GREEN AUDIT REPORT

of

Shiksha Mandal Wardha's

Shrikrishnadas Jajoo Grameen Seva Mahavidyalaya, Pipri Wardha

Year: 2022-23

Prepared by:

ENGRESS SERVICES

Yashashree, 26, Nirmal Bag Society
Near Muktangan English School, Parvati, Pune 411009
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ENGRESS SERVICES PUNE

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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)

GREEN AUDIT CERTIFICATE

Certificate No: ES/SJGM/22-23/02 Date: 17/05/2023

This is to certify that we have conducted Green Audit at Shrikrishnadas Jajoo Grameen Seva Mahavidyalaya Pipri, Wardha, in the Year 2022-23.

The Institute has adopted following Energy Efficient & Green Practices:

- Usage of Energy Efficient LED Light Fitting
- Installation of 2000 LPD Solar Thermal Water Heating System
- Segregation of Waste at Source
- Installation of Bio gas Plant
- Installation of Bio & Vermi Composting Pit
- College has installed septic tanks and it cleans periodically
- Installation of Rain Water Harvesting Project
- Maintenance of good Internal Road
- Tree Plantation in the campus
- Provision of Ramp for Divyangajan
- Creation of awareness by display of Posters on Resource Conservation

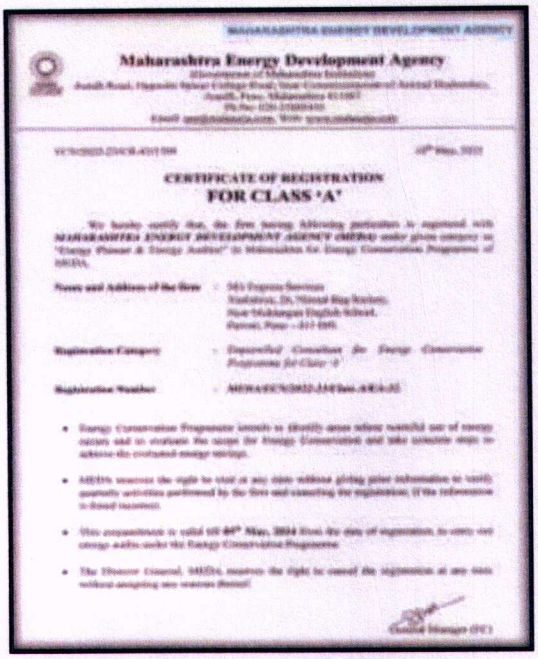
We appreciate the support of Management, involvement of faculty members and students in the process of Energy Conservation & making the campus Green.

For Engress Services,

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

ENGRESS SERVICES PUNE

REGISTRATION CERTIFICATES



Maharashtra Energy Development Agency

CERTIFICATE OF REGISTRATION
FOR CLASS 'A'

MEDA Registration Certificate

GEM Certificate

ASSOCHAM hereby certifies that

Mr. A Y Mehendale

has successfully passed the

Green and Eco-friendly Movement Certified Professional Test (GEM CP)

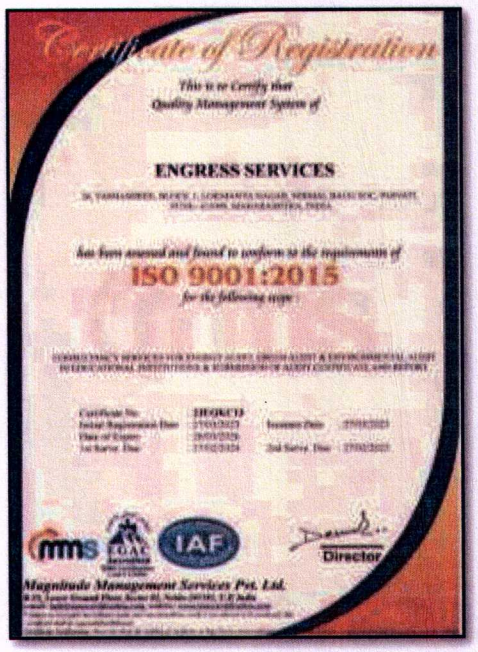
with

"Excellent Performance"

on

06 June 2022

GEM Certified Professional Certificate



Certificate of Registration

This is to Certify that
Quality Management System of

ENGRESS SERVICES

has been assessed and found to conform to the requirements of
ISO 9001:2015
for the following scope :

Director

Magnitude Management Services Pvt. Ltd.

ISO: 9001-2015 Certificate

Certificate of Registration

This is to Certify that
Environmental Management System of

ENGRESS SERVICES

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

Director

Magnitude Management Services Pvt. Ltd.

