

GREEN AUDIT REPORT

of

Jagdambha Bahuudeshiya Gramin Vikas Sanstha's,
JAGDAMBHA COLLEGE OF ENGINEERING & TECHNOLOGY,
Yavatmal, 445 001



Year: 2019-20

Prepared by:

Enrich Consultants

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



MAHARASHTRA ENERGY DEVELOPMENT AGENCY



Maharashtra Energy Development Agency

(A Government of Maharashtra undertaking)
2nd Floor, MHADA Commercial Complex, Opp. Tridal Nagar, Yerwada, Pune 411 006,
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Email: eee@mahaurja.com, Web: www.mahaurja.com

ECN/2018-19/CR-05/4174

19th September, 2018

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

Registration Category : *Empanelled Consultant for Energy Conservation Programme*

Registration Number : *MEDA/ECN/CR-05/2018-19/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 the firm at any time without giving any prior information and canceling the registration, if the information is found incorrect.
- This empanelment is valid till **31st March 2021** 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.


(Smita Kudarikar)
General Manager (EC)



Enrich Consultants

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

Ref: EC/JCOET/19-20/02

Date: 17/9/2020

CERTIFICATE

This is to certify that we have conducted Green Audit at Jagdambha Bahuudeshiya Gramin Vikas Sanstha's, Jagdambha College of Engineering & Technology, Yavatmal 445 001 in the Academic year 2019-20.

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 Harvesting Project
- Maintenance of good Internal Road
- Tree Plantation in the campus
- Provision of Ramp for Divyangajan
- Provision of Sanitary Waste Incinerator
- Creation of awareness by Display of Posters on Resource Conservation
- Execution of Environment Friendly Initiatives under NSS Program

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,



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 Jagdambha Bahuudeshiya Gramin Vikas Sanstha's, Jagdambha College of Engineering & Technology, Yavatmal, for awarding us the assignment of Green Audit of their Campus for the Academic Year: 19-20.

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



EXECUTIVE SUMMARY

1. Jagdambha Bahuudeshiya Gramin Vikas Sanstha's Jagdambha College of Engineering & Technology, Yavatmal consumes Energy in the form of Electrical Energy used for various Electrical Equipment, office & other facilities.

2. Present Energy Consumption & CO₂ Emissions:

No	Parameter/ Value	Energy Purchased, kWh	CO ₂ Emissions, MT
1	Total	46472	41.82
2	Maximum	5046	4.54
3	Minimum	2205	1.98
4	Average	3872.66	3.48

3. Various initiatives taken for Energy Conservation:

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

4. Usage of Renewable Energy & CO₂ 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 Harvesting:

The College has installed the Rainwater harvesting project, the rain water falling on the terrace is collected and is used for increasing the under the underground water level.



7. Green & Sustainable Initiatives

- Maintenance of good Internal Road
- Maintenance of Internal Garden
- Provision of Ramp for Divyangajan
- Provision of Sanitary Incinerator for Disposal of Sanitary Waste
- Display of Posters on Resource Conservation
- Environment Friendly Initiatives under NSS Program

8. Notes & Assumptions:

1. 1 kWh of Electrical Energy releases **0.9 Kg of CO₂** into atmosphere

9. References:

- For CO₂ 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 CO₂ emissions
3. To study usage of Renewable Energy
4. Study of Waste Management
5. Study of Rain Water Harvesting
6. Study of Green & Sustainable Practices

1.2 General Details of College: Table No 1:

No	Head	Particulars
1	Name of Institution	Jagdambha Bahudeshiya Gramin Vikas Sanstha's, Jagdambha College of Engineering & Technology,
2	Address	Arni Road, Yavatmal 445 001
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- 2019-20:

