



Amrutvahini Institute of Management and Business Administration, Sangamner

Approved BY AICTE New Delhi, Permanently Affiliated to Savitribai Phule Pune University &
NAAC Accredited Institute

SELF STUDY REPORT

7.1.3 Quality audits on environment and energy regularly undertaken by the Institution.

The institutional environment and energy initiatives are confirmed through the
following

1. Green audit /Environment audit
2. Energy audit
3. Clean and green campus initiative
4. Beyond the campus environmental promotion activities

(2022-23 TO 2018-19)

**Policy Document on environment & Energy
usage certificate from Audited Agencies**





Amrutvahini Sheti & Shikshan Sanstha's

Amrutvahini Institute of Management & Business Administration, Sangamner

(Affiliated to Savitribai Phule Pune University and Approved by AICTE New Delhi)

DTE Code -5324 NAAC Accredited ISO 9001:20123 Certified Institute SPPU Code-0581

Amrutnagar Post :Sangamner -422605 Tal:Sangamner Dist: Ahmednagar(M.S)

E-mail:director@yahoo.in

Website: www.amrutimba.org

Policy Documents

On

Green Campus

Policy Document on the Green Campus

Green Campus: A Green Campus is a place where environmental friendly practices and education combine to promote sustainable and eco-friendly practices in the campus. The green campus concept offers an institution the opportunity to take the lead in redefining its environmental culture and developing new paradigms by creating sustainable solutions to environmental, social and economic needs of mankind

Objectives of the Go Green Programs: The first step of the Go Green Programme involves establishing a viable Green-Campus Committee, within the organizational structure of the Institute. Hence, to give this initiative more clarity and authenticity, we now roll out a policy document spelling out the strategies, plans and other allied tasks to make this Program functional officially.

We believe that greening the campus is all about sweeping away wasteful inefficiencies and using conventional sources of energies for its daily power needs, correct disposal handling, purchase of environment friendly supplies and effective recycling program. The administration of the Institute believes that everyone has to work out the time bound strategies to implement green campus initiatives. These strategies need to be incorporated into the institutional planning and budgeting processes with the aim of developing a clean and green campus. Every individual of Amrutvahini Institute of MBA Campus will work, may he/she be a student, faculty and support staff to foster a culture of self-sustainability and make the entire campus environmental friendly. The Green Campus Initiatives (GCI) will enable the institution to develop the campus as a living laboratory for innovation.

A. Composition of the Go- Green Committee

1. Principal of the college- Chairperson
2. IQAC Coordinator- Secretary
3. Faculty Representative nominated by the Principal
4. Student Representative- General Secretary of the college
5. Non-Teaching Staff Representative- Office Superintendent
6. Parent Representative- Secretary of the Parent Teacher Association
7. Industry Representative- Member of Alumni Association

B. Role of the Go- Green Campus Programme:

The impetus for a successful Green Campus must begin at the top and emanate throughout the rest of the campus. Without a strong message of commitment and involvement from both the Chairperson and Members of the Committee, well-intentioned initiatives may be too fragmented to allow for Institute-wide participation. Thus in view of this, the committee will plan and execute to:

1. Seek views of all the Stakeholders to make the Go Green Campus initiative functional throughout the year.
2. Conduct the Campus' environmental impacts to identify the targets for improvements.

3. Establish a Green Campus Environmental Ethic Awareness campaigns.
4. Set forth a Green Campus Mission and a Statement of Principles.
5. Link Green-Campus activities to Academics in the Institute.
6. Organize Awareness Programs for the students, faculty and society.
7. Chart out a yearly planner for the Institute, local community and Stakeholders.
8. Develop a strategic plan and create student teams to carry out specific tasks of the strategic plan. For instance, a plan to save energy at the institute level with time bound plan to install Solar Power Station mandatorily either at the top of Institute building or in open field. This will enable the institute to have 24x7 power supply.
9. Phase out the CFL and conventional light source such as bulbs and tube lights, halogen and mercury street/campus lights and get them replace by the LEDs.
10. Conduct an Annual Green, Environment and Energy Audit.
11. Purchase only Energy Efficient Computers viz: “ENERGYSTAR” or any other equivalent.
12. Establish public/private partnerships with personnel from federal, state, and local environmental agencies, utilities, and the business community.
13. Evaluate daily operations in terms of pollution prevention, waste stream management, and energy efficiency reducing, reusing, recycling, and repairing wherever possible.
14. Secure a commitment up front from the people in charge that well-founded recommendations will be acted upon once audits are completed.

C. Promotion of “Save Energy Tips” in and outside the Institute:

Activate power management features on your computer and monitor so that it will go into a

1. Low power “sleep” mode when you are not working on it. Turn off your monitor when you leave your Table.
2. Activate power management features on your laser printer.
3. Whenever possible, shut down rather than logging off.
4. Turn off unnecessary lights and use daylight instead.
5. Avoid the use of decorative lighting.
6. Use LED or compact fluorescent bulbs.
7. Keep lights off in conference rooms, classrooms, lecture halls when they are not in use.
8. Use the fans only when they are needed.
9. Unplug appliances not plugged into power strips (like TVs, Refrigerators, ACs, tea/coffeepots, printers, faxes, and chargers etc.)

D. Waste water Management/ Rain water harvesting:

The Institute has to work in the direction of waste water management particularly in student's hostels. Water flow restrictors on bathroom faucets and showers, low water flow toilets and automated urinal flushers should be used to cut down campus water use. The Institute will take all necessary measures to implement waste water management / rain water harvesting.

E. Major Green Campus Initiatives:

- ISO Certification 9001:2015
- Installation of Solar Power Station
- Waste water Management/ Rainwater harvesting
- Development of Sewage Water Treatment Plant
- Use of Micro-scale techniques
- Sensor based energy conservation
- Maintenance of water bodies and distribution system in the campus
- MIS to make paperless administration
- Plastic free Campus
- Tree Plantation Drive
- Cleanliness Drive
- Landscaping and gardens
- Use of LEDs only
- Digital Library/ E-Learning Centre
- Organization of sensitization programmes for the stakeholders
- Green, Environment and Energy Audit in Process.
- Restricted entry of automobiles
- No Vehicle Day observed
- The Institute will make all the necessary efforts to involve the students, faculty and staff in “Green Campus Initiatives”.



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E-mail:director@yahoo.in

Website: www.amrutimba.org

Policy Documents On Environment and Energy Usage

Policy Document on Environment and Energy Usage

The Environment and Energy usage Policy of Amrutvahini Institute of Management & Business Administration, Sangamner is to manage energy in such a systematic way so as to minimize its impact on the environment. The policy implies to explore the renewable energy resources to reduce the burden of the government and to find out substitute natural resources as solutions to the energy crisis.

This environment and energy policy is binding for all the components of the institution and applies to all its stakeholders and to the various activities undertaken by the institution. It will help us to embed efficiency and environmental awareness into our everyday activities, thus helping us to realize our responsibilities and commitment to conservation of natural resources and to limit its usage. **The Enviro Club**, an official platform devoted to the cause of environmental awareness, to undertake green initiatives, and to conduct green literacy programmes to save energy and to protect the environment.

Policies:

- To assess our energy usage and measure its impact on the environment.
- To count CO2 emissions generated by our means of transportations- vehicles.
- To reduce local air pollution emissions using environment-friendly vehicles including bicycles, public transportation and use of pedestrian-friendly roads.
- To install photovoltaic solar panels for the generation of alternate energy.
- To install LED bulbs in the complete campus to save energy.
- To develop systematic waste management mechanism.
- To develop rain water harvesting unit.
- To undertake tree plantation drive.
- To take additional measures to continuously improve our energy consumption.
- To ensure the availability of necessary resources to achieve our objectives.
- To encourage use of advanced technology to minimize energy consumption, atmospheric emissions and noise, particularly from our vehicle fleets.
- To engage in dialogue with the government agencies, municipal corporation and the affiliating university and actively work with the local organizations in the areas of environment, energy efficiency and sustainable development.
- To monitor and respond to emerging environmental and energy issues.

- To strengthen our employees' and students' environmental knowledge and skills in order to improve our own environmental performance.
- To provide information and training opportunities on energy saving measures.
- To offer opportunities for employees and students to engage in initiatives those contribute to environmental protection. To train our employees and students through our Enviro Club to make them 'Go Green Specialists' and partners to plant trees each year.

This policy will be communicated to the students and employees via internal communication channels, and will be made available to all the stakeholders on the institutional website. The Environment and Energy Policy, objectives and targets will be reviewed on a regular basis by the Enviro Club Convener and its members under the guidance of the Principal of the college.

ENGRESS SERVICES

Yashashree, 26, Nirmal Bag Society,
Near Mukhtangan English School, Parvati, Pune 411 009
Tel: 09890444795 Email: engress123@gmail.com

Ref: ES/ AIOMBA/21-22/02

Date: 15/7/2022

CERTIFICATE

This is to certify that we have conducted Green Audit at Amrutvahini Institute of Management & Business Administration, Amrutnagar, Sangamner, District: Ahmednagar, in the Year 2021-22.

The Institute has adopted following Energy Efficient & Green Practices:

- Usage of Energy Efficient LED Fittings
- Usage of Energy Efficient BEE STAR Rated equipment
- Maximum usage of Day Lighting
- Installation of 50 kWp Roof Top Solar PV Plant
- Segregation of Waste at source
- Sanitary Waste Incinerator for disposal of Sanitary Waste
- Implementation of Rain Water Harvesting Project
- Good Internal Road
- Internal Tree Plantation
- Provision of Ramp for Divyangajan
- Creation of awareness about Energy Conservation by Display of Posters

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

For Engress Services,



A Y Mehendale,

Certified Energy Auditor, EA-8192

ASSOCHAM GEM Certified Professional: GEM: 22/788



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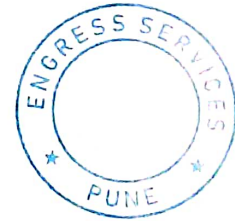
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A Y Mehendale,
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EA-8192



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MEDA Registration No: ECN/2022-23/CR-43/1709

ISO: 9001-2015 Certified (Cert No: 23EQKC13),

ISO: 14001-2015 Certified (Cert No: 23EEKW20)

ENERGY AUDIT CERTIFICATE

Certificate No: ES/AIOMBA/22-23/01

Date: 20/7/2023

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- Maximum usage of Day Lighting
- Usage of Energy Efficient LED Lighting
- Installation of 50 kWp Roof Top Solar PV Plant

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

For Engress Services,



A Y Mehendale,
B E-Mechanical, M Tech- Energy
BEE Certified Energy Auditor, EA-8192



ENGRESS SERVICES

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The Institute has adopted following Green & Sustainable Practices:

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- Usage of Energy Efficient BEE STAR Rated equipment
- Maximum usage of Day Lighting
- Installation of 50 kWp Roof Top Solar PV Plant
- Segregation of Waste at source
- Sanitary Waste Incinerator for disposal of Sanitary Waste
- Implementation of Rain Water Harvesting Project
- Good Internal Road
- Internal Tree Plantation
- Provision of Ramp for Divyangajan
- Creation of awareness about 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,



A Y Mehendale,

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



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ENVIRONMENTAL AUDIT CERTIFICATE

Certificate No: ES/AIOMBA/22-23/03

Date: 20/7/2023

This is to certify that we have conducted Environmental Audit at Amrutvahini Institute of Management & Business Administration, Amrutnagar, Sangamner, District: Ahmednagar, in the Year 2022-23.

The Institute has adopted following Environment Friendly Practices:

- Usage of Energy Efficient LED Fittings
- Installation of 50 kWp Roof Top Solar PV Plant
- Segregation of Waste at source
- Provision of Sanitary Waste incinerator for disposal of Sanitary Waste
- Implementation of Rain Water Harvesting Project
- Tree Plantation in the campus
- 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 Eco Friendly.

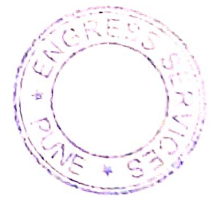
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- Implementation of Rain Water Harvesting Project
- Internal Tree Plantation
- Creation of awareness about Energy Conservation by Display of Posters

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

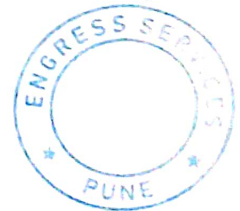
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SELF STUDY REPORT

7.1.3 Quality audits on environment and energy regularly undertaken by the Institution.

The institutional environment and energy initiatives are confirmed through the
following

1. Green audit /Environment audit
2. Energy audit
3. Clean and green campus initiative
4. Beyond the campus environmental promotion activities

(2022-23 TO 2018-19)

Report on Environmental Promotional Activities with Geo Tagged Photographs





Amrutvahini Shell and Shikshan Vikas Sanstha's
AMRUTVAHINI INSTITUTE OF MANAGEMENT & BUSINESS ADMINISTRATION, SANGAMNER



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- IMMA016490

Reg. AIMBA / 25/1/24

Date : 15/01/2024

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Preamble

The institute frequently undertakes consultants, Pune (A certified auditor-registered under MEDA) to conduct energy, green, and environmental audits of its facilities and campus. The institute frequently conducts environmental, green, and energy audits with Consultant, Pune, which is approved by the Maharashtra Energy Development Agency, to guarantee adherence to the green policy. The auditing agency's (if any) recommendations were carried out in accordance. The suggestions received by the auditing agency (if any) were implemented accordingly. The institute promotes clean and green campus initiatives and undertakes activities to promote environment beyond the campus. The Institute had adopted a Village in Sangamner Tehsil Khandgaon for to promote Environmental Promotion Activities.

Sr.No	Particulars of Document
1	Green audit/ Environment audit
2	Energy Audit
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4	Beyond the campus environmental promotion activities




 DIRECTOR
 Amrutvahini Institute of Management & Business Administration, Sangamner

1) Clean Campus & Green Campus Initiatives



Institute has Planted More than 500 Teakwood plants & 300 Mango Trees in campus for Green Campus Initiatives.



2) Energy Audit



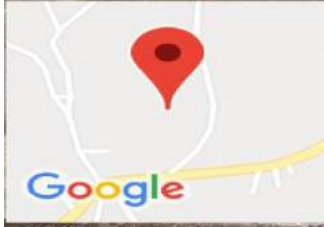
3) Environment Audit



4) Beyond the Campus Environmental promotion activities:

Gram Swachatta Abhiyan at adopted Village Khandgoan





Khandgaon, Maharashtra, India

MH SH 46, Khandgaon, Maharashtra 422605, India

Lat 19.547787°

Long 74.188032°

16/12/21 11:14 AM



Khandgaon, Maharashtra, India

G5QQ+3CM, Khandgaon, Maharashtra 422605, India

Lat 19.537959°

Long 74.188322°

16/12/21 10:47 AM

Tree Plantation at Adopted Village Khadgaon







Institute gives plant to for the felicitation of guest to promote the Green Environment





Institute Promote Tree Plantation at Campus for Green Campus Initiatives.