ISO: 14001-2015 Certificate

ENGRESS SERVICES PUNE

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ACKNOWLEDGEMENT

We Engress Services, Pune, express our sincere gratitude to the management of Shrikrishnadas Jajoo Grameen Seva Mahavidyalaya Pipri, Wardha for awarding us the assignment of Green Audit of their Campus for the Year: 2022-23.

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

EXECUTIVE SUMMARY

1. Shrikrishnadas Jajoo Grameen Seva Mahavidyalaya Pipri, Wardha consumes Energy in the form of **Electrical Energy;** used for various Electrical Equipment, office & other facilities.

2. Present Energy Consumption & CO_2 Emission:

No	Particulars	Value	Unit
1	Annual Energy Consumption	**12490**	kWh
2	Annual CO_2 Emissions	**11.24**	MT

3. Renewable Energy & Energy Efficiency Projects:

- Usage of Energy Efficient LED Fittings
- Maximum usage of Day Lighting
- Installation of 2000 LPD Solar Thermal Water Heating System

4. Waste Management:

4.1 Segregation of Waste at Source:

The Waste is segregated at source in separate Waste Bins & is handed over for further action.

4.2 Organic Waste Management:

The College is in process of installation of Bio Gas Plant for conversion of Bio degradable Waste.

4.3 Bio Composting & Vermi Composting Pit:

The Institute has a Bio Composting & Vermi Composting Pit, to convert the Leafy Waste into Bio Compost.

4.4 Liquid Waste Management:

The Institute has installed Septic Tank and it cleans periodically.

4.5 Sanitary Waste Management:

The Institute has installed Sanitary Waste Incinerator, for disposal of the Sanitary Waste.

4.6 E Waste Management:

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

5. Rain Water Harvesting:

The Institute has installed the Rainwater harvesting project; the rain water falling on the terrace is collected through pipes and is used for recharging the land water table and gardening purpose.

6. Green & Sustainable Practices:

- Maintenance of good Internal Road
- Maintenance of Internal Garden: 300 plus Trees in the campus.
- Provision of Ramp for Divyangajan
- Creation of awareness on Resource Conservation Display of Posters

8. Assumption:

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

9. Reference:

- For CO_2 Emissions: www.tatapower.com

ABBREVIATIONS

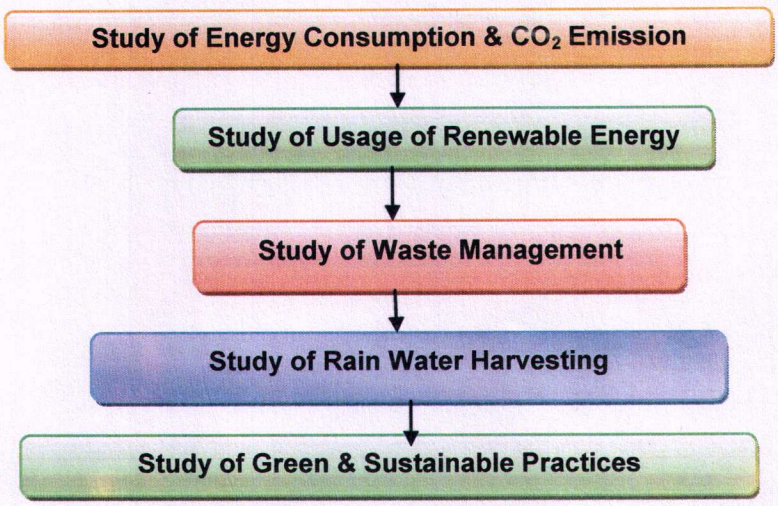
BEE	Bureau of Energy Efficiency
kWh	Kilo Watt Hour
LPD	Liters Per Day
Kg	Kilo Gram
MT	Metric Ton
CO_2	Carbon Di Oxide
Qty	Quantity