No	Month	Energy Purchased, kWh
1	Jun-19	4493
2	Jul-19	5046
3	Aug-19	4495
4	Sep-19	4695
5	Oct-19	4243
6	Nov-19	3324
7	Dec-19	4102
8	Jan-20	4063
9	Feb-20	4127
10	Mar-20	3472
11	Apr-20	2205
12	May-20	2207
13	Total	46472
14	Maximum	5046
15	Minimum	2205
16	Average	3872.666667

Chart No 1: Variation in Monthly Energy Consumption:



Table No 3: Variation in Important Parameters:

No	Parameter/ Variation	Energy Purchased, kWh
1	Total	46472
2	Maximum	5046
3	Minimum	2205
4	Average	3872.666667



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 CO₂ Emissions:

The basis of Calculation for CO₂ emissions is as under.

- 1 kWh of Electrical Energy releases 0.9 Kg of CO₂ into atmosphere

Based on the above Data we compute the CO₂ emissions which are being released in to the atmosphere by the College due to its Day to Day operations

Table No 4: Month wise CO₂ Emissions:

No	Month	Energy Purchased, kWh	CO ₂ Emissions, MT
1	Jun-19	4493	4.0437
2	Jul-19	5046	4.5414
3	Aug-19	4495	4.0455
4	Sep-19	4695	4.2255
5	Oct-19	4243	3.8187
6	Nov-19	3324	2.9916
7	Dec-19	4102	3.6918
8	Jan-20	4063	3.6567
9	Feb-20	4127	3.7143
10	Mar-20	3472	3.1248
11	Apr-20	2205	1.9845
12	May-20	2207	1.9863
13	Total	46472	41.8248
14	Maximum	5046	4.5414
15	Minimum	2205	1.9845
16	Average	3872.66667	3.4854



Chart No 2: Month wise CO₂Emissions:

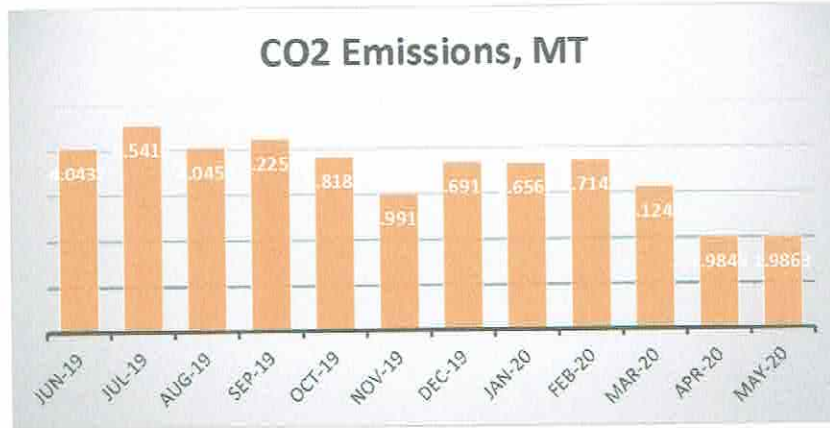


Table No 5: Variation in Important Parameters:

No	Parameter/ Value	Energy Purchased, kWh	CO ₂ Emissions, MT
1	Total	46472	41.8248
2	Maximum	5046	4.5414
3	Minimum	2205	1.9845
4	Average	3872.666667	3.4854



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 installed Sanitary Waste Incinerator for sanitary waste disposal.



CHAPTER-VI

STUDY OF RAIN WATER HARVESTING

The College has implemented the Rain Water Harvesting Project. The College has installed Pipes from the terrace and the Rain water falling on the terrace is gathered and is used to increase the underground water level.

Photograph of Rain water Harvesting Pipe:



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 well maintained landscaped garden in the campus.

Photograph of Tree plantation:



7.3 Provision of Ramp:

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

Photograph of 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 Eco Friendly Initiatives under NSS Program:

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



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Ref: EC/JCOET/19-20/01

Date: 17/9/2020

CERTIFICATE

This is to certify that we have conducted Energy Audit at Jagdambha Bahuudeshiya Gramin Vikas Sanstha's, Jagdambha College of Engineering & Technology, Yavatmal 445 001 in the Academic year 2019-20.