← Gram Swachhata Abhiyan at Adopted Village Khandgaon




DIRECTOR
Amrutvahini Institute of Management
& Business Administration, Sangamner



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Green Audit & Environmental Audit Report from Recognised Bodies





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Amrutvahini Institute of Management
& Business Administration, Sangamner

GREEN AUDIT REPORT
of
**AMRUTVAHINI INSTITUTE OF MANAGEMENT &
BUSINESS ADMINISTRATION,**
Amrutnagar, Sangamner, District: Ahmednagar 422 608



Year: 2022-23

Prepared by:

ENGRESS SERVICES

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



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ACKNOWLEDGEMENT

We Engress Services, Pune, express our sincere gratitude to the management of Amrutvahini Institute of Management & Business Administration, Amrutnagar, Sangamner, District: Ahmednagar, for awarding us the assignment of Green Audit of their Sangamner Campus for the Year: 2022-23.

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EXECUTIVE SUMMARY

1. Amrutvahini Institute of Management & Business Administration, Amrutnagar, Sangamner, District: Ahmednagar consumes Energy in the form of Electrical Energy; used for various Electrical Equipment.

2. Present Energy Consumption & CO₂ Emission:

No	Particulars	Value	Unit
1	Annual Energy Purchased	37403	kWh
2	Annual CO ₂ Emissions	33.66	MT

3. Renewable Energy & Reduction in CO₂ Emissions:

No	Particulars	Value	Unit
1	Solar PV Plant of Capacity	50	kWp
2	Annual Solar Energy Generated	60000	kWh
3	Annual Reduction in CO ₂ Emissions	54	MT

4. Waste Management:

No	Head	Particulars
1	Solid Waste	Segregation of Waste at source
2	Sanitary Waste	Installed Sanitary Waste Incinerator
3	Liquid Waste Management	Septic Tank Installed & cleaned periodically
4	E Waste Management	Recommended to dispose of through Authorized Agency

5. Rain Water Harvesting:

The Institute has installed Pipes from the terrace and the Rain water falling on the terrace is stored in an underground Tank and is further used for domestic purpose after treatment.

6. Green & Sustainable Practices:

- Maintenance of good Internal Road & Tree Plantation in the Campus
- Provision of Ramp for Divyangajan
- Creation of awareness on Water Conservation Display of Posters

7. Assumptions:

1. 1 kWh of Electrical Energy releases 0.9 Kg of CO₂ into atmosphere
2. Energy generated by Roof Top Solar PV Plant: 4 kWh/kWp per Day
3. Annual Solar Energy generation Days: 300 Nos

8. References:

- For CO₂ Emissions: www.1atapower.com
- For Solar PV Energy generation: www.solarrooftop.gov.in

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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

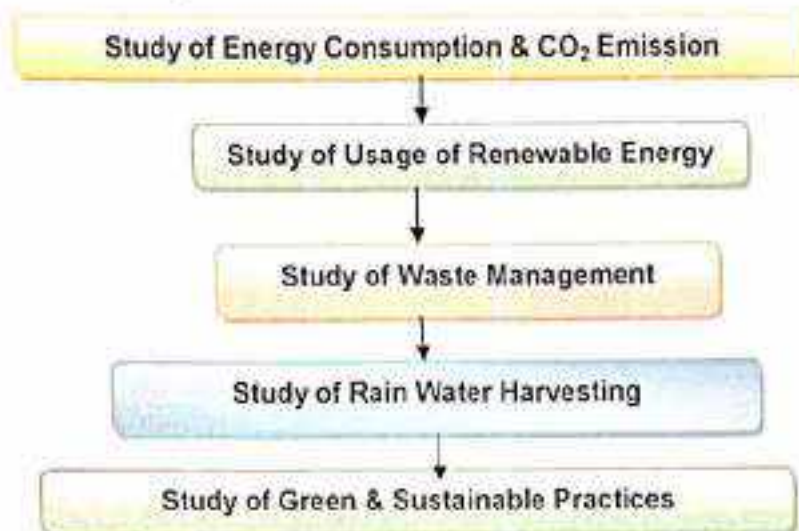


CHAPTER-I INTRODUCTION

1.1 Introduction:

A Green Audit is conducted at Amrutvahini Institute of Management & Business Administration, Amrutnagar, Sangamner, District: Ahmednagar.

1.2 Audit Procedural Steps:



1.3 Institute Location Image:



Institute
Campus

CHAPTER-II STUDY OF ENERGY CONSUMPTION & CO₂ EMISSION

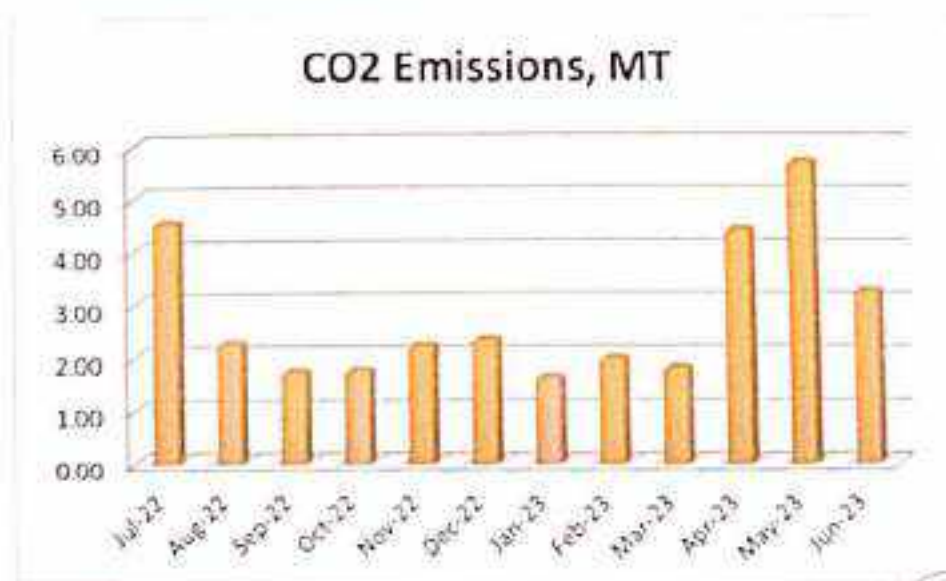
A Carbon Foot print is defined as the Total Greenhouse Gas emissions, emitted due to various activities. The Institute uses Electrical Energy for various Electrical gadgets

Basis for computation of CO₂ Emissions: The basis of Calculation for CO₂ emissions due to Electrical Energy (1 kWh of Electrical Energy releases 0.9 Kg of CO₂ into atmosphere

Table No 1: Month wise CO₂ Emissions:

No	Month	Energy Purchased, kWh	CO ₂ Emissions, MT
1	Jul-22	5049	4.54
2	Aug-22	2534	2.28
3	Sep-22	1936	1.74
4	Oct-22	1972	1.77
5	Nov-22	2474	2.23
6	Dec-22	2610	2.35
7	Jan-23	1825	1.64
8	Feb-23	2206	1.99
9	Mar-23	2017	1.82
10	Apr-23	4884	4.40
11	May-23	6301	5.67
12	Jun-23	3595	3.24
13	Total	37403	33.66
14	Maximum	6301	5.67
15	Minimum	1825	1.64
16	Average	3115.92	2.81

Chart No 1: Month wise CO₂ Emissions:



CHAPTER III STUDY OF USAGE OF RENEWABLE ENERGY

The Institute has installed Roof Top Solar PV Plant of Capacity 50 kWp
In the following Table, we present the reduction in CO₂ emissions due to Solar Energy:

Table No 2: Computation of Reduction in CO₂ Emissions:

No	Particulars	Value	Unit
1	Installed Capacity of Roof Top Solar PV Plant Capacity	50	kWp
2	Energy Generated in per kWp	4	4 kWh/kWp
3	Annual Solar Energy generation Days	300	Nos
4	Energy Generated in the Year: 21-22	60000	kWh
5	1 kWh of Electrical Energy saves	0.9	Kg of CO ₂
6	Qty of CO ₂ Saved by Solar PV Plant $= (4) * (5) / 1000$	54	MT of CO ₂

Photograph of Roof Top Solar PV Plant:



CHAPTER IV STUDY OF WASTE MANAGEMENT

5.1 Segregation of Waste at Source:

The Institute has good housekeeping practices. The Waste is segregated at source. Waste collection Bins are placed at strategic locations.

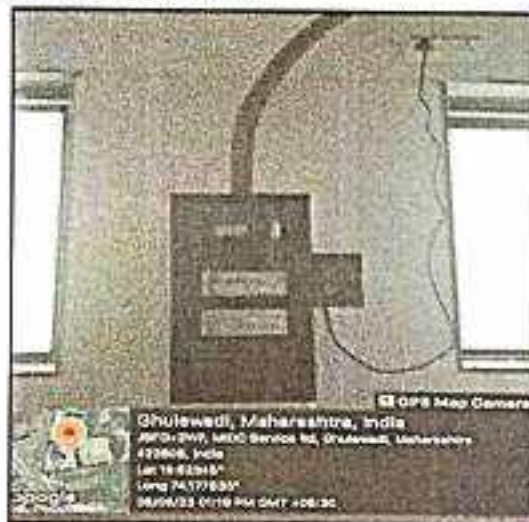
Photograph of Waste Collection Bins:



5.2 Sanitary Waste Management:

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

Photograph of Sanitary Waste Incinerator:



5.3 Liquid Waste Management:

The Institute has installed a Septic Tank and the tank is cleaned periodically.

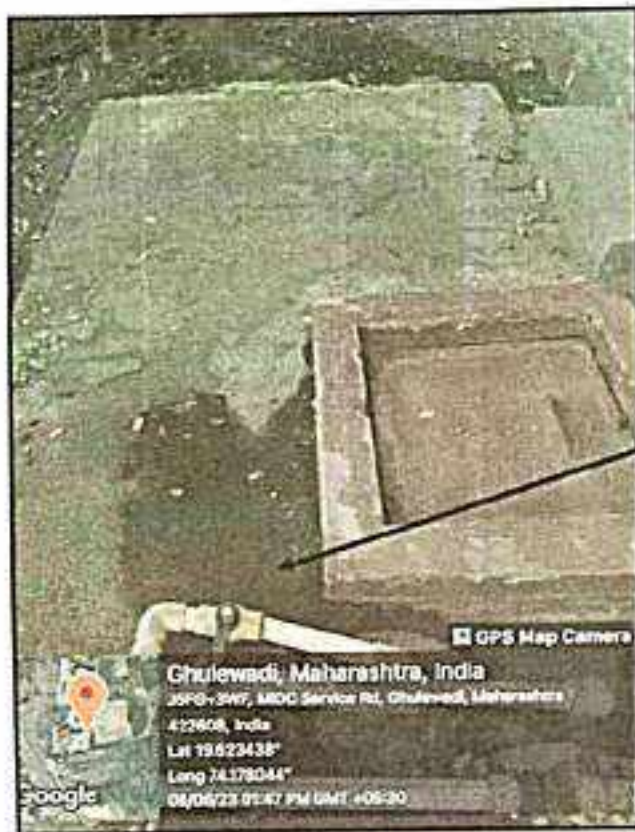
5.4 E Waste Management:

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

CHAPTER V STUDY OF RAIN WATER HARVESTING

The Institute has installed Pipes from the terrace and the Rain water falling on the terrace is stored in an underground Tank and is further used for domestic purpose after treatment.

Photograph of Rain Water Carrying Pipe:



Underground
Rain Water
Storage Tank

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 Conservation:

The Institute has displayed posters emphasizing on importance of Water Conservation.

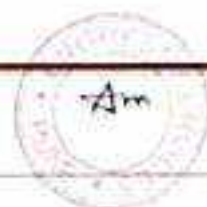
Photograph of Poster on Water Conservation:



ANNEXURE-1:
LIST OF TREES IN THE CAMPUS:

List of Trees in the Campus:

No	Name of Tree	Quantity
1	Teak	695
2	Palm	108
3	Morpankhi	20
4	Mango	85
5	Umber	1
6	Enka Palm	20
7	Guava	3
8	Chikoo	2
9	Sitaphal	2
10	Total	936



ENVIRONMENTAL AUDIT REPORT
of
**AMRUTVAHINI INSTITUTE OF MANAGEMENT &
BUSINESS ADMINISTRATION,**
Amrutnagar, Sangamner, District: Ahmednagar 422 608



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, Nirma 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)

ENVIRONMENTAL AUDIT CERTIFICATE

Certificate No: ES/AIOMBA/22-23/03

Date: 20/7/2023

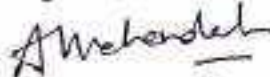
This is to certify that we have conducted Environmental Audit at Amrutvahini Institute of Management & Business Administration, Amrutnagar, Sangamner, District: Ahmednagar, in the Year 2022-23.

The Institute has adopted following Environment Friendly Practices:

- Usage of Energy Efficient LED Fittings
- Installation of 50 kWp Roof Top Solar PV Plant
- Segregation of Waste at source
- Provision of Sanitary Waste incinerator for disposal of Sanitary Waste
- Implementation of Rain Water Harvesting Project
- Tree Plantation in the campus
- 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 Eco Friendly.

For Engress Services,



A Y Mehendale,

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



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ACKNOWLEDGEMENT

We Engress Services, Pune, express our sincere gratitude to the management of Amrutvahini Institute of Management & Business Administration, Amrutnagar, Sangamner, District: Ahmednagar, for awarding us the assignment of Environmental Audit of their Sangamner Campus for the Year: 2022-23.

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



EXECUTIVE SUMMARY

1. Amrutvahini Institute of Management & Business Administration, Amrutnagar, Sangamner, District: Ahmednagar consumes Energy in the form of Electrical Energy; used for various Electrical Equipment.

2. Pollution due to Institute 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	Particulars	Value	Unit
1	Annual Energy Purchased	37403	kWh
2	Annual CO ₂ Emissions	33.66	MT

4. Renewable Energy & Reduction in CO₂ Emissions:

No	Particulars	Value	Unit
1	Solar PV Plant of Capacity	50	kWp
2	Annual Solar Energy Generated	60000	kWh
3	Annual Reduction in CO ₂ Emissions	54	MT

5. Indoor Air Quality Parameters:

No	Parameter/Value	AQI	PM-2.5	PM-10
1	Maximum	63	37	45
2	Minimum	56	34	38

6. Indoor Comfort Conditions:

No	Parameter/Value	Temperature, °C	Humidity, %	Lux Level	Noise Level, dB
1	Maximum	27.2	71	132	45
2	Minimum	27.1	69	105	40

7. Waste Management:

No	Head	Particulars
1	Solid Waste	Segregation of Waste at source
2	Sanitary Waste	Installed Sanitary Waste Incinerator
3	Liquid Waste Management	Septic Tank installed & cleaned periodically
4	E Waste Management	Recommended to dispose of through Authorized Agency

8. Rain Water Harvesting:

The Institute has installed Pipes from the terrace and the Rain water falling on the terrace is stored in an underground Tank and is further used for domestic purpose after treatment.