CHAPTER-I
INTRODUCTION

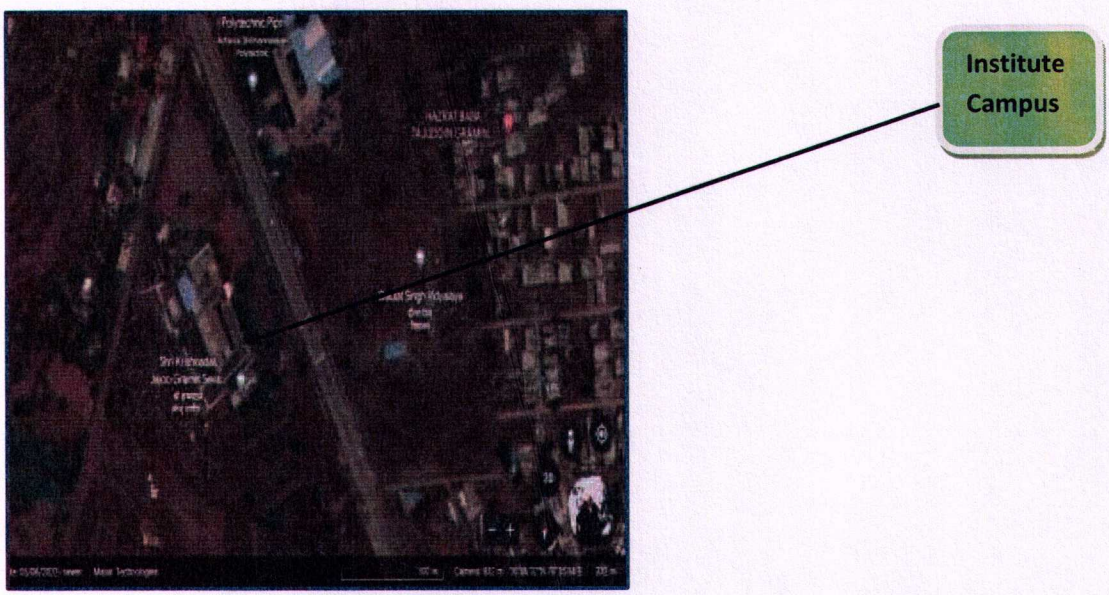
1.1 Introduction:

A Green Audit is conducted at Shrikrishnadas Jajoo Grameen Seva Mahavidyalaya Pipri, Wardha.

1.2 Audit Procedural Steps:



1.3 Institute Location Image:



CHAPTER-II
STUDY OF ENERGY CONSUMPTION & CO_2 EMISSION

A Carbon Foot print is defined as the Total Greenhouse Gas emissions, emitted due to various activities. In this we compute the emissions of Carbon-Di-Oxide, by usage of the various forms of Energy used by the Institute for performing its day to day activities

The Institute uses Electrical Energy for various Electrical gadgets.

Basis for computation of CO_2 Emissions:

The basis of Calculation for CO_2 emissions due to Electrical Energy is as under

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

Based on the above Data we compute the CO_2 emissions which are being released in to the atmosphere by the Institute due to its Day to Day operations

Table No 1: Month wise CO_2 Emissions:

No	Month	Energy Consumption	CO_2 Emissions, MT
1	Apr-22	1141	1.026
2	May-22	1303	1.172
3	Jun-22	1071	0.963
4	Jul-22	1071	0.963
5	Aug-22	1071	0.963
6	Sep-22	2337	2.103
7	Oct-22	1082	0.973
8	Nov-22	750	0.675
9	Dec-22	995	0.895
10	Jan-23	565	0.508
11	Feb-23	478	0.430
12	Mar-23	626	0.563
13	Total	12490	11.24
14	Maximum	2337	2.103
15	Minimum	478	0.430
16	Average	1040.83	0.936

Chart No 1: Month wise CO_2 Emissions:

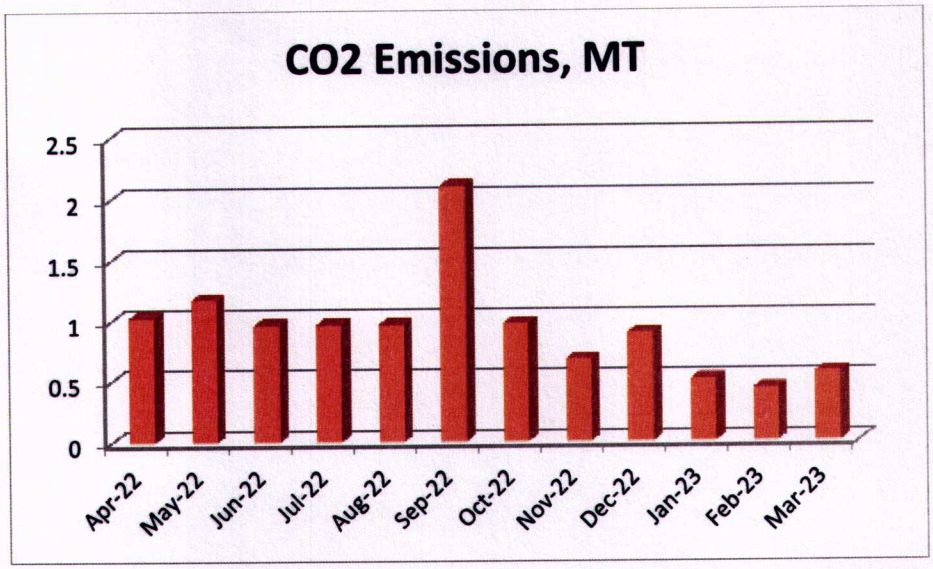


Table No 2: Important Parameters:

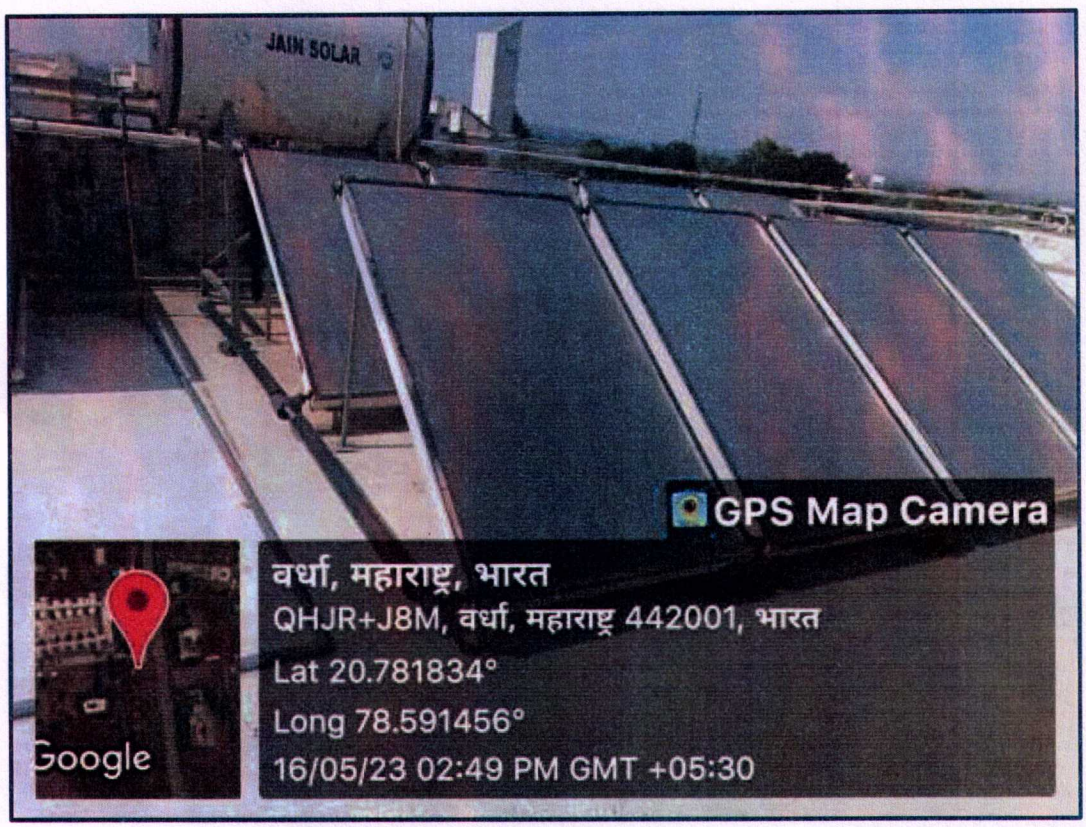
No	Parameter/ Value	Energy Consumption (kWh)	CO2 Emissions MT
1	Total	12490	11.24
2	Maximum	2337	2.103
3	Minimum	478	0.430
4	Average	1040.83	0.936

CHAPTER III
STUDY OF USAGE OF RENEWABLE ENERGY

The Institute has installed Solar Thermal Water Heating System at the Hostel Blocks.
It is recommended to install Roof Top Solar PV Plant.
The details of Solar Thermal Water Heating Capacities are:

- On Girls Hostel Block:**2000 LPD**

Photograph of Roof Top Solar PV Plant:



CHAPTER IV
STUDY OF WASTE MANAGEMENT

4.1 Segregation of Waste at Source:

The Waste is segregated at source in separate Waste Bins & is handed over for further action.

Photograph of Waste Collection Bin:

4.2 Organic Waste Management:

The College has installed of Bio Gas Plant for conversion of Bio degradable Waste from Hostel Kitchen.