The College has adopted following Energy Efficient practices:

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

We appreciate the support of Management, involvement of faculty members and students in the process of making the Campus Energy Efficient.

For Enrich Consultants,



A Y Mehendale,
Certified Energy Auditor
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EXECUTIVE SUMMARY

1. Jagdambha Bahuudeshiya Gramin Vikas Sanstha's Jagdambha College of Engineering & Technology, Yavatmal consumes Energy in the form of Electrical Energy used for various Electrical Equipment, office & other facilities.

2. Present Energy Consumption & CO₂ Emission:

No	Parameter/ Value	Energy Purchased, kWh	CO ₂ Emissions, MT
1	Total	46472	41.8248
2	Maximum	5046	4.5414
3	Minimum	2205	1.9845
4	Average	3872.666667	3.4854

3. Energy Conservation projects already installed:

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

4. Usage of Alternate Energy:

- As on today College has not installed solar rooftop power plant, solar thermal water heating plant. It is recommended to install solar power rooftop system and solar thermal water heating plant on the college building as per availability of funds.

5. Usage of LED Lighting:

- The Total Annual Lighting Demand of the College is **11808 kWh**.
- The Total Annual LED Lighting Demand is **10080 kWh**.
- The percentage of Annual LED Lighting to Annual Lighting Demand is **85.37 %**.

6. Assumptions:

1. **1 kWh** of Electrical Energy releases **0.9 Kg of CO₂** into atmosphere
2. Daily working hours-**8 Nos**(For Lighting Calculations)
3. Annual working Days-**180 Nos**(For Lighting Calculations)

7. Reference:

- For CO₂ Emissions: www.tatapower.com



ABBREVIATIONS

LED	:	Light Emitting Diode
MSEDCL	:	Maharashtra State Electricity Distribution Company Limited
IQAC	:	Internal Quality Assurance Cell
BEE	:	Bureau of Energy Efficiency
FTL	:	Fluorescent Tube Light
Kg	:	Kilo Gram
kWh	:	kilo-Watt Hour
CO ₂	:	Carbon Di Oxide
MT	:	Metric Ton



CHAPTER-I INTRODUCTION

1.1 Objectives:

1. To study Connected Load
2. To Study present Energy Consumption
3. To Study the present CO₂ emissions
4. To study usage of Alternate Energy
5. To study usage of LED Lighting

1.2 Table No 1: General Details of the College:

No	Head	Particulars
1	Name of Institution	Jagdambha Bahuudeshiya Gramin Vikas Sanstha's, Jagdambha College of Engineering & Technology,
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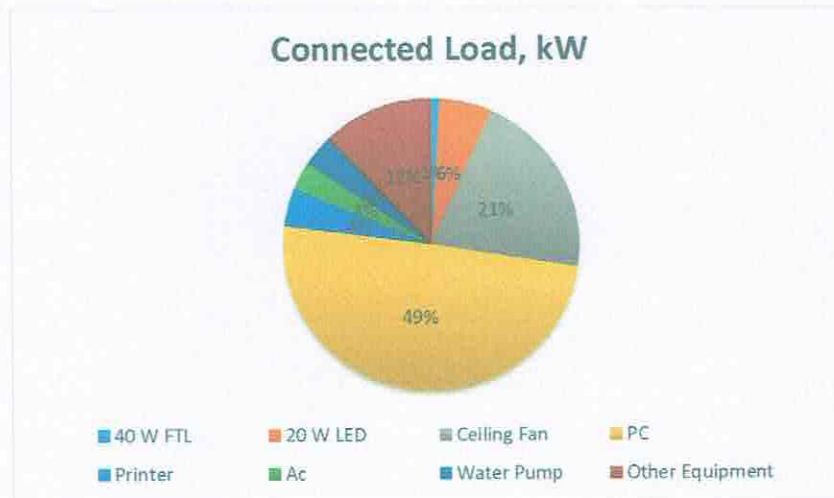
CHAPTER-II STUDY OF CONNECTED LOAD

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

Table No 2: Study of Equipment wise Connected Load:

No	Equipment	Qty	Load, W/Unit	Load, kW
1	40 W FTL	30	40	1.2
2	20 W LED	350	20	7
3	Ceiling Fan	400	65	26
4	PC	410	150	61.5
5	Printer	35	150	5.25
6	Ac	2	1875	3.75
7	Water Pump	2	2238	4.476
8	Other Equipment	100	150	15
9	Total			124

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 3: Electrical Bill Analysis- 2019-20:

No	Month	Energy Purchased, kWh
1	Jun-19	4493
2	Jul-19	5046
3	Aug-19	4495
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12	May-20	2207
13	Total	46472
14	Maximum	5046
15	Minimum	2205
16	Average	3872.66

Chart No 2: Variation in Monthly Energy Consumption:



Table No4: Variation in Important Parameters:

No	Parameter/ Variation	Energy Purchased, kWh
1	46472	41.8248
2	5046	4.5414
3	2205	1.9845
4	3872.666667	3.4854



CHAPTER-IV 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 taking into account the usage of the Electrical Energy.

Basis for computation of CO₂ Emissions:

- 1 kWh of Electrical Energy releases 0.9 Kg of CO₂ into atmosphere

Based on the above Data we compute the CO₂ emissions which are being released in to the atmosphere by the College due to its Day to Day operations

Table No 5: Month wise CO₂ Emissions:

No	Month	Energy Purchased, kWh	CO ₂ Emissions, MT
1	Jun-19	4493	4.0437
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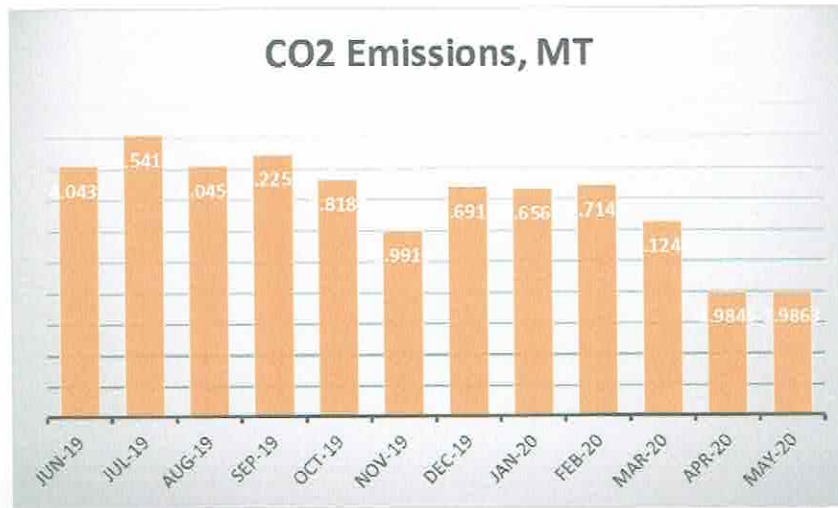


Table No 6: Important Parameters:

No	Parameter/ Variation	Energy Purchased, kWh	CO2 Emissions, MT
1	Total	46472	41.8248
2	Maximum	5046	4.5414
3	Minimum	2205	1.9845
4	Average	3872.66	3.48



CHAPTER V STUDY OF USAGE OF ALTERNATE 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.



CHAPTER VI STUDY OF USAGE OF LED LIGHTING

In this chapter, we compute the percentage of usage of LED Lighting to Annual Lighting power requirement.

Table No 8: Percentage of Usage of LED Lighting to Annual Lighting Load

No	Particulars	Value	Unit
1	No of 40 W FTL Light Fittings	30	Nos
2	Demand of 40 W FTL Light Fitting	40	W/Unit
3	Total Electrical Load of 40 W LED Light Fittings	1.2	kW
4	No of 20 W LED Tube Lights	350	Nos
5	Demand of 20 W LED Tube Light	20	W/Unit
6	Total Electrical Load of 20 W LED Fittings	7	kW
7	Total Lighting Load=3+6	8.2	kW
8	Total LED Lighting Load= 6	7	kW
9	Average Daily Usage Period	8	Hours
10	Annual Working Days	180	Nos
11	Annual Total Lighting Load = 7*9*10	11808	kWh
12	Annual LED Lighting Load = 8*9*10	10080	kWh
13	Annual Lighting Requirement met by LED= $12 \times 100 / 11$	85.37	%



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- Usage of Energy Efficient LED Light Fitting
- Maximum Usage of Day Lighting
- Provision of Separate bins for Dry & Wet Waste
- Installation of Sewage Treatment Plant of Capacity
- Implementation of Rain Water Harvesting Project
- Tree Plantation in the campus
- Provision of Sanitary Waste Incinerator
- Creation of awareness by Display of Posters on Resource Conservation
- Various Environment Friendly Initiatives under NSS Program

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

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1. Jagdambha Bahuudeshiya Gramin Vikas Sanstha's, Jagdambha College of Engineering & Technology, Yavatmal consumes Energy in the form of **Electrical Energy** used for various Electrical Equipment, office & other facilities.

2. Various Pollution due to College Activities:

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

3. Present Energy Consumption & CO₂ Emission:

No	Parameter/ Value	Energy Purchased, kWh	CO ₂ Emissions, MT
1	Total	46472	41.82
2	Maximum	5046	4.54
3	Minimum	2205	1.98
4	Average	3872.66	3.48

4. Various initiatives taken for Energy Conservation:

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

5. Usage of Renewable Energy & Reduction in CO₂ Emission:

It is recommended to install roof-top solar PV Plant on college building as per availability of funds.

6. Waste Management:

6.1 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.

6.2 Organic Waste Management:

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

6.3 Liquid Waste Management:

The College has installed Septic and is cleaned periodically.

6.4 E-Waste Management:

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



7. Rain Water Harvesting:

The College has installed the Rainwater harvesting project, the rain water falling on the terrace is collected and is used for increasing the under the underground water level.

10. Environment Friendly Initiatives:

- Tree Plantation in the campus.
- Provision of Sanitary Waste Incinerator
- Display of Posters on Resource Conservation
- Various Environment Friendly Initiatives under NSS Program

11. Notes & Assumptions:

1. 1 kWh of Electrical Energy releases **0.9 Kg of CO₂** into atmosphere

12. References:

- For CO₂ Emissions: www.tatapower.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



CHAPTER-I INTRODUCTION

1.1 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:

An audit which aims at verification and validation to ensure that various environmental laws are compiled with and adequate care has been taken towards environmental protection and preservation

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"

1.1.3. Environmental Pollutant: means any solid, liquid and gaseous substance present in the concentration as may be, or tend to be, injurious to Environment.

1.1.4. Table No-1: Relevant Environmental Laws in India:

1927	The Indian Forest Act
1972	The Wildlife Protection Act
1974	The Water (Prevention and Control of Pollution) Act
1977	The Water (Prevention & Control of Pollution) Cess Act
1980	The Forest (Conservation) Act
1981	The Air (Prevention and Control of Pollution) Act
1986	The Environment Protection Act
1991	The Public Liability Insurance Act
2002	The Biological Diversity Act
2010	The National Green Tribunal Act

1.1.5. Table No-2: Some Important Environmental Rules in India:

1989	Hazardous Waste (Management and Handling) Rules
1989	Manufacture, Storage and Import of Hazardous Chemical Rules
2000	Municipal Solid Waste (Management and Handling) Rules
1998	The Biomedical Waste (Management and Handling) Rules
1999	The Environment (Siting for Industrial Projects) Rules
2000	Noise Pollution (Regulation and Control) Rules
2000	Ozone Depleting Substances (Regulation and Control) Rules
2011	E-waste (Management and Handling) Rules



2011	National Green Tribunal (Practices and Procedure) Rules
2011	Plastic Waste (Management and Handling) Rules

1.1.6 Table No-3: National Environmental Plans & Policy Documents:

1.	National Forest Policy, 1988
2.	National Water Policy, 2002
3.	National Environment Policy or NEP (2006)
4.	National Conservation Strategy and Policy Statement on Environment and Development, 1992
5.	Policy Statement for Abatement of Pollution (1992)
6.	National Action Plan on Climate Change
7.	Vision Statement on Environment and Human Health
8.	Technology Vision 2030 (The Energy Research Institute)
9.	Addressing Energy Security and Climate Change (MoEF and Bureau of Energy Efficiency)
10.	The Road to Copenhagen; India's Position on Climate Change Issues (MoEF)

1.2 Objectives:

1. Study Resource Consumption & CO₂ Emissions
2. Study of CO₂ Emission Reduction
3. Study of Indoor Air Quality Parameters
4. Study of Indoor Comfort Condition Parameters
5. Study of Waste Management
6. Study of Rain Water Harvesting
7. Study of Environment Friendly Initiatives

1.3 General Details of College: Table No 4:

No	Head	Particulars
1	Name of Institution	Jagdambha Bahuudeshiya Gramin Vikas Sanstha's, Jagdambha College of Engineering & Technology,
2	Address	Arni Road, Yavatmal 445 001
3	Affiliation	Sant Gadge Baba Amravati University

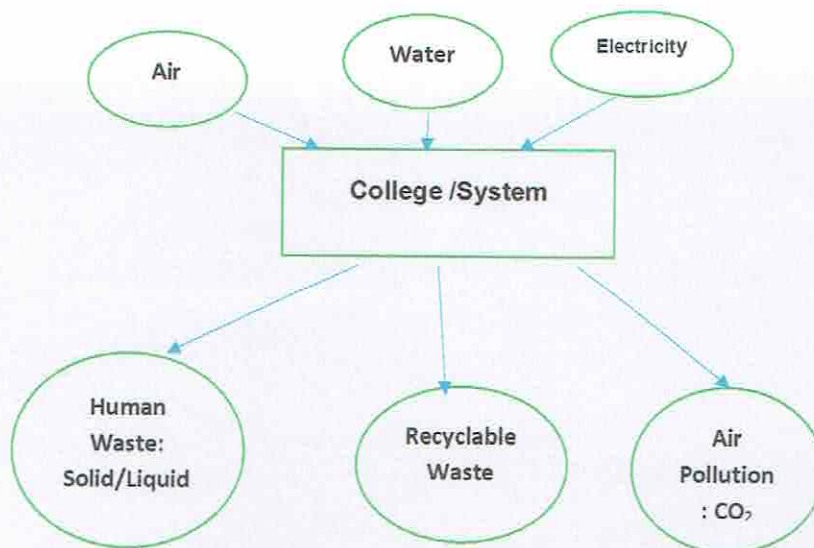
CHAPTER-II STUDY OF CONSUMPTION OF RECOURCES & CO₂ EMISSION

The Institute consumes following basic/derived Resources:

1. Air
2. Water
3. Electrical Energy

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

Chart No 1: Representation of College as System & Study of Resources & Waste



Now we compute the Generation of CO₂ on account of consumption of Electrical Energy.

The basis of Calculation for CO₂ emissions due to usage of Electrical Energy are as under

- 1 kWh of Electrical Energy releases 0.9 Kg of CO₂ into atmosphere

Table No 5: Study of Consumption of Electrical Energy & CO₂ Emissions: 2019-20:

No	Month	Energy Purchased, kWh	CO ₂ Emissions, MT
1	Jun-19	4493	4.0437
2	Jul-19	5046	4.5414
3	Aug-19	4495	4.0455
4	Sep-19	4695	4.2255
5	Oct-19	4243	3.8187
6	Nov-19	3324	2.9916



7	Dec-19	4102	3.6918
8	Jan-20	4063	3.6567
9	Feb-20	4127	3.7143
10	Mar-20	3472	3.1248
11	Apr-20	2205	1.9845
12	May-20	2207	1.9863
13	Total	46472	41.8248
14	Maximum	5046	4.5414
15	Minimum	2205	1.9845
16	Average	3872.666667	3.4854

Chart No 2: Month wise CO₂Emissions:

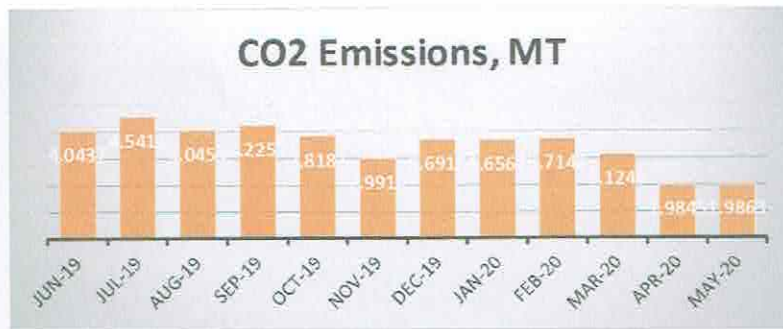


Table No 6: Important Parameters:

No	Parameter/ Value	Energy Purchased, kWh	CO ₂ Emissions, MT
1	Total	46472	41.8248
2	Maximum	5046	4.5414
3	Minimum	2205	1.9845
4	Average	3872.666667	3.4854



CHAPTER III STUDY OF CO₂ EMISSION REDUCTION

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



CHAPTER IV STUDY OF WASTE MANAGEMENT

4.1 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.

Photograph of Waste Collection Bins:



4.2 Organic Waste Management:

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



4.3 Liquid Waste Management:

The College has installed Septic tank and is cleaned periodically.

4.4 E-Waste Management: The E-Waste is disposed of through Authorized Agency.

5.4 Sanitary Waste Incinerator:

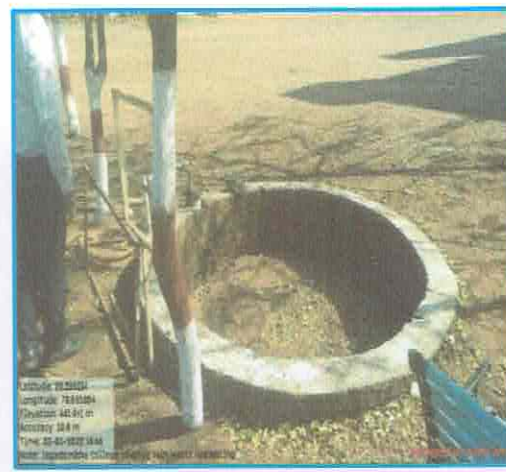
The College has installed Sanitary Waste Incinerator for sanitary waste disposal.



CHAPTER-V STUDY OF RAIN WATER HARVESTING

The College has implemented the Rain Water Harvesting Project. The College has installed Pipes from the terrace and the Rain water falling on the terrace is gathered and is used to increase the underground water level.

Photograph of Rain water Harvesting Pipe:



CHAPTER-VI

STUDY OF ENVIRONMENT FRIENDLY INITIATIVES

6.1 Internal Tree Plantation:

The College has well maintained Tree Plantation in the campus.

Photograph of Tree plantation:



6.2 Creation of Awareness about Energy Conservation:

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

Photograph of Poster on Energy Conservation:



6.3 Eco Friendly Initiatives under NSS Program:

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