9. Environment Friendly Initiatives:

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

10. Assumptions:

1. 1 kWh of Electrical Energy releases 0.9 Kg of CO₂ into atmosphere
2. Energy generated by Roof Top Solar PV Plant: 4 kWh/kWp per Day
3. Annual Solar Energy generation Days: 300 Nos

11. References:

- For CO₂ Emissions: www.tatapower.com
- For Solar PV Energy generation: www.solarrooftop.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:

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"

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

1.4 Audit Procedural Steps:



1.5 Institute Location Image:



Institute
Campus

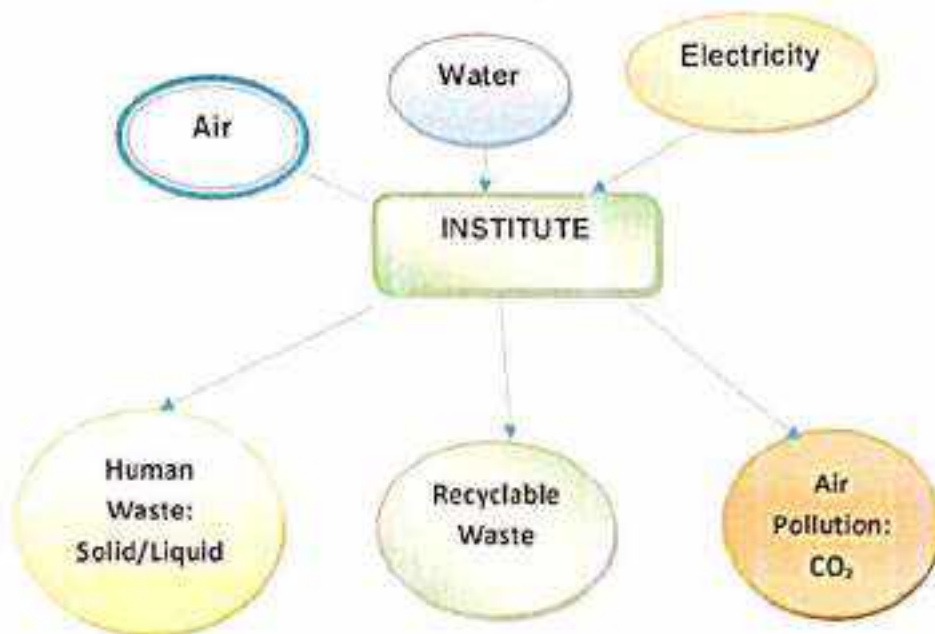


CHAPTER-II STUDY OF RESOURCE CONSUMPTION & CO₂ EMISSION

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 Institute 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 Electrical Energy is as under.

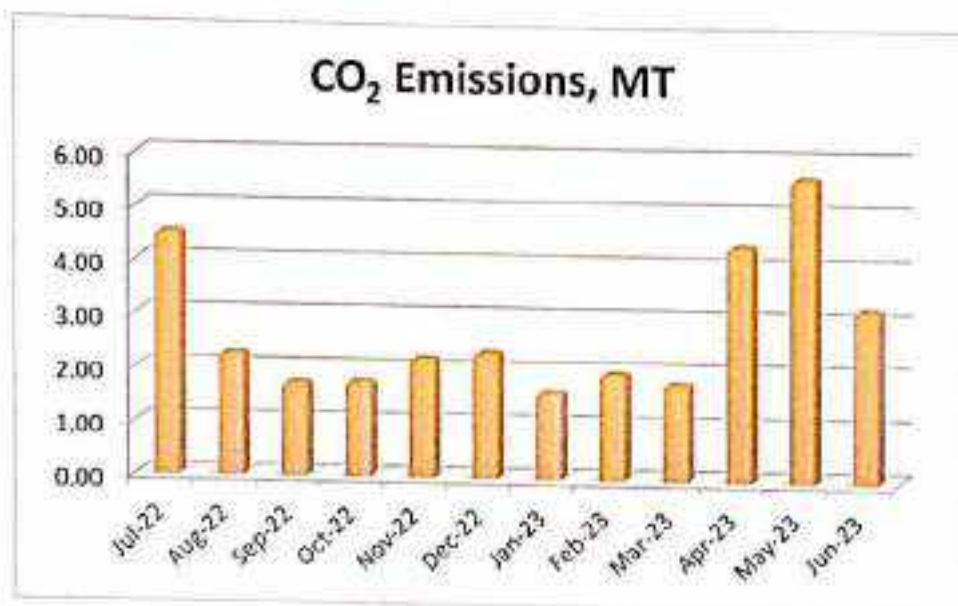
- 1 kWh of Electrical Energy releases 0.9 Kg of CO₂ into atmosphere

Table No 1: Study of Purchase of Energy & CO₂ Emissions: 22-23:

No	Month	Energy Purchased, kWh	CO ₂ Emissions, MT
1	Jul-22	5049	4.54
2	Aug-22	2534	2.28
3	Sep-22	1936	1.74
4	Oct-22	1972	1.77
5	Nov-22	2474	2.23
6	Dec-22	2610	2.35
7	Jan-23	1825	1.64

8	Feb-23	2206	1.99
9	Mar-23	2017	1.82
10	Apr-23	4884	4.40
11	May-23	6301	5.67
12	Jun-23	3595	3.24
13	Total	37403	33.66
14	Maximum	6301	5.67
15	Minimum	1825	1.64
16	Average	3116.92	2.81

Chart No 2: Month wise CO₂ Emissions:



CHAPTER III

STUDY OF USAGE OF RENEWABLE ENERGY

The Institute has installed Roof Top Solar PV Plant of Capacity 50 kWp
In the following Table, we present the reduction in CO₂ emissions due to Solar Energy:

Table No 2: Computation of Reduction in CO₂ Emissions:

No	Particulars	Value	Unit
1	Installed Capacity of Roof Top Solar PV Plant Capacity	50	kWp
2	Energy Generated in per kWp	4	4 kWh/kWp
3	Annual Solar Energy generation Days	300	Nos
4	Energy Generated in the Year: 21-22	60000	kWh
5	1 kWh of Electrical Energy saves	0.9	Kg of CO ₂
6	Qty of CO ₂ Saved by Solar PV Plant = (4)*(5) /1000	54	MT of CO ₂

Photograph of Roof Top Solar PV Plant:



CHAPTER IV STUDY OF INDOOR AIR QUALITY

4.1 Importance of Air Quality:

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

By volume, Dry Air contains 78.09% Nitrogen, 20.95% Oxygen, 0.93% Argon, 0.039% carbon dioxide, and small amounts of other gases.

On average, a person inhales about 14,000 liters of air every day. Therefore, poor air quality may affect the quality of life now and for future generations by affecting the health, the environment, the economy and the city's livability.

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

4.2 Air Quality Index:

An Air Quality Index (AQI) is a number used by government agencies to measure the air pollution levels and communicate it to the population. As the AQI increases, it means that a large percentage of the population will experience severe adverse health effects.

We present herewith following important Parameters.

1. AQI- Air Quality Index
2. PM-2.5- Particulate Matter of Size 2.5 micron
3. PM-10- Particulate Matter of Size 10 micron

Table No 3: Indoor Air Quality Parameters:

No	Location	AQI	PM-2.5	PM-10
	Ground Floor			
1	Library	61	37	44
2	Director's Office	60	36	38
3	Classroom	63	37	45
4	faculty Room	60	34	39
	First Floor			
5	Tutorial Room	56	34	39
6	Classroom	58	35	40
7	IQAC Room	62	36	44
8	Tutorial Room	60	36	39
	Maximum	63	37	45
	Minimum	56	34	38

CHAPTER V STUDY OF INDOOR COMFORT CONDITION PARAMETERS

In this Chapter, we present the various Indoor Comfort Parameters measured during the Audit. The Parameters include:

1. Temperature
2. Humidity
3. Lux Level
4. Noise Level.

Table No 4: Study of Indoor Comfort Condition Parameters:

No	Location	Temperature, °C	Humidity, %	Lux Level	Noise Level, dB
	Ground Floor				
1	Library	27.1	70	124	44.3
2	Director's Office	27.2	69	105	42
3	Classroom	27.1	69	132	41.9
4	faculty Room	27.1	71	126	45
	First Floor				
5	Tutorial Room	27.1	70	106	44.2
6	Classroom	27.2	71	112	43.9
7	IQAC Room	27.2	69	132	42
8	Tutorial Room	27.1	70	116	40
	Maximum	27.2	71	132	45
	Minimum	27.1	69	105	40

CHAPTER VI STUDY OF WASTE MANAGEMENT

6.1 Segregation of Waste at Source:

The Institute has good housekeeping practices. The Waste is segregated at source. Waste collection Bins are placed at strategic locations.

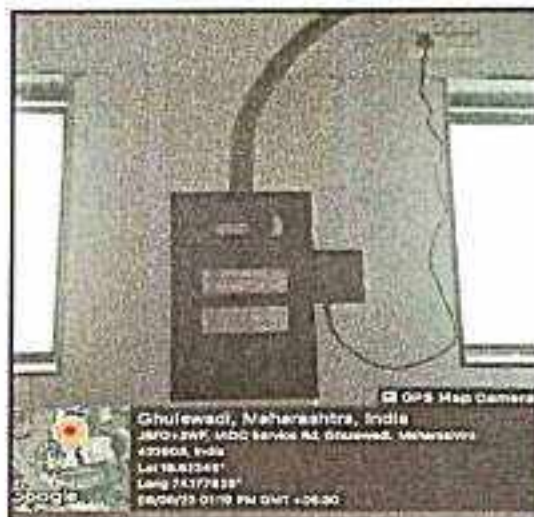
Photograph of Waste Collection Bins:



6.2 Sanitary Waste Management:

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

Photograph of Sanitary Waste Incinerator:



6.3 Liquid Waste Management:

The Institute has installed a Septic Tank and the tank is cleaned periodically.

6.4 E Waste Management:

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

CHAPTER-VII STUDY OF RAIN WATER HARVESTING

The Institute has installed Pipes from the terrace and the Rain water falling on the terrace is stored in an underground Tank and is further used for domestic purpose after treatment.

Photograph of Rain Water Carrying Pipe:



Underground
Rain Water
Storage Tank

CHAPTER-VIII STUDY OF ECO FRIENDLY INITIATIVES

8.1 Internal Tree Plantation:

The Institute has Tree Plantation in the campus.

Photograph of Tree plantation:



8.2 Creation of Awareness about Water Conservation:

The Institute has displayed posters emphasizing on importance of Water Conservation.

Photograph of Poster on Water Conservation:



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Photograph of Tree plantation:



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The Institute has displayed posters emphasizing on importance of Water Conservation.

Photograph of Poster on Water Conservation:



**ANNEXURE-I:
VARIOUS AIR QUALITY, NOISE & COMFORT STANDARDS:**

1. Category Wise Air Quality Index Values & Concentration of PM 2.5 & PM10:

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 +

2. Recommended Noise Level Standards:

No	Location	Noise Level dB
1	Auditoriums	20-25
2	Outdoor Playground	55
3	Occupied Class Room	40-45
4	Un occupied Class Room	35
5	Apartment, Homes	35-40
6	Offices	45-50
7	Libraries	35-40
8	Restaurants	50-55

3. Thermal Comfort Conditions: For Non-conditioned Buildings:

No	Parameter	Value
1	Temperature	Less Than 33°C
2	Humidity	Less Than 70%

GREEN AUDIT REPORT
of
**AMRUTVAHINI INSTITUTE OF MANAGEMENT &
BUSINESS ADMINISTRATION,**
Amrutnagar, Sangamner, District: Ahmednagar 422 608



Year: 2021-22

Prepared by

ENGRESS SERVICES

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



MAHARASHTRA ENERGY DEVELOPMENT AGENCY



Maharashtra Energy Development Agency
(Government of Maharashtra Institution)
 Aardh Road, Opposite Spicor College Road, Near Commissionerate of Animal Husbandry,
 Wadga, Pune, Maharashtra 411007
 Ph. No. 020-25094450
 Email: energy@meda.com Web: www.maharaja.com

TCN/2022-23/RE-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 Yashdree, 26, Normal Flag Society, Near Mukund English School, Pune, Pune - 411 009
Registration Category	Empowered Consultant for Energy Conservation Programme for Class 'A'
Registration Number	MEDA/TCN/2022-23/Class A/E432

- 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 empowerment 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.

(Signature)
General Manager (EC)




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 exercise the GEM Sustainability Certification Privilege. ASSOCHAM feels proud to award the GEM Certified Professional title to him/her.


Pankaj R. Charkar
Chairman, GEM

GEM CP-22788


Deepak Sood
Secretary General, ASSOCHAM

Am

ENGRESS SERVICES

Yashashree, 26, Nirmal Bag Society,
Near Muktangan English School, Parvati, Pune 411 009
Tel: 09890444795 Email: engress123@gmail.com

Ref: ES/ AIOMBA/21-22/02

Date: 15/7/2022

CERTIFICATE

This is to certify that we have conducted Green Audit at Amrutvahini Institute of Management & Business Administration, Amrutnagar, Sangamner, District: Ahmednagar, in the Year 2021-22.

The Institute has adopted following Energy Efficient & Green Practices:

- Usage of Energy Efficient LED Fittings
- Usage of Energy Efficient BEE STAR Rated equipment
- Maximum usage of Day Lighting
- Installation of 50 kWp Roof Top Solar PV Plant
- Segregation of Waste at source
- Sanitary Waste Incinerator for disposal of Sanitary Waste
- Implementation of Rain Water Harvesting Project
- Good Internal Road
- Internal Tree Plantation
- Provision of Ramp for Divyangajan
- Creation of awareness about Energy Conservation by Display of Posters

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

For Engress Services,



A Y Mehendale,

Certified Energy Auditor, EA-8192

ASSOCHAM GEM Certified Professional: GEM: 22/788



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5	Study of Waste Management	15
6	Study of Rain Water Harvesting	16
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ACKNOWLEDGEMENT

We Engress Services, Pune, express our sincere gratitude to the management of Amrutvahini Institute of Management & Business Administration, Amrutnagar, Sangamner, District: Ahmednagar, for awarding us the assignment of Green Audit of their Sangamner Campus for the Year: 2021-22.

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



EXECUTIVE SUMMARY

1. Amrutvahini Institute of Management & Business Administration, Amrutnagar, Sangamner, District: Ahmednagar consumes Energy in the form of Electrical Energy; used for various Electrical Equipment.