Photograph of Tank of Bio Gas Plant:

4.3 Bio Composting & Vermi Composting Pit:

The Institute has a Bio Composting & Vermi Composting Pit, to convert the Leafy Waste into Bio Compost.

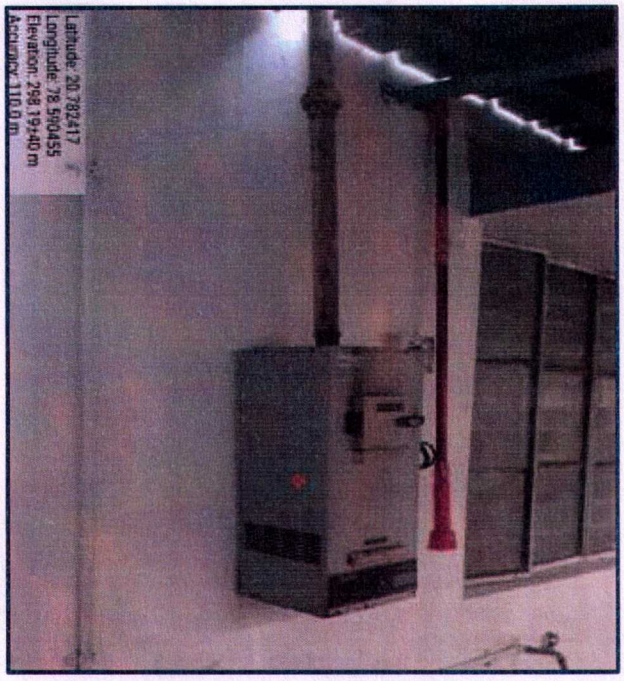
Photograph of Bio Composting & Vermi Composting Pit:

4.4 Liquid Waste Management:

The Institute has installed Septic Tanks it cleans periodically.

4.5 Sanitary Waste Management:

The Institute has installed Sanitary Waste Incinerator for disposal of the Sanitary Waste.



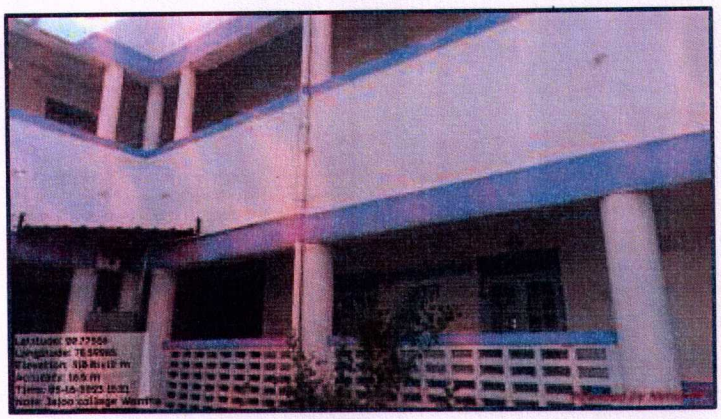
4.6 E Waste Management:

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

CHAPTER V
STUDY OF RAIN WATER HARVESTING

The Institute has implemented the Rain Water Harvesting Project. The Institute has installed Pipes from the terrace and the Rain water falling on the terrace is gathered and is used for recharging the land water table and gardening purpose.

Photograph of Rain Water Harvesting Pipes & Recharge Section:

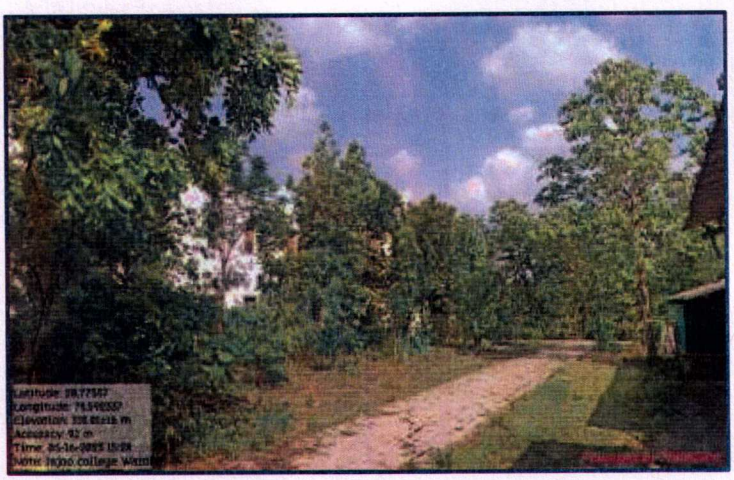


CHAPTER VI
STUDY OF GREEN & SUSTAINABLE PRACTