	1
27	Adulsa	1
28	Rui	1
29	Aloevera	3
30	Beetle nut	1
31	Prajakta	1
32	Raktchandan	1
33	Shevaga	1
34	Mosambi	1
35	Custer apple	1
36	Gauva	1
37	Coconut	1
38	Akashnim	1
39	Java Apple	1
40	Karvand	1
41	Lemaon	1
42	Curry Leaves	1
43	Sonchafa	1

44	Copper Leaf	4
45	Awala	1

GREEN AUDIT REPORT

OF

INDIRA GANDHI KALA MAHAVIDYALAY, RALEGAON DIST: YAVATMAL 445 402

Year: 2021-22

Prepared by:

Enrich Consultants

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

ENRICH CONSULTANTS * Pune *

MAHARASHTRA ENERGY DEVELOPMENT AGENCY
An ISO 9001 : 2000 Reg. no. RQ 91 / 2462

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/2021-22/CR-14/1577

22nd April, 2021

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 Enrich Consultants**
Yashashree, Plot No. 26, Nirmal Bag Society,
Near Muktangan English School, Parvati,
Pune - 411009.

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

Registration Number : *MEDA/ECN/2021-22/Class A/EA-03*

- 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 **21st April, 2023** 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)

ENRICH CONSULTANTS Pune

Enrich Consultants

Yashashree, 26, Nirmal Bag Society,
Near Muktangan English School, Parvati, Pune 411 009
Tel: 09890444795 Email: enrichcons@gmail.com

Ref: EC/IGC/21-22/06

Date: 25/05/2022

CERTIFICATE

This is to certify that we have conducted Green Audit at Indira Gandhi Kala Mahavidyalay, Ralegaon, Yavatmal - 445 402 in the Academic year 2021-22.

The College has adopted following Green Initiatives:

- Usage of Energy Efficient LED Light Fitting
- Maximum Usage of Day Lighting
- Provision of Separate bins for Dry & Wet Waste
- The College has installed Septic Tank and is cleaned periodically.
- Implementation 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 Enrich Consultants,

ENRICH CONSULTANTS PUNE

A Y Mehendale,
Certified Energy Auditor
EA-8192

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ACKNOWLEDGEMENT

We Enrich Consultants, Pune, express our sincere gratitude to the management of Indira Gandhi Kala Mahavidyalay, Ralegaon, for awarding us the assignment of Green Audit of their Campus for the Academic Year 21-22

We are thankful to all the Principal and Staff members for helping us during the field study

EXECUTIVE SUMMARY

1. Indira Gandhi Kala Mahavidyalay, Ralegaon, Yavatmal - 445 402 consumes Energy in the form of Electrical Energy used for various Electrical Equipment, office & other facilities.

2. Present Energy Consumption & CO_2 Emissions:

No	Parameter/ Value	Energy Purchased, kWh	CO_2 Emissions, MT
1	Total	5457	4.911
2	Maximum	777	0.699
3	Minimum	287	0.258
4	Average	454.75	0.409

3. Various initiatives taken for Energy Conservation:

- Usage of Energy Efficient LED Lighting
- Maximum Usage of Day Lighting

4. Usage of Renewable Energy & CO_2 Emission Reduction:

- *It is recommended to install roof-top solar PV Plant on college building.*

5. Waste Management:

5.1 Segregation of Waste at Source:

The Waste is segregated at source and the recyclable waste, like paper, plastic waste is handed over to Authorized waste collecting agent for further recycling.

5.2 Organic Waste Management:

The College has installed bio-composting pit, to convert bio-degradable waste into bio-fertilizer.

5.3 Liquid Waste Management:

The College has installed Septic and is cleaned periodically.

5.4 E-Waste Management:

The E-Waste is disposed of through Authorized E-Waste collecting agency.

6. Rain Water Management:

The College has installed the Rainwater management project and bore well charging project, but the piping system for rain water collection is under maintenance. It is recommended for intact the project.

7. Green & Sustainable Initiatives

- Maintenance of good Internal Road
- Maintenance of Internal Garden
- Display of Posters on Resource Conservation
- Best Practices and Initiative for Social Awareness

8. Notes &Assumptions:

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

9. References:

- 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 Objectives:

1. To study present Energy Consumption
2. To Study CO_2 emissions
3. To study usage of Renewable Energy
4. Study of Waste Management
5. Study of Rain Water Management
6. Study of Green & Sustainable Practices

1.2 General Details of College: Table No 1:

No	Head	Particulars
1	Name of Institution	Indira Gandhi Kala Mahavidyalay
2	Address	Kalamb Road,Ralegaon,Dist: Yavatmal 445 402
3	Affiliation	Sant Gadge Baba Amravati University

CHAPTER-II
STUDY OF PRESENT ENERGY CONSUMPTION

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

Table No 2: Electrical Bill Analysis- 2021-22:

No	Month	Energy Purchased, kWh
1	Apr-21	485
2	May-21	643
3	Jun-21	777
4	Jul-21	304
5	Aug-21	287
6	Sep-21	439
7	Oct-21	382
8	Nov-21	500
9	Dec-21	425
10	Jan-22	409
11	Feb-22	325
12	Mar-22	481
13	Total	5457
14	Maximum	777
15	Minimum	287
16	Average	454.75

Chart No 1: Variation in Monthly Energy Consumption:

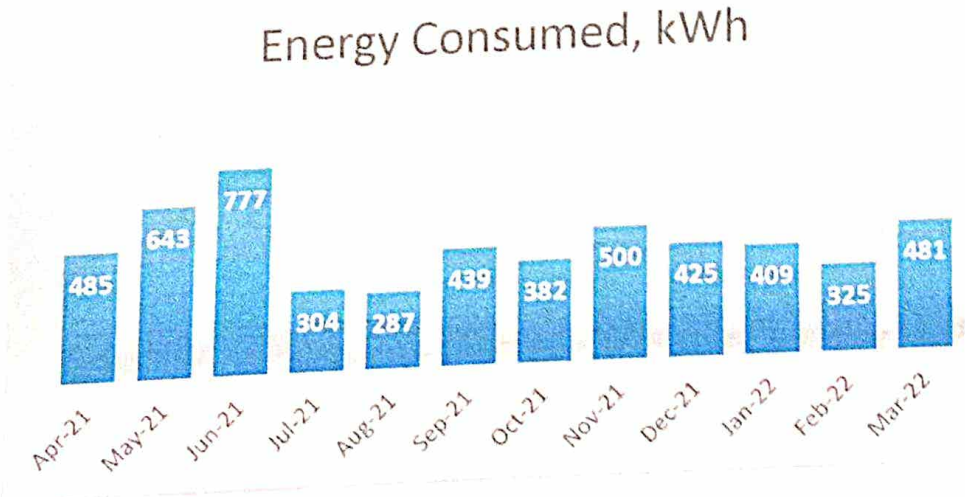

Table No 3: Variation in Important Parameters:

No	Parameter/ Variation	Energy Purchased, kWh
1	Total	5457
2	Maximum	777
3	Minimum	287
4	Average	454.75

CHAPTER III
STUDY OF 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 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 College due to its Day to Day operations

Table No4: Month wise CO_2 Emissions:

No	Month	Energy Purchased, kWh	CO_2 Emissions, MT
1	Apr-21	485	0.4365
2	May-21	643	0.5787
3	Jun-21	777	0.6993
4	Jul-21	304	0.2736
5	Aug-21	287	0.2583
6	Sep-21	439	0.3951
7	Oct-21	382	0.3438
8	Nov-21	500	0.45
9	Dec-21	425	0.3825
10	Jan-22	409	0.3681
11	Feb-22	325	0.2925
12	Mar-22	481	0.4329
13	Total	5457	4.9113
14	Maximum	777	0.6993
15	Minimum	287	0.2583
16	Average	454.75	0.4092

Chart No 2: Month wise CO_2Emissions:

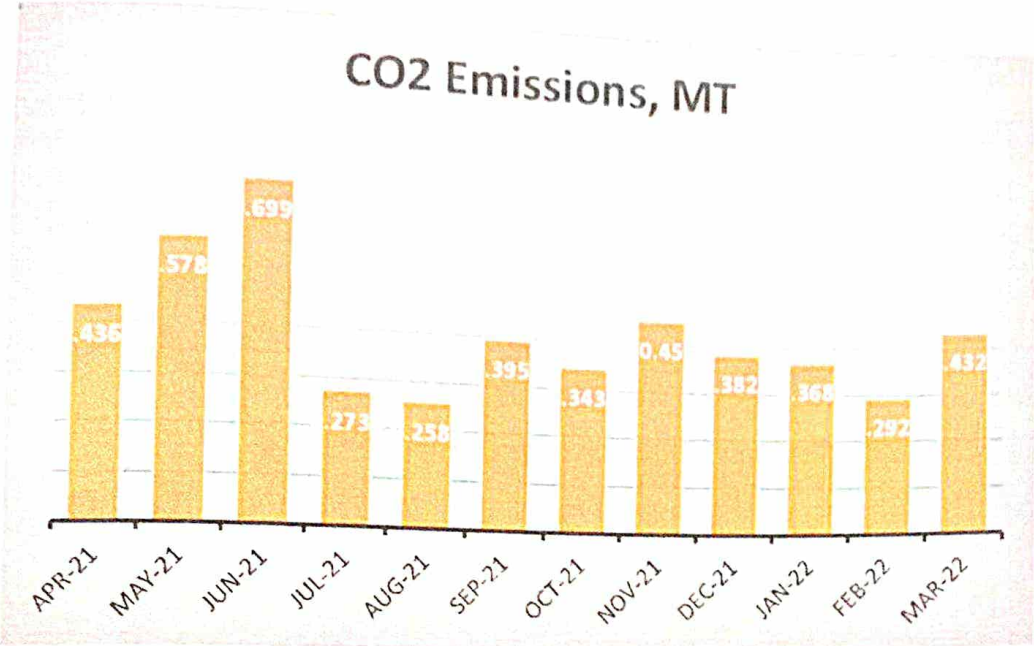

Table No 5: Variation in Important Parameters:

No	Parameter/ Value	Energy Purchased, kWh	CO2 Emissions, MT
1	Total	5457	4.9113
2	Maximum	777	0.6993
3	Minimum	287	0.2583
4	Average	454.75	0.4092

CHAPTER IV
STUDY OF USAGE OF RENEWABLE ENERGY

It is recommended to install solar roof-top PV plant on the college building as per the availability of fund

CHAPTER V
STUDY OF WASTE MANAGEMENT

5.1 Segregation of Waste at Source:

The Waste is segregated at source and the recyclable waste, like paper waste is handed over to authorized waste collecting agent for further recycling

5.2 Organic Waste Management:

The College has installed bio-composting pit, to convert bio-degradable waste into bio-fertilizer.

5.3 Liquid Waste Management:

The College has installed Septic tank and is cleaned periodically

5.4 E-Waste Management:

The E-Waste is disposed of through Authorized Agency

5.5 Sanitary Waste Incinerator:

The College has not installed Sanitary Waste Incinerator for sanitary waste disposal. It is recommended to install Sanitary Waste Incinerator

CHAPTER-VI

STUDY OF RAIN WATER MANAGEMENT

The College has installed the Rainwater management project and bore well charging project, is used to increase the underground water table, but the piping system for rain water collection is under maintenance. It is recommended for intact the project.

Photograph of Rain Water Charging:

CHAPTER-VII
STUDY OF GREEN & SUSTAINABLE PRACTICES

7.1 Pedestrian Friendly Roads:

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

Photograph of Internal Road:

7.2 Internal Tree Plantation:

The College has maintained botanical garden and having well tree plantation in the campus.

Photograph of Tree plantation:

7.3 Provision of Ramp:

For easy movement for Divyangajan, the College has made provision for Ramp

7.4 Creation of Awareness about Energy Conservation:

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

Photograph of Poster on Energy Conservation:

7.5 Best Practices and Initiative for Social Awareness:

The College has taken initiative for different social awareness program, about water and forest conservation, trees plantations, society cleanness etc under National Service Scheme.

Photograph of Best Practices and Initiative:

ANNEXURE-1:
DETAILS OF TREES & PLANTS:

Sr.No.	Name of Plants/Trees	Quantity
1	Mehandi	76
2	Ashoka	12
3	Kadunimb	18
4	Chakri	1
5	Palm	13
6	Angerji Chinch	14
7	Ghantoli	7
8	Kanher	6
9	Zandu	15
10	Bakul	2
11	Sadafully	10
12	Jabhul	3
13	Teak wood	73
14	Pimple	1
15	Karanj	10
16	Champa	1
17	Jaswand	7
18	Kadamb	1
19	Rose	21
20	Thuja	11
21	Stobush	1
22	Bramhi	1
23	Mogra	9
24	Ajwan	1
25	Shatavari	1
26	Ashwganda	1
27	Adulsa	1
28	Rui	1
29	Aloevera	3
30	Beetle nut	1
31	Prajakta	1
32	Raktchandan	1
33	Shevaga	1
34	Mosambi	1
35	Custer apple	1
36	Gauva	1
37	Coconut	1
38	Akashnim	1
39	Java Apple	1
40	Karvand	1
41	Lemaon	1

42	Curry Leaves	1
43	Sonchafa	1
44	Copper Leaf	4
45	Awala	1

PLANTATION