2. Present Energy Consumption & CO₂ Emission:

No	Parameter /Value	Energy Purchased, kWh	CO ₂ Emissions, MT
1	Total	22563	20.31
2	Maximum	4857	4.37
3	Minimum	653	0.59
4	Average	1880.25	1.69

3. Various Measures Adopted for Energy Conservation:

- Usage of Energy efficient LED fittings
- Usage of BEE STAR Rated Equipment
- Installation of 50 kWp Roof Top Solar PV Plant

4. Usage of Renewable Energy & CO₂ Emission Reduction:

- The Institute has installed 50 kWp Roof Top Solar PV Plant
- Energy generated by Solar PV Plant in 21-22 is 60000 kWh
- Reduction in CO₂ Emissions by usage of Solar Energy in 21-22 is 54 MT.

5. Waste Management:

5.1 Segregation of Waste at Source:

The waste is segregated at the source. There are Waste Collection Bins at various locations, to collect the Waste.

5.2 Sanitary Waste Management:

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

5.3 Liquid Waste Management:

The Institute has installed a Septic Tank and the tank is cleaned periodically.

6. Rain Water Harvesting:

The Institute has installed Pipes from the terrace and the Rain water falling on the terrace is stored in an underground Tank and is further used for domestic purpose after treatment.

7. Green & Sustainable Practices:

- Well maintained internal road
- Well maintained Garden
- Provision of Ramp for Divyangajan
- Creation of Awareness in respect of Energy Conservation by displaying posters

8. Assumptions:

1. 1 kWh of Electrical Energy releases 0.9 Kg of CO₂ into atmosphere
2. Energy generated by Roof Top Solar PV Plant: 4 kWh/kWp per Day
3. Annual Solar Energy generation Days: 300 Nos

9. References:

- For CO₂ Emissions: www.tatapower.com
- For Solar PV Energy generation: www.solarrooftop.gov.in

ABBREVIATIONS

LED	: Light Emitting Diode
kWh	: kilo-Watt Hour
Qty	: Quantify
W	: Watt
kW	: Kilo Watt
MT	: Metric Ton

CHAPTER-I INTRODUCTION

1.1 Objectives:

1. To study present level of Energy Consumption
2. To Study the present CO₂ emissions
3. To study Scope for usage of Renewable Energy
4. To study Waste Management:
5. To study Rain Water Harvesting
6. To study Green & Sustainable Practices.

1.2 Table No 1: General Details of Institute:

No	Head	Particulars
1	Name	Amrutvahini Institute of Management & Business Administration
2	Address	Amrutnagar, Sangamner. District: Ahmednagar 422 608
3	Year of Establishment	1995

1.3 Google Earth Location Image:



CHAPTER-II STUDY OF ENERGY CONSUMPTION

In this chapter, we present the analysis of Electricity Energy Consumption

Table No 2: Electrical Energy Purchase Analysis- 2021-22:

No	Month	Energy Purchased, kWh
1	Jul-21	653
2	Aug-21	752
3	Sep-21	1230
4	Oct-21	1112
5	Nov-21	1614
6	Dec-21	1704
7	Jan-22	1170
8	Feb-22	1395
9	Mar-22	1334
10	Apr-22	2864
11	May-22	4857
12	Jun-22	3878
13	Total	22563
14	Maximum	4857
15	Minimum	653
16	Average	1880.25

Chart No 1: To study the variation of Month wise Energy Purchased, kWh:

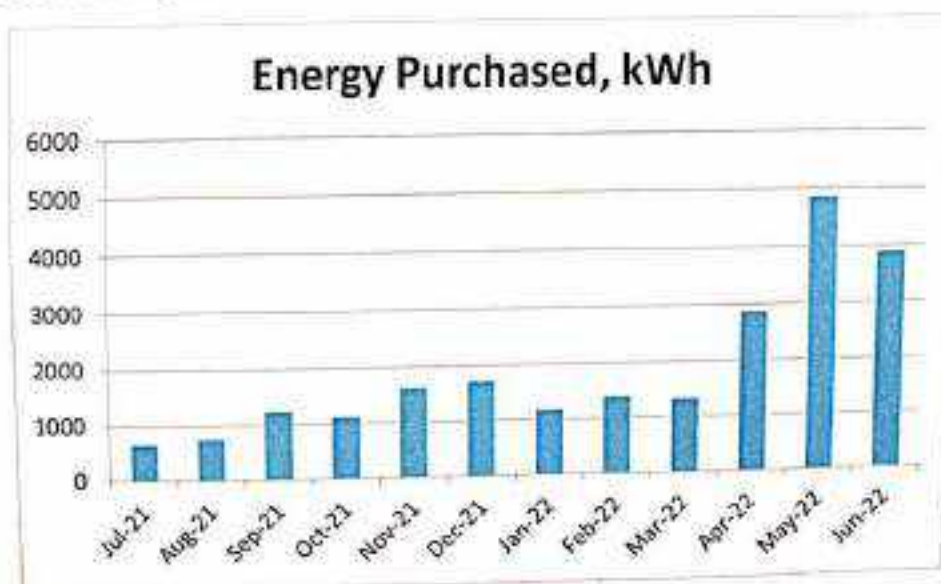


Table No 3: Key Parameters:

No	Parameter	Energy Purchased, kWh
1	Total	22563
2	Maximum	4857
3	Minimum	653
4	Average	1880.25

CHAPTER-III

STUDY OF CARBON FOOT PRINTING

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 CO₂ Emissions:

The basis of Calculation for CO₂ emissions due to Electrical Energy is:

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 Institute due to its Day to Day operations

Table No 4: Month wise CO₂ Emissions:

No	Month	Energy Purchased, kWh	CO ₂ Emissions, MT
1	Jul-21	653	0.59
2	Aug-21	752	0.68
3	Sep-21	1230	1.11
4	Oct-21	1112	1.00
5	Nov-21	1614	1.45
6	Dec-21	1704	1.53
7	Jan-22	1170	1.05
8	Feb-22	1395	1.26
9	Mar-22	1334	1.20
10	Apr-22	2864	2.58
11	May-22	4857	4.37
12	Jun-22	3878	3.49
13	Total	22563	20.31
14	Maximum	4857	4.37
15	Minimum	653	0.59
16	Average	1880.25	1.69

Chart No 2: Representation of Month wise CO₂ emissions:

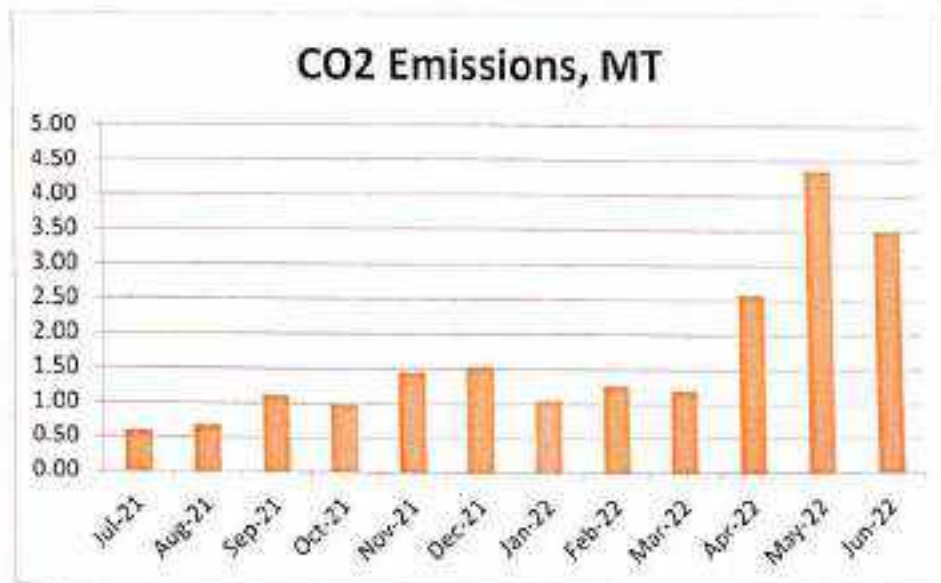


Table No 5: Key Parameters:

No	Value	Energy Purchased, kWh	CO ₂ emissions, MT
1	Total	22563	20.31
2	Maximum	4857	4.37
3	Minimum	653	0.59
4	Average	1880.25	1.69



CHAPTER-IV STUDY OF USAGE OF RENEWABLE ENERGY

The College has installed Roof Top Solar PV Plant of Capacity 50 kWp
We now calculate the reduction in CO₂ Emission due to Solar PV Plant.

Table No 6: Computation of Reduction in CO₂ Emission:

No	Particulars	Value	Unit
1	Installed Roof Top Solar PV Plant Capacity	50	kWp
2	Average Daily Energy Generated	4	kWh/kWp
3	Annual Generation Days	300	Nos
4	Annual Solar Energy Generated	60000	kWh
5	1 kWh of Electrical Energy is equivalent to	0.9	Kg of CO ₂
6	Annual Reduction in CO ₂ Emission = (4) * (5) /1000	54	MT

Photograph of Roof Top Solar PV Plant:



CHAPTER V STUDY OF WASTE MANAGEMENT

5.1 Segregation of Waste at Source:

The Institute has good housekeeping practices. The Waste is segregated at source. Waste collection Bins are placed at strategic locations.

Photograph of Waste Collection Bin:



5.2 Sanitary Waste Management:

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

Photograph of Sanitary Waste Incinerator:



5.3 Liquid Waste Management:

The Institute has installed a Septic Tank and the tank is cleaned periodically.

CHAPTER-VI STUDY OF RAIN WATER HARVESTING

The Institute has installed Pipes from the terrace and the Rain water falling on the terrace is stored in an underground Tank and is further used for domestic purpose after treatment.

Photograph of Rain Water Carrying Pipe:



Rain Water
Carrying Pipe

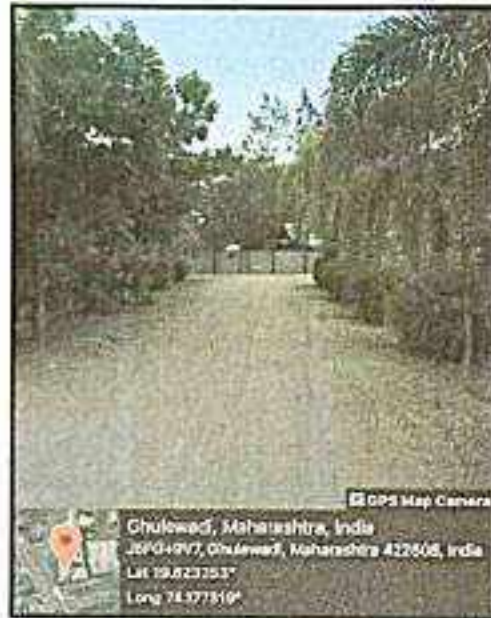
CHAPTER-VII

STUDY OF GREEN & SUSTAINABLE PRACTICES

7.1 Pedestrian Friendly Internal Road:

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

Photograph of Internal Road:



7.2 Tree Plantation:

The Institute has Tree Plantation in the campus.

Photograph of Internal Tree Plantation:



7.3 Provision of Ramp for Divyangajan:

The Institute has made provision of Ramp for easy movement of Divyangajan.

Photograph of Ramp:



7.4 Creation of Awareness about Resource Conservation:

The Institute has displayed Posters on Importance of Energy Conservation.

Photograph of Poster on importance of Energy Conservation:



ENVIRONMENTAL AUDIT REPORT
of
**AMRUTVAHINI INSTITUTE OF MANAGEMENT &
BUSINESS ADMINISTRATION,**
Amrutnagar, Sangamner, District: Ahmednagar 422 608



Year: 2021-22

Prepared by

ENGRESS SERVICES

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

-Am

MAHARASHTRA ENERGY DEVELOPMENT AGENCY

Maharashtra Energy Development Agency
Government of Maharashtra Directorate
A/205 Road, Vigyan, Spices College Road, Near Cement Company of Andhra (Bhandara),
Aundh, Pune, Maharashtra 411067
Ph No: 020-25900050
Email: qaqa.maha@meda.gov.in, Web: www.maha.gov.in

ECN/2022-23/CR-411709 10th May, 2022

**CERTIFICATE OF REGISTRATION
FOR CLASS 'A'**

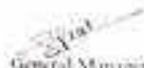
We hereby certify that the firm having following particulars is registered with **MAHARASHTRA ENERGY DEVELOPMENT AGENCY (MEDA)** under given category as "Energy Planner & Energy Auditor" in Maharashtra for Energy Conservation Programme of MEDA.

Name and Address of the firm: M/s Engress Services,
Vandekar, 26, Nehru (Big Society),
Near Shikharika English School,
Pune, Pune - 411009.

Registration Category: Empirical Consulting for Energy Conservation Programme for Class 'A'

Registration Number: MEDA/ECN/2022-23/CR-411709

- 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 reduce 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 empanchment is valid till **09th May, 2024** from the date of registration, to carry out energy audit under the Energy Conservation Programme.
- The Director General, MEDA reserves the right to cancel the registration at any time without assigning any reasons therefor.


General Manager (EC)

 **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

*As it is not eligible to receive the GEM Sustainability Certification Project,
ASSOCHAM feels proud to award the GEM Certified Professional title to him, for*

 **Pankaj R. Dhanar**
Chairman GEM

GEM CP 22/788

 **Deepak Sood**
Secretary General, ASSOCHAM

ENGRESS SERVICES

Yashashree, 26, Nirmal Bag Society,
Near Mukhtangan English School, Parvati, Pune 411 009
Tel: 09890444795 Email: engress123@gmail.com

Ref: ES/ AIOMBA/21-22/03

Date: 15/7/2022

CERTIFICATE

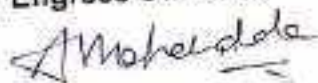
This is to certify that we have conducted Environmental Audit at Amrutvahini Institute of Management & Business Administration, Amrutnagar, Sangamner, District: Ahmednagar, in the Year 2021-22.

The Institute has adopted following Environment Friendly Practices:

- Usage of Energy Efficient LED Fittings
- Usage of Energy Efficient BEE STAR Rated equipment
- Maximum usage of Day Lighting
- Installation of 50 kWp Roof Top Solar PV Plant
- Segregation of Waste at source
- Sanitary Waste Incinerator for disposal of Sanitary Waste
- Implementation of Rain Water Harvesting Project
- Internal Tree Plantation
- Creation of awareness about Energy Conservation by Display of Posters

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

For Engress Services,



A Y Mehendale,
Certified Energy Auditor, EA-8192
ASSOCHAM GEM Certified Professional: GEM: 22/788



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ACKNOWLEDGEMENT

We Engress Services, Pune, express our sincere gratitude to the management of Amrutvahini Institute of Management & Business Administration, Amrutnagar, Sangamner, District: Ahmednagar, for awarding us the assignment of Environmental Audit of their Sangamner Campus for the Year: 2021-22.

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

5

EXECUTIVE SUMMARY

1. Amrutvahini Institute of Management & Business Administration, Amrutnagar, Sangamner, District: Ahmednagar consumes Energy in the form of Electrical Energy; used for various Electrical Equipment.

2. Pollution caused due to Institute Activities:

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

3. Present Energy Consumption & CO₂ Emissions:

No	Parameter/ Value	Energy Purchased, kWh	CO ₂ emissions, MT
1	Total	22563	20.31
2	Maximum	4857	4.37
3	Minimum	653	0.59
4	Average	1880.25	1.69

4. Projects implemented for Environmental Conservation:

- Usage of Energy efficient LED fittings
- Usage of BEE STAR Rated Equipment
- Installation of 50 kWp Roof Top Solar PV Plant

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

- The Institute has installed 50 kWp Roof Top Solar PV Plant
- Energy generated by Solar PV Plant in 21-22 is 60000 kWh
- Reduction in CO₂ Emissions by usage of Solar Energy in 21-22 is 54 MT.

6. Indoor Air Quality:

No	Parameter/Value	AQI	PM-2.5	PM-10
1	Maximum	54	32	37
2	Minimum	40	25	30

7. Indoor Comfort Condition Parameters:

No	Parameter/Value	Temperature, °C	Humidity, %	Lux Level	Noise Level, dB
1	Maximum	28.4	68	140	45
2	Minimum	28.3	67	98	41

8. Waste Management:

8.1 Segregation of Waste at Source:

The waste is segregated at the source. There are Waste Collection Bins at various locations, to collect the Waste.

8.2 Sanitary Waste Management:

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

8.3 Liquid Waste Management:

The Institute has installed a Septic Tank and the tank is cleaned periodically.

9. Rain Water Harvesting:

The Institute has installed Pipes from the terrace and the Rain water falling on the terrace is stored in an underground Tank and is further used for domestic purpose after treatment.

10. Environment Friendly Initiatives:

- Tree Plantation and Well maintained Garden.
- Creation of Awareness in respect of Energy Conservation by displaying posters

11. Assumptions:

1. 1 kWh of Electrical Energy releases 0.9 Kg of CO₂ into atmosphere
2. Energy generated by Roof Top Solar PV Plant: 4 kWh/kWp per Day
3. Annual Solar Energy generation Days: 300 Nos

12. References:

- For CO₂ Emission computation: www.tatapower.com
- For Solar PV Energy generation: www.solarrooftop.gov.in
- For Various Indoor Air Parameters: www.ishrae.com
- For AQI & Water Quality Standards: www.cpcb.com

ABBREVIATIONS

kWh	:	kilo-Watt Hour
Qty	:	Quantity
MT	:	Metric Ton
CO ₂	:	Carbon Di Oxide
LPD	:	Liters per Day
AQI	:	Air Quality Index
PM2.5	:	Particulate Matter of Size 2.5 microns
PM 10	:	Particulate Matter of Size 10 microns
CPCB	:	Central Pollution Control Board
ISHARE	:	The Indian Society of Heating & Refrigerating & Air Conditioning Engineers

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

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

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

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 Audit Methodology:

1. Study of present Resource Consumption & CO₂ Emissions
2. Study of CO₂ emission Reduction
3. Study of Indoor Air Quality
4. Study of Indoor Comfort Conditions
5. Study of Waste Management
6. Study of Rain Water Harvesting
7. Study of Environmental Friendly Initiatives.

1.3 Google Earth Location Image:



Institute
Campus



A-101

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

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

1.	National Forest Policy, 1988
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5. Study of Waste Management
6. Study of Rain Water Harvesting
7. Study of Environmental Friendly Initiatives.

1.3 Google Earth Location Image:



1.3 General Details of Institute: Table No: 4:

No	Head	Particulars
1	Name	Amrutvahini Institute of Management & Business Administration
2	Address	Amrutnagar, Sangamner, District: Ahmednagar 422 608
3	Year of Establishment	1995

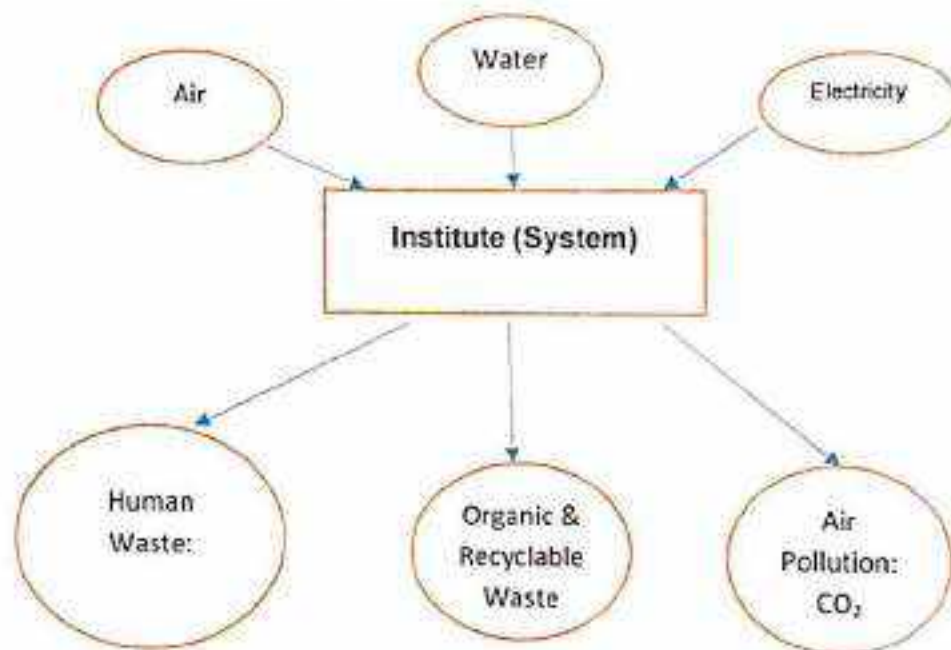
CHAPTER-II STUDY OF RESOURCE CONSUMPTION & CO₂ EMISSION

The Institute consumes following Natural/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 Institute as System:



A Carbon Foot print is defined as the Total Greenhouse Gas emissions, emitted due to various activities. Here we compute the emissions of Carbon-Di-Oxide, by usage of Electrical Energy. The basis of Calculation for CO₂ emissions due to Electrical Energy is 1 kWh of Electrical Energy releases 0.9 Kg of CO₂ into atmosphere.

Table No 5: Study of Energy Purchased & CO₂ Emission: 2021-22:

No	Month	Energy Purchased, kWh	CO ₂ Emissions, MT
1	Jul-21	853	0.59
2	Aug-21	752	0.68
3	Sep-21	1230	1.11
4	Oct-21	1112	1.00
5	Nov-21	1614	1.45

6	Dec-21	1704	1.53
7	Jan-22	1170	1.05
8	Feb-22	1395	1.26
9	Mar-22	1334	1.20
10	Apr-22	2864	2.58
11	May-22	4857	4.37
12	Jun-22	3878	3.49
13	Total	22563	20.31
14	Maximum	4857	4.37
15	Minimum	653	0.59
16	Average	1880.25	1.69

Chart No 2: Representation of Month wise CO₂ emissions:

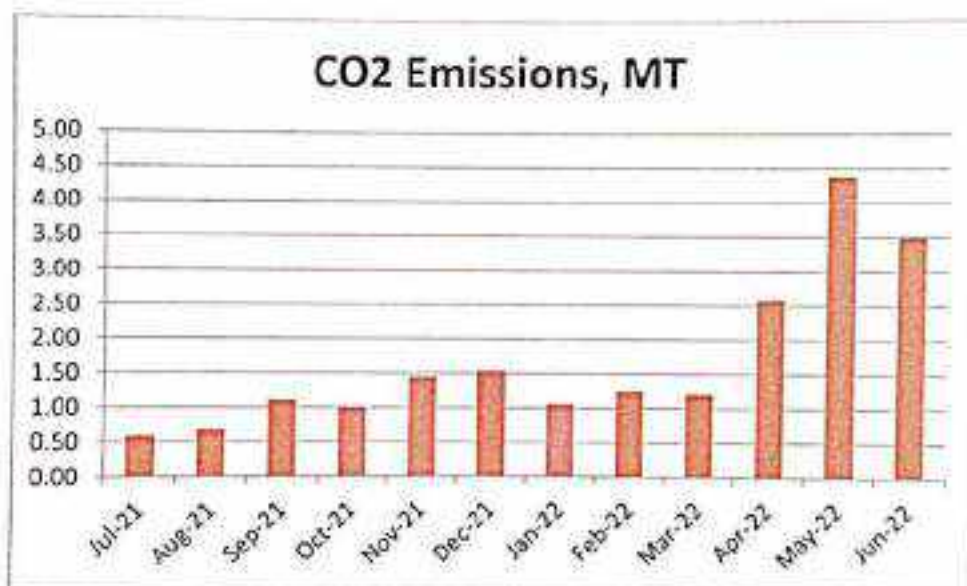


Table No 6: Key Parameters:

No	Value	Energy Purchased, kWh	CO ₂ emissions, MT
1	Total	22563	20.31
2	Maximum	4857	4.37
3	Minimum	653	0.59
4	Average	1880.25	1.69

CHAPTER-III

STUDY OF USAGE OF RENEWABLE ENERGY

The College has installed Roof Top Solar PV Plant of Capacity 50 kWp
We now calculate the reduction in CO₂ Emission due to Solar PV Plant,

Table No 7: Computation of Reduction in CO₂ Emission:

No	Particulars	Value	Unit
1	Installed Roof Top Solar PV Plant Capacity	50	kWp
2	Average Daily Energy Generated	4	kWh/kWp
3	Annual Generation Days	300	Nos
4	Annual Solar Energy Generated	60000	kWh
5	1 kWh of Electrical Energy is equivalent to	0.9	Kg of CO ₂
6	Annual Reduction in CO ₂ Emission = (4) * (5) /1000	54	MT

Photograph of Roof Top Solar PV Plant:



CHAPTER IV STUDY OF INDOOR AIR QUALITY

4.1 Importance of Air Quality:

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

By volume, Dry Air contains 78.09% Nitrogen, 20.95% Oxygen, 0.93% Argon, 0.039% carbon dioxide, and small amounts of other gases.

On average, a person inhales about **14,000 liters** of air every day. Therefore, poor air quality may affect the quality of life now and for future generations by affecting the health, the environment, the economy and the city's liveability.

Rapid urbanization and industrialization has added other elements/compounds to the pure air and thus caused the increase in pollution. In order to prevent, control and abate air pollution, the Air (Prevention and Control of Pollution) Act was enacted in 1981.

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

According to Section 2(b) of Air (Prevention and control of pollution) Act, 1981 'air pollution' has been defined as 'the presence in the atmosphere of any air pollutant.'

As per Section 2(a) of Air (Prevention and control of pollution) Act, 1981 'air pollutant' has been defined as 'any solid, liquid or gaseous substance [(including noise)] present in the atmosphere in such concentration as may be or tend to be injurious to human beings or other living creatures or plants or property or environment

4.2 Air Quality Index:

An **Air Quality Index (AQI)** is a number used by government agencies to measure the **air pollution** levels and communicate it to the population. As the AQI increases, it means that a large percentage of the population will experience severe adverse health effects. The measurement of the AQI requires an **air monitor** and an **air pollutant** concentration over a specified **averaging period**.

We present herewith following important Parameters.

1. AQI- Air Quality Index
2. PM 2.5- Particulate Matter of Size 2.5
3. PM 2.5- Particulate Matter of Size 2.5

Table No 8: Indoor Air Quality Parameters:

No	Location	AQI	PM-2.5	PM-10
	Ground Floor			
1	Board Room	40	25	33

2	Exam Control Office	45	27	32
3	Placement office	41	25	30
4	Seminar hall	46	28	33
	First Floor			
5	Tutorial Room	45	27	32
6	Classroom	51	31	32
7	Boys Common Room	53	32	36
8	IQAC Room	54	32	37
	Maximum	54	32	37
	Minimum	40	25	30

CHAPTER V

STUDY OF INDOOR COMFORT CONDITION PARAMETERS

In this Chapter, we present the various Indoor Comfort Parameters measured during the Audit.

The Parameters include:

1. Temperature
2. Humidity
3. Lux Level
4. Noise Level.

Table No 9: Study of Indoor Comfort Parameters:

No	Location	Temperature, °C	Humidity, %	Lux Level	Noise Level, dB
	Ground Floor				
1	Library	28.3	68	112	45
2	Director's Office	28.3	67	110	41.9
3	Classroom	28.4	67	98	42.3
4	faculty Room	28.3	68	102	44.6
	First Floor				
5	Tutorial Room	28.3	68	114	43.8
6	Classroom	28.4	68	123	41.9
7	IQAC Room	28.4	67	140	43
8	Tutorial Room	28.3	67	106	41
	Maximum	28.4	68	140	45
	Minimum	28.3	67	98	41

CHAPTER VI STUDY OF WASTE MANAGEMENT

6.1 Segregation of Waste at Source:

The Institute has good housekeeping practices. The Waste is segregated at source. Waste collection Bins are placed at strategic locations.

Photograph of Waste Collection Bin:



6.2 Sanitary Waste Management:

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

Photograph of Sanitary Waste Incinerator:



6.3 Liquid Waste Management:

The Institute has installed a Septic Tank and the tank is cleaned periodically.

CHAPTER-VII STUDY OF RAIN WATER HARVESTING

The Institute has installed Pipes from the terrace and the Rain water falling on the terrace is stored in an underground Tank and is further used for domestic purpose after treatment.

Photograph of Rain Water Carrying Pipe:



Rain Water
Carrying Pipe

CHAPTER-VIII

STUDY OF ENVIRONMENT FRIENDLY PRACTICES

8.1 Tree Plantation in the Campus:

The Institute has landscaped Lawn and well maintained Tree Plantation in the campus.

Photograph of Tree Plantation:



8.2 Creation of Awareness about Resource Conservation:

The Institute has displayed Posters on Importance of Energy Conservation.

Photograph of Poster on importance of Energy Conservation:



**ANNEXURE-I:
INDOOR AIR QUALITY, NOISE & INDOOR COMFORT
PARAMETER STANDARDS:**

1. Category Wise Air Quality Index Values & Concentration of PM 2.5 & PM10:

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 +

2. Recommended Noise Level Standards:

No	Location	Noise Level dB
1	Auditoriums	20-25
2	Outdoor Playground	55
3	Occupied Class Room	40-45
4	Un occupied Class Room	35
5	Apartment, Homes	35-40
6	Offices	45-50
7	Libraries	35-40
8	Restaurants	50-55

4. Thermal Comfort Conditions: For Non-conditioned Buildings:

No	Parameter	Value
1	Temperature	Less Than 33°C
2	Humidity	Less Than 70%



Amrutvahini Sheti & Shikshan Sanstha's

Amrutvahini Institute of Management & Business Administration, Sangamner

(Affiliated to Savitribai Phule Pune University and Approved by AICTE New Delhi)

DTE Code -5324 NAAC Accredited ISO 9001:20123 Certified Institute SPPU Code-0581

Amrutnagar Post :Sangamner -422605 Tal:Sangamner Dist: Ahmednagar(M.S)

E-mail:director@yahoo.in

Website: www.amrutimba.org

Policy Documents

On

Green Campus

Policy Document on the Green Campus

Green Campus: A Green Campus is a place where environmental friendly practices and education combine to promote sustainable and eco-friendly practices in the campus. The green campus concept offers an institution the opportunity to take the lead in redefining its environmental culture and developing new paradigms by creating sustainable solutions to environmental, social and economic needs of mankind

Objectives of the Go Green Programs: The first step of the Go Green Programme involves establishing a viable Green-Campus Committee, within the organizational structure of the Institute. Hence, to give this initiative more clarity and authenticity, we now roll out a policy document spelling out the strategies, plans and other allied tasks to make this Program functional officially.

We believe that greening the campus is all about sweeping away wasteful inefficiencies and using conventional sources of energies for its daily power needs, correct disposal handling, purchase of environment friendly supplies and effective recycling program. The administration of the Institute believes that everyone has to work out the time bound strategies to implement green campus initiatives. These strategies need to be incorporated into the institutional planning and budgeting processes with the aim of developing a clean and green campus. Every individual of Amrutvahini Institute of MBA Campus will work, may he/she be a student, faculty and support staff to foster a culture of self-sustainability and make the entire campus environmental friendly. The Green Campus Initiatives (GCI) will enable the institution to develop the campus as a living laboratory for innovation.

A. Composition of the Go- Green Committee

1. Principal of the college- Chairperson
2. IQAC Coordinator- Secretary
3. Faculty Representative nominated by the Principal
4. Student Representative- General Secretary of the college
5. Non-Teaching Staff Representative- Office Superintendent
6. Parent Representative- Secretary of the Parent Teacher Association
7. Industry Representative- Member of Alumni Association

B. Role of the Go- Green Campus Programme:

The impetus for a successful Green Campus must begin at the top and emanate throughout the rest of the campus. Without a strong message of commitment and involvement from both the Chairperson and Members of the Committee, well-intentioned initiatives may be too fragmented to allow for Institute-wide participation. Thus in view of this, the committee will plan and execute to:

1. Seek views of all the Stakeholders to make the Go Green Campus initiative functional throughout the year.
2. Conduct the Campus' environmental impacts to identify the targets for improvements.

3. Establish a Green Campus Environmental Ethic Awareness campaigns.
4. Set forth a Green Campus Mission and a Statement of Principles.
5. Link Green-Campus activities to Academics in the Institute.
6. Organize Awareness Programs for the students, faculty and society.
7. Chart out a yearly planner for the Institute, local community and Stakeholders.
8. Develop a strategic plan and create student teams to carry out specific tasks of the strategic plan. For instance, a plan to save energy at the institute level with time bound plan to install Solar Power Station mandatorily either at the top of Institute building or in open field. This will enable the institute to have 24x7 power supply.
9. Phase out the CFL and conventional light source such as bulbs and tube lights, halogen and mercury street/campus lights and get them replace by the LEDs.
10. Conduct an Annual Green, Environment and Energy Audit.
11. Purchase only Energy Efficient Computers viz: “ENERGYSTAR” or any other equivalent.
12. Establish public/private partnerships with personnel from federal, state, and local environmental agencies, utilities, and the business community.
13. Evaluate daily operations in terms of pollution prevention, waste stream management, and energy efficiency reducing, reusing, recycling, and repairing wherever possible.
14. Secure a commitment up front from the people in charge that well-founded recommendations will be acted upon once audits are completed.

C. Promotion of “Save Energy Tips” in and outside the Institute:

Activate power management features on your computer and monitor so that it will go into a

1. Low power “sleep” mode when you are not working on it. Turn off your monitor when you leave your Table.
2. Activate power management features on your laser printer.
3. Whenever possible, shut down rather than logging off.
4. Turn off unnecessary lights and use daylight instead.
5. Avoid the use of decorative lighting.
6. Use LED or compact fluorescent bulbs.
7. Keep lights off in conference rooms, classrooms, lecture halls when they are not in use.
8. Use the fans only when they are needed.
9. Unplug appliances not plugged into power strips (like TVs, Refrigerators, ACs, tea/coffeepots, printers, faxes, and chargers etc.)

D. Waste water Management/ Rain water harvesting:

The Institute has to work in the direction of waste water management particularly in student's hostels. Water flow restrictors on bathroom faucets and showers, low water flow toilets and automated urinal flushers should be used to cut down campus water use. The Institute will take all necessary measures to implement waste water management / rain water harvesting.

E. Major Green Campus Initiatives:

- ISO Certification 9001:2015
- Installation of Solar Power Station
- Waste water Management/ Rainwater harvesting
- Development of Sewage Water Treatment Plant
- Use of Micro-scale techniques
- Sensor based energy conservation
- Maintenance of water bodies and distribution system in the campus
- MIS to make paperless administration
- Plastic free Campus
- Tree Plantation Drive
- Cleanliness Drive
- Landscaping and gardens
- Use of LEDs only
- Digital Library/ E-Learning Centre
- Organization of sensitization programmes for the stakeholders
- Green, Environment and Energy Audit in Process.
- Restricted entry of automobiles
- No Vehicle Day observed
- The Institute will make all the necessary efforts to involve the students, faculty and staff in “Green Campus Initiatives”.



Amrutvahini Sheti & Shikshan Sanstha's

Amrutvahini Institute of Management & Business Administration, Sangamner

(Affiliated to Savitribai Phule Pune University and Approved by AICTE New Delhi)

DTE Code -5324 NAAC Accredited ISO 9001:20123 Certified Institute SPPU Code-0581

Amrutnagar Post :Sangamner -422605 Tal:Sangamner Dist: Ahmednagar(M.S)

E-mail:director@yahoo.in

Website: www.amrutimba.org

Policy Documents On Environment and Energy Usage

Policy Document on Environment and Energy Usage

The Environment and Energy usage Policy of Amrutvahini Institute of Management & Business Administration, Sangamner is to manage energy in such a systematic way so as to minimize its impact on the environment. The policy implies to explore the renewable energy resources to reduce the burden of the government and to find out substitute natural resources as solutions to the energy crisis.

This environment and energy policy is binding for all the components of the institution and applies to all its stakeholders and to the various activities undertaken by the institution. It will help us to embed efficiency and environmental awareness into our everyday activities, thus helping us to realize our responsibilities and commitment to conservation of natural resources and to limit its usage. **The Enviro Club**, an official platform devoted to the cause of environmental awareness, to undertake green initiatives, and to conduct green literacy programmes to save energy and to protect the environment.

Policies:

- To assess our energy usage and measure its impact on the environment.
- To count CO₂ emissions generated by our means of transportations- vehicles.
- To reduce local air pollution emissions using environment-friendly vehicles including bicycles, public transportation and use of pedestrian-friendly roads.
- To install photovoltaic solar panels for the generation of alternate energy.
- To install LED bulbs in the complete campus to save energy.
- To develop systematic waste management mechanism.
- To develop rain water harvesting unit.
- To undertake tree plantation drive.
- To take additional measures to continuously improve our energy consumption.
- To ensure the availability of necessary resources to achieve our objectives.
- To encourage use of advanced technology to minimize energy consumption, atmospheric emissions and noise, particularly from our vehicle fleets.
- To engage in dialogue with the government agencies, municipal corporation and the affiliating university and actively work with the local organizations in the areas of environment, energy efficiency and sustainable development.
- To monitor and respond to emerging environmental and energy issues.

- To strengthen our employees' and students' environmental knowledge and skills in order to improve our own environmental performance.
- To provide information and training opportunities on energy saving measures.
- To offer opportunities for employees and students to engage in initiatives those contribute to environmental protection. To train our employees and students through our Enviro Club to make them 'Go Green Specialists' and partners to plant trees each year.

This policy will be communicated to the students and employees via internal communication channels, and will be made available to all the stakeholders on the institutional website. The Environment and Energy Policy, objectives and targets will be reviewed on a regular basis by the Enviro Club Convener and its members under the guidance of the Principal of the college.

ENERGY AUDIT REPORT
of
**AMRUTVAHINI INSTITUTE OF MANAGEMENT &
BUSINESS ADMINISTRATION,**
Amrutnagar, Sangamner, District: Ahmednagar 422 608



Year: 2022-23

Prepared by:

ENGRESS SERVICES

Yashashree, 26, Nirmal Bag Society
Near Muklangan 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)

ENERGY AUDIT CERTIFICATE

Certificate No: ES/AIOMBA/22-23/01

Date: 20/7/2023

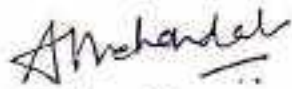
This is to certify that we have conducted an Energy Audit at Amrutvahini Institute of Management & Business Administration, Amrutnagar, Sangamner, District: Ahmednagar, in the Year 2022-23.

The Institute has adopted following Energy Efficient practices:

- Maximum usage of Day Lighting
- Usage of Energy Efficient LED Lighting
- Installation of 50 kWp Roof Top Solar PV Plant

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

For Engress Services,



A Y Mehendale,
B E-Mechanical, M Tech- Energy
BEE Certified Energy Auditor, EA-8192



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

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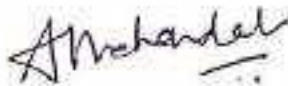
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For Engress Services,



A Y Mehendale,
B E-Mechanical, M Tech- Energy
BEE Certified Energy Auditor, EA-8192



REGISTRATION CERTIFICATES



AUDITOR CERTIFICATE



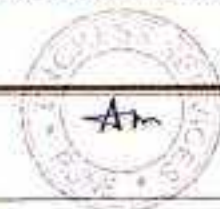
MEDA Registration Certificate



ISO: 9001-2015 Certificate



ISO: 14001-2015 Certificate



INDEX

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4	Study of Energy Performance Index	11
5	Study of Lighting	12
6	Study of Renewable Energy & Energy Efficiency	14



ACKNOWLEDGEMENT

We Engress Services, Pune, express our sincere gratitude to the management of Amrutvahini Institute of Management & Business Administration, Amrutnagar, Sangamner, District: Ahmednagar, for awarding us the assignment of Energy Audit of their Sangamner Campus for the Year: 2022-23.

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



EXECUTIVE SUMMARY

1. Amrutvahini Institute of Management & Business Administration, Amrutnagar, Sangamner, District: Ahmednagar consumes Energy in the form of Electrical Energy; used for various Electrical Equipment.

2. Present Connected Load & Energy Consumption:

No	Particulars	Value	Unit
1	Total Connected Load	44	kW
2	Annual Energy Purchased	37403	kWh

3. Energy Performance Index:

No	Particulars	Value	Unit
1	Total Annual Energy Purchased	37403	kWh
2	Annual Energy Generated	60000	kWh
3	Annual Energy Consumed=1+2	97403	kWh
4	Total Built up area of Institute	2911	m ²
5	Energy Performance Index =(3) / (4)	33.46	kWh/m ²

4. Study of Lighting Power Density & % Usage of LED Lighting:

No	Particulars	Value	Unit
1	Lighting Power Density	2.72	W/m ²
2	% of Usage of LED Lighting to Total Lighting Load	12	%

5. Renewable Energy & Energy Efficiency Projects:

- Usage of Energy Efficient LED fittings
- Installation of 50 kWp Roof Top Solar PV Plant

6. Assumptions:

- 1 kWh of Electrical Energy releases 0.9 Kg of CO₂ into atmosphere
- Energy generated by Roof Top Solar PV Plant: 4 kWh/kWp per Day
- Annual Solar Energy generation Days: 300 Nos

7. References:

- Audit Methodology: www.mahaurja.com
- Energy Conservation Building Code: ECBC-2017: www.becindia.gov.in
- For CO₂ Emissions: www.tatapower.com
- For Solar PV Energy generation: www.solarrooftop.gov.in

ABBREVIATIONS

LED	: Light Emitting Diode
MSEDCL	: Maharashtra State Electricity Distribution Company Limited
BEE	: Bureau of Energy Efficiency
ECBC	: Energy Conservation Building Code
MEDA	: Maharashtra Energy Development Agency
PV	: Photo Voltaic
Kg	: Kilo Gram
kWh	: kilo-Watt Hour
CO ₂	: Carbon Di Oxide
MT	: Metric Ton



CHAPTER-I INTRODUCTION

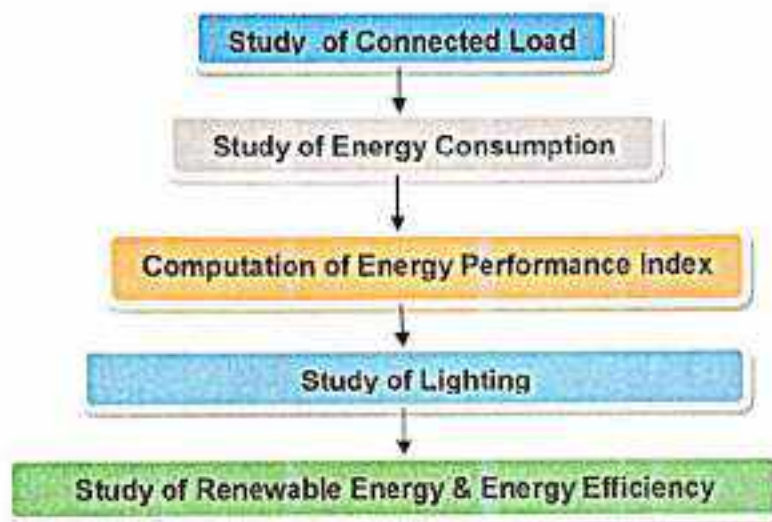
1.1 Introduction:

An Energy Audit is conducted at Amrutvahini Institute of Management & Business Administration, Amrutnagar, Sangamner, District: Ahmednagar.

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 Audit Procedural Steps:



1.3 Institute Location Image:



Institute
Campus

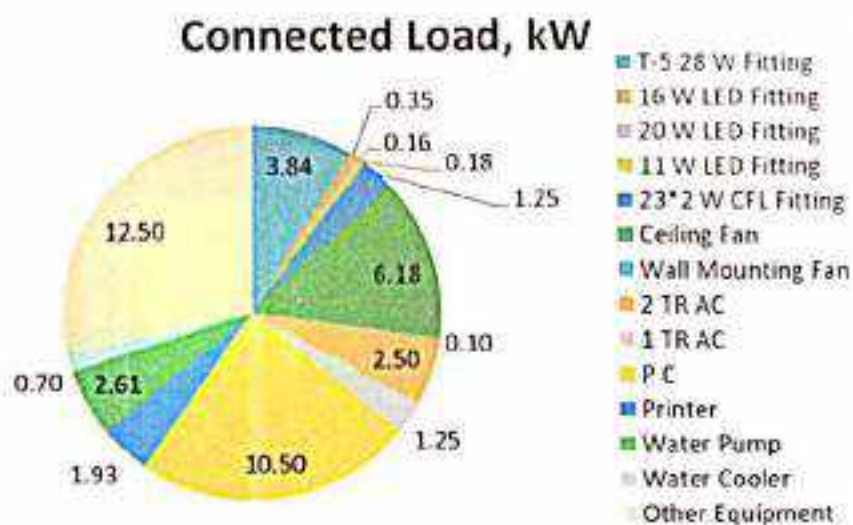
CHAPTER-II STUDY OF CONNECTED LOAD

The major contributors to the connected load of the Institute include

Table No 1: Study of Equipment wise Connected Load:

No	Equipment	Qty	Load, W/unit	Load, kW
1	T-5 28 W Fitting	137	28	3.84
2	16 W LED Fitting	22	16	0.35
3	20 W LED Fitting	8	20	0.16
4	11 W LED Fitting	16	11	0.18
5	23*2 W CFL Fitting	26	48	1.25
6	Ceiling Fan	95	65	6.18
7	Wall Mounting Fan	2	52	0.10
8	2 TR AC	1	2500	2.50
9	1 TR AC	1	1250	1.25
10	P C	70	150	10.50
11	Printer	11	175	1.93
12	Water Pump	1	2611	2.61
13	Water Cooler	2	350	0.70
14	Other Equipment	50	250	12.50
15	Total			44

Chart No 1: Study of Connected Load:



CHAPTER-III

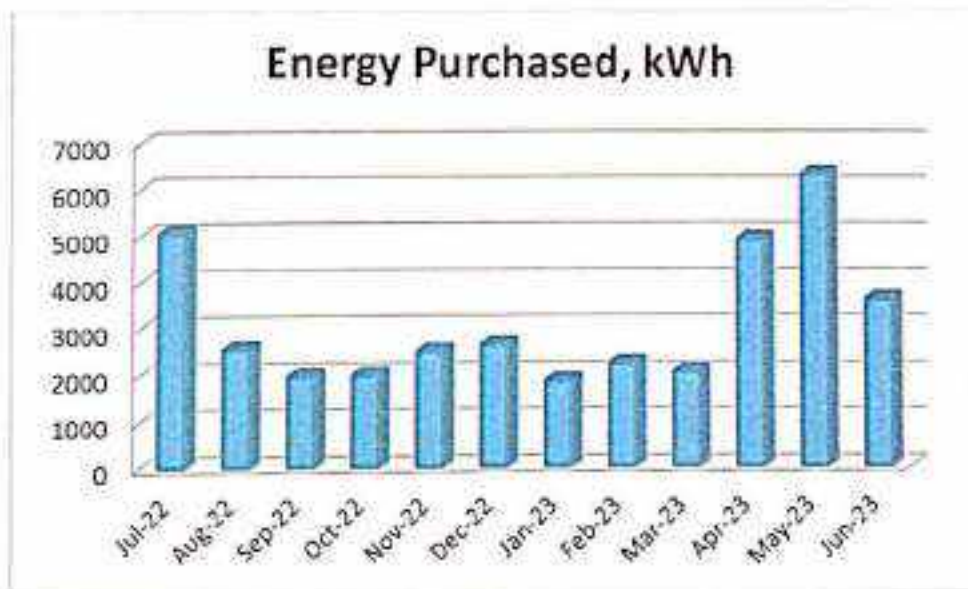
STUDY OF PRESENT ENERGY CONSUMPTION

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

Table No 2: Electrical Energy Purchase Analysis- 2022-23:

No	Month	Energy Purchased, kWh	CO ₂ Emissions, MT
1	Jul-22	5049	4.54
2	Aug-22	2534	2.28
3	Sep-22	1936	1.74
4	Oct-22	1972	1.77
5	Nov-22	2474	2.23
6	Dec-22	2610	2.35
7	Jan-23	1825	1.64
8	Feb-23	2206	1.99
9	Mar-23	2017	1.82
10	Apr-23	4884	4.40
11	May-23	6301	5.67
12	Jun-23	3595	3.24
13	Total	37403	33.56
14	Maximum	6301	5.67
15	Minimum	1825	1.64
16	Average	3116.92	2.81

Chart No 2: Variation in Monthly Energy Purchased, kWh:



CHAPTER-IV STUDY OF ENERGY PERFORMANCE INDEX

Energy Performance Index: Energy Performance Index of a Building is its Annual Energy Consumption in Kilo Watt Hours per square meter of the Building

It is determined by:

$$\text{EPI} = \frac{\text{(Annual Energy Consumption in kWh)}}{\text{(Total Built-up area in m}^2\text{)}}$$

Now we compute the EPI for the Institute as under:

Table No 3: Computation of Energy Performance Index:

No	Particulars	Value	Unit
1	Total Annual Energy Purchased	37403	kWh
2	Energy Generated by Solar PV Plant	60000	kWh
3	Total Energy Consumed= 1+2	97403	kWh
4	Total Built up area of Institute	2911	m ²
5	Energy Performance Index =(3) / (4)	33.46	kWh/m ²

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/m^2)

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)

6. **Installed Power Density**. The installed power density per 100 lux is the power needed per square metre of floor area to achieve 100 lux of average maintained illuminance on a horizontal working plane with general lighting of an interior. Unit: watts per square metre per 100 lux ($\text{W/m}^2/100 \text{ lux}$) 100 installed power density ($\text{W/m}^2/100 \text{ lux}$)

7. **Lighting Power Density**: It is defined as Total Lighting Load in a room divided by the Area of that Room in square meters.

In this Chapter we compute the Lighting Power Density of Class Room and the percentage usage of LED Lighting to total Lighting Load of the Institute.

Now, we compute the usage of LED Lighting to Total Lighting Load, as under.

Table No 4: Computation of Lighting Power Density: Class Room: GF-07:

No	Particulars	Value	Unit
1	Qty of T-5 28 W Fittings in Class Room: GF-07	7	Nos
2	Load of T-5 28 W Fitting	28	W/unit
3	Total Load of 7 Nos, T-5 28 W Fittings	196	W
4	Built up area of Class Room: GF-07	72	m^2
5	Lighting Power Density = (3)/(4)	2.72	W/m^2

CHAPTER V STUDY OF LIGHTING

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2	Load of T-5 28 W Fitting	28	W/unit
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4	Built up area of Class Room: GF-07	72	m^2
5	Lighting Power Density = (3)/(4)	2.72	W/m^2

Table No 5: Percentage Usage of LED Lighting to Total Lighting Load:

No	Particulars	Value	Unit
1	Qty of T-5 28 W Fittings	137	Nos
2	Load of T-5 28 W Fitting	28	W/unit
3	Total Load of T-5 28 W Fitting	3.836	kW
4	Qty of 16 W LED Fitting	22	Nos
5	Load of 16 W LED Fitting	16	W/unit
6	Total Load of 16 W LED Fitting	0.352	kW
7	Qty of 20 W LED Fitting	8	Nos
8	Load of 20 W LED Fitting	20	W/unit
9	Total Load of 20 W LED Fitting	0.16	kW
10	Qty of 11 W LED Fitting	16	Nos
11	Load of 11 W LED Fitting	11	W/unit
12	Total Load of 11 W LED Fitting	0.175	kW
13	Qty of CFL Fitting	26	Nos
14	Load of 11 W LED Fitting	48	W/unit
15	Total Load of 11 W LED Fitting	1.248	kW
16	Total LED Lighting Load = 6+9+12	1	kW
17	Total Lighting Load=3+6+9+12+15	6	kW
18	% of LEDs to Total Lighting Load= $16*100/17$	12	%

CHAPTER-VI STUDY OF RENEWABLE ENERGY & ENERGY EFFICIENCY

6.1 Usage of Renewable Energy:

The Institute has installed:

- Roof Top Solar PV Plant of Capacity 50 kWp

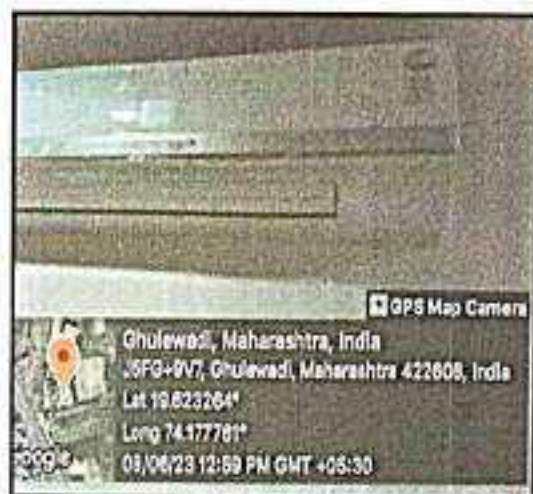
Photograph of Roof Top Solar PV Plant:



6.2 Energy Efficiency Measures adopted:

- The Institute has Energy Efficient LED Fittings
- Usage of BEE STAR Rated Equipment

Photographs of STAR Rated AC & LED Lighting:



ENERGY AUDIT REPORT
of
**AMRUTVAHINI INSTITUTE OF MANAGEMENT &
BUSINESS ADMINISTRATION,**
Amrutnagar, Sangamner, District: Ahmednagar 422 608



Year: 2021-22

Prepared by:

ENGRESS SERVICES

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Near Muktagan English School, Parvati, Pune 411009
Phone: 09890444795 Email: engress123@gmail.com



MAHARASHTRA ENERGY DEVELOPMENT AGENCY



Maharashtra Energy Development Agency

(Government of Maharashtra Institution)

Aundh Road, Opposite Spicer College Road, Near Commissionerate of Animal Husbandry,

Aundh, Pune, Maharashtra 411067

Ph No. 020-25000450

Email: eeo@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
Yashshree, 26, Nimal Bag Society,
Near Mukundan English School,
Parvati, Pune - 411 009.

Registration Category : Empowered Consultant for Energy Conservation
Programme for Class 'A'

Registration Number : MEDA/ECN/2022-23/Class A/E-1-12.

- 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 empowerment 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)



ENGRESS SERVICES

Yashashree, 26, Nirmal Bag Society,
Near Mukhtangan English School, Parvati, Pune 411 009
Tel: 09890444795 Email: engress123@gmail.com

Ref: ES/ AIOMBA/21-22/01

Date: 15/7/2022

CERTIFICATE

This is to certify that we have conducted an Energy Audit at Amrutvahini Institute of Management & Business Administration, Amrutnagar, Sangamner, District: Ahmednagar, in the Year 2021-22.

The Institute has adopted following Energy Efficient Practices:

- Usage of Energy Efficient LED Fittings
- Usage of Energy Efficient BEE STAR Rated equipment
- Maximum usage of Day Lighting
- Installation of 50 kWp Roof Top Solar PV Plant

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

For Engress Services,



A Y Mehendale,
Certified Energy Auditor
EA-8192



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5	Study of Usage of Alternate Energy	14
6	Study of Usage of LED Lighting	15



ACKNOWLEDGEMENT

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



EXECUTIVE SUMMARY

1. Amrutvahini Institute of Management & Business Administration, Amrutnagar, Sangamner, District: Ahmednagar consumes Energy in the form of Electrical Energy; used for various Electrical Equipment.

2. Present Energy Consumption & CO₂ Emission:

No	Parameter /Value	Energy Purchased, kWh	CO ₂ Emissions, MT
1	Total	22563	20.31
2	Maximum	4857	4.37
3	Minimum	653	0.59
4	Average	1880.25	1.69

3. Various Measures Adopted for Energy Conservation:

- Usage of Energy efficient LED fittings
- Usage of BEE STAR Rated Equipment
- Installation of 50 kWp Roof Top Solar PV Plant

4. Usage of Alternate Energy:

- The Institute has installed 50 kWp Roof Top Solar PV Plant
- Energy generated by Solar PV Plant in 21-22 is 60000 kWh
- Energy purchased from MSEDCL in 21-22 is 22563 kWh
- Total Energy Consumption in 21-22 is 82563 kWh
- % of Renewable Energy to Annual Energy Demand is 72.67 %

5. Usage of LED Lighting:

- The Total LED Lighting Load is 0.58 kW.
- The Total Lighting Load is 5.81 kW.
- The % of LEDs to Total Lighting Load is 10 %.

6. Assumptions:

1. 1 kWh of Electrical Energy releases 0.9 Kg of CO₂ into atmosphere
2. Energy generated by Roof Top Solar PV Plant: 4 kWh/kWp per Day
3. Annual Solar Energy generation Days: 300 Nos

7. References:

- For CO₂ Emissions: www.fatapower.com
- For Solar PV Energy generation: www.solarrooftop.gov.in



ABBREVIATIONS

AC	: Air conditioner
MSEDCL	: Maharashtra Electricity Distribution Company Limited
LED	: Light Emitting Diode
kWh	: kilo-Watt Hour
Qty	: Quantity
W	: Watt
KW	: Kilo Watt
PC	: Personal Computer
MT	: Metric Ton

CHAPTER-I INTRODUCTION

1.1 Objectives:

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

1.2 Table No1: General Details of Institute:

No	Head	Particulars
1	Name	Amrutvahini Institute of Management & Business Administration
2	Address	Amrutnagar, Sangamner, District: Ahmednagar 422 608
3	Year of Establishment	1995

1.3 Google Earth Location Image:



Institute
Campus

CHAPTER-II

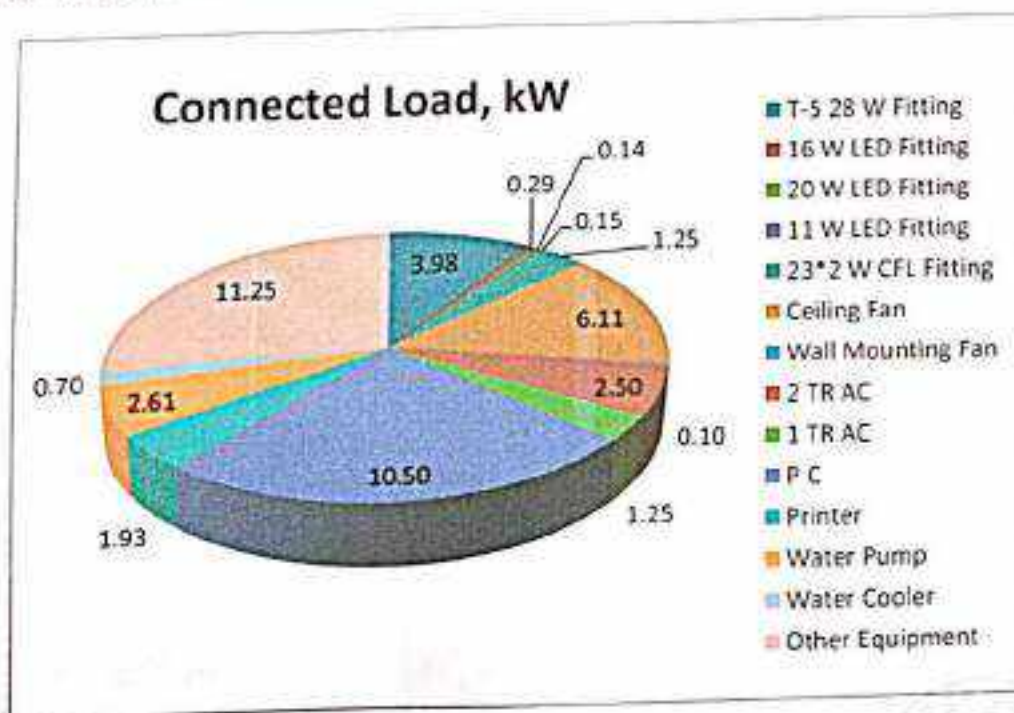
STUDY OF CONNECTED LOAD

In this chapter, we present the details of various Electrical loads as under

Table No-2: Study of Equipment wise Connected Load:

No	Equipment	Qty	Load, W/unit	Load, kW
1	T-5 28 W Fitting	142	28	3.98
2	16 W LED Fitting	18	16	0.29
3	20 W LED Fitting	7	20	0.14
4	11 W LED Fitting	14	11	0.15
5	23*2 W CFL Fitting	26	48	1.25
6	Ceiling Fan	94	65	6.11
7	Wall Mounting Fan	2	52	0.10
8	2 TR AC	1	2500	2.50
9	1 TR AC	1	1250	1.25
10	P.C	70	150	10.50
11	Printer	11	175	1.93
12	Water Pump	1	2611	2.61
13	Water Cooler	2	350	0.70
14	Other Equipment	45	250	11.25
15	Total			43

Chart No-1: Details of Connected Load:



CHAPTER-III STUDY OF ENERGY CONSUMPTION

In this chapter, we present the analysis of Electricity Energy Consumption
Table No 3: Electrical Energy Purchase Analysis- 2021-22:

No	Month	Energy Purchased, kWh
1	Jul-21	653
2	Aug-21	752
3	Sep-21	1230
4	Oct-21	1112
5	Nov-21	1614
6	Dec-21	1704
7	Jan-22	1170
8	Feb-22	1395
9	Mar-22	1334
10	Apr-22	2864
11	May-22	4857
12	Jun-22	3878
13	Total	22563
14	Maximum	4857
15	Minimum	653
16	Average	1880.25

Chart No 2: To study the variation of Month wise Energy Purchased, kWh:



Table No 4: Key Parameters:

No	Parameter	Energy Purchased, kWh
1	Total	22563
2	Maximum	4857
3	Minimum	653
4	Average	1880.25



CHAPTER-IV STUDY OF CARBON FOOT PRINTING

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 CO₂ Emissions:

The basis of Calculation for CO₂ emissions due to Electrical Energy is:

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 Institute due to its Day to Day operations

Table No 5: Month wise CO₂ Emissions:

No	Month	Energy Purchased, kWh	CO ₂ Emissions, MT
1	Jul-21	653	0.59
2	Aug-21	752	0.68
3	Sep-21	1230	1.11
4	Oct-21	1112	1.00
5	Nov-21	1614	1.45
6	Dec-21	1704	1.53
7	Jan-22	1170	1.05
8	Feb-22	1395	1.26
9	Mar-22	1334	1.20
10	Apr-22	2864	2.58
11	May-22	4857	4.37
12	Jun-22	3878	3.49
13	Total	22563	20.31
14	Maximum	4857	4.37
15	Minimum	653	0.59
16	Average	1880.25	1.69

Chart No 3: Representation of Month wise CO₂ emissions:

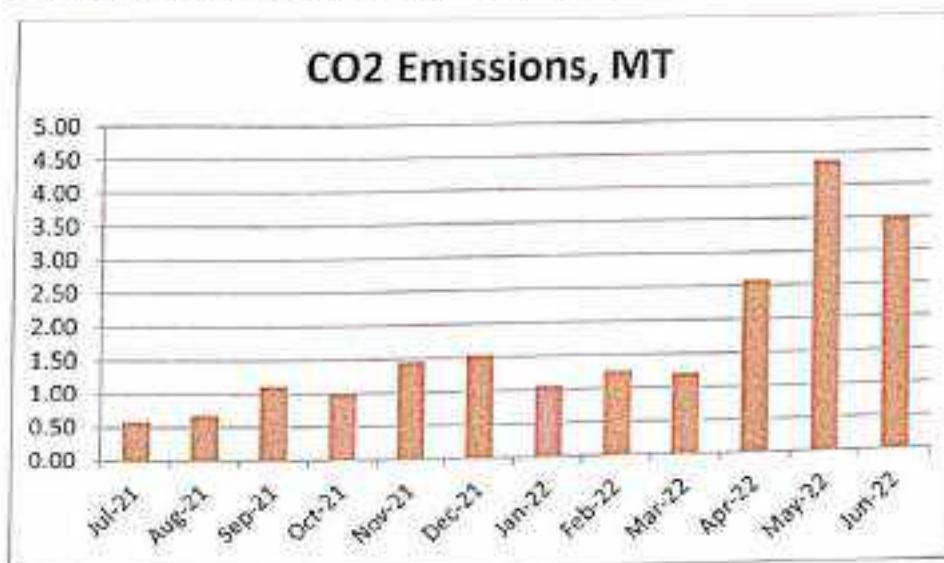


Table No 6: Key Parameters:

No	Value	Energy Purchased, kWh	CO ₂ emissions, MT
1	Total	22563	20.31
2	Maximum	4857	4.37
3	Minimum	653	0.59
4	Average	1830.25	1.69



CHAPTER-V STUDY OF USAGE OF ALTERNATE ENERGY

The Institute has installed Roof Top Solar PV Plant of Capacity 120 kWp.

In the following Table, we compute the percentage of Usage of Alternate Energy to Annual Energy Demand of the Institute.

Table No 7: Computation of % Annual Energy Demand met by Alternate Energy:

No	Particulars	Value	Unit
1	Annual Energy Purchased	22563	kWh/Annum
2	Installed Capacity of Solar PV Plant	50	kWp
3	Average Energy Generated by Solar PV Plant	4	kWh/kWp
4	Annual Generation Days	300	Nos
5	Total Solar Energy Generated= $2*3*4$	60000	kWh
6	Total Energy Demand= (1)+(5)	82563	kWh
7	% of Alternate Energy to Annual Requirement = $(5)*100/(6)$	27.33	%

Photograph of Roof Top Solar PV Plant:



CHAPTER VI STUDY OF USAGE OF LED LIGHTING

In the following Table, we present the percentage of Total Lighting load met by LED lights.

Table No 7: Computation of Percent Usage of LEDs to Total Lighting Load:

No	Particulars	Value	Unit
1	Qty of T-5 28 W Fittings	142	Nos
2	Load of T-5 28 W Fitting	28	W/unit
3	Total Load of T-5 28 W Fitting	3.976	kW
4	Qty of 16 W LED Fitting	18	Nos
5	Load of 16 W LED Fitting	16	W/unit
6	Total Load of 16 W LED Fitting	0.288	kW
7	Qty of 20 W LED Fitting	7	Nos
8	Load of 20 W LED Fitting	20	W/unit
9	Total Load of 20 W LED Fitting	0.14	kW
10	Qty of 11 W LED Fitting	14	Nos
11	Load of 11 W LED Fitting	11	W/unit
12	Total Load of 11 W LED Fitting	0.154	kW
13	Qty of CFL Fitting	26	Nos
14	Load of 11 W LED Fitting	48	W/unit
15	Total Load of 11 W LED Fitting	1.248	kW
16	Total LED Lighting Load = 6+9+12	0.58	kW
17	Total Lighting Load = 3+6+9+12+15	5.81	kW
18	% of LEDs to Total Lighting Load = $16 \times 100 / 17$	10.0	%



Amrutvahini Institute of Management & Business Administration, Sangamner

(Affiliated to Savitribai Phule Pune University of Pune and Approved by AICTE New Delhi)

DTE CODE - 5324

NAAC Accredited

ISO 9001 : 2015 Certified Institute

SPPU CODE - 0581

Ref. AIMBA /

Date : / / 20

Notice

1/01/2019

All Teaching, Non Teaching Staff & Students here by informed that from **1/01/2019**, We decided to start & maintain Ecofriendly campus . In this initiative we take following steps ,

- 1) Polythene Bag free Campus
- 2) No Horn Please
- 3) Saturday Bicycle Day

Dr.B.M. Londhe

Director

ग्रामपंचायत हा सारा लोकशाहीचा पारा आहे



ग्रामपंचायत कार्यालय खांडगाव

ता.संगमनेर जि.अ.जंजिर - ४२२६०५

उपसरपंच

सौ. लक्ष्मीबाई संपत मुंजाळ

ग्रामविकास अधिकारी

श्री. व्ही. व्ही. काळे

सरपंच
श्री. भद्रा भिमाशंकर मुंजाळ

*जलस-आयु व विद्युत जोड वेळेवर करा *ग्रामपंचायत कार वेळेवर करा *नाच स्वच्छ ठेवा *वैयक्तिक प्रोवालय बांधा.

दि. २५/०८/२०२०



Amrutvahini MBA sangamner organized tree plantation programme and swachata abhiyan at khandgaon village on dt.19/08/2020. In this program staff, students and village people participated. We really thankful to amrutvahini MBA team for organized such good programme at khandgaon village.

Thanks & regards

मेरुत शि. मुंजाळ

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ग्रामपंचायत खांडगाव
ता.संगमनेर, जि.अ.जंजिर



अमृतवाहिनी शेती व शिक्षण विकास संस्थेचे

अमृतवाहिनी इन्स्टिट्यूट ऑफ मॅनेजमेंट अॅण्ड बिजिनेस अॅडमिनिस्ट्रेशन, संगमनेर (४२२६०८)

डीटीई कोड - ५३२४

(ए.आय.सी.टी.ई. मान्यताप्राप्त व पुणे विद्यापीठ संलग्न महाविद्यालय)
बॅंक अॅडमिनिस्ट्रेशन आय.एस.ओ. १००१ : २०१५ प्रमाणित

SPPU CODE - 0581

पत्र क्र.: /एआयएमबीए/६४

दिनांक : ०९/०३/२०२१

मा. सरपंच

खांडगाव

ता. संगमनेर जि. अहमदनगर

विषय - अमृतवाहिनी एमबीए च्या वतीने गावामध्ये जनजागृती व विविध सामाजिक उपक्रम राबविणे संदर्भात.

अमृतवाहिनी एमबीए व खांडगाव ग्रामस्थ यांच्या संयुक्तविद्यमाने गावाचा सर्वांगीण विकास घडवा यादृष्टीने विविध उपक्रम राबविणे बत्यामाध्यमातून जनजागृती करणे, तसेच विविध क्षेत्रातील तज्ञ व्यक्तींचे मार्गदर्शन व सहभाग गावामध्ये घडवून आणणे.

अमृतवाहिनी एमबीए जे विविध उपक्रम करू इच्छित आहे ते खालील प्रमाणे आहेत.

- १) व्यसन मुक्ती मार्गदर्शन शिबीर
- २) शिक्षणा बद्दल जनजागृती
- ३) वैयक्तिक आरोग्य व स्वच्छता
- ४) रक्तदान व अवयव दान यांचे महत्व, गरज
- ५) करिअर मार्गदर्शन व व्यक्तीमत्त्व विकास
- ६) ग्रामस्वच्छता
- ७) वयानुरूप संवेदनशीलता
- ८) मतदान जागृती
- ९) महिला सबलीकरण व सक्षमीकरण करण

वरील विविध उपक्रमांमध्ये गावातील सर्वांचे सहकार्य मिळावे हि विनंती.

प्रा. नितीन जाधवे

विद्यार्थी विकास अधिकारी

अमृतवाहिनी एमबीए

डॉ. बी. एम. लाडे

संचालक

अमृतवाहिनी एमबीए

अमृतनगर, पो.: संगमनेर - ता.संगमनेर, जि.अहमदनगर महाराष्ट्र

• फोन : (ऑ.) - (०२४२५) २५९०९५/२५९२५५

• ई-मेल : directoraimba@yahoo.in

• फॅक्स : (०२४२५) २५९०९५

• वेबसाईट : www.amrutimba.org

ग्रामपंचायत हा स्वरा लोकशहीवा पाया आहे



ग्रामपंचायत कार्यालय खांडगाव

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श्री.भरत विठ्ठलशंकर गुंजाळ

*अन्न-मनुष्य व वित्त लोट पेटेकर कर *ग्रामपंचायत कर केलेवर मर्या *गांव स्वच्छ ठेवा *नैसर्गिक जीवाणू बंधा.

२०२२

दि.०९/०८/२०२१

Amrutvahini MBA sangamner organized tree plantation programme and gram swachata abhiyan at khandgaon kapaleshwar temple on dt 08/07/2021. In this program total 200 various trees planted by staff, students and village people. We appreciate such great social work done by amrutvahini MBA team in khandgaon village.

Thanks & regards

भरत शि गुंजाळ

सरपंच

ग्रामपंचायत खांडगाव
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SELF STUDY REPORT

7.1.3 Quality audits on environment and energy regularly undertaken by the Institution.

The institutional environment and energy initiatives are confirmed through the
following

1. Green audit /Environment audit
2. Energy audit
3. Clean and green campus initiative
4. Beyond the campus environmental promotion activities

(2022-23 To 2018-19)

**Certificates of The Awards received from
Recognised Agency**



ग्रामपंचायत हा सारा लोकशाहीचा पाया आहे



ग्रामपंचायत कार्यालय खांडगाव

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उपसरपंच
श्री.लक्ष्मीबाई संपत गुंजाळ

ग्रामविकास अधिकारी
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२०२२

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ग्रामपंचायत कार्यालय खांडगाव

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उपसरपंच

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श्री.व्ही.व्ही.काळे

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*जन्म-मृत्यु व विवाह नोंद घेणेकर फरा *ग्रामपंचायत कर घेणेकर भरा *गाव स्वच्छ ठेवा *वैयक्तिक शाळांलाय बांधा.

२०२२

दि.२९/०८/२०२०



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ग्रामसेवक
ग्रामपंचायत खांडगाव
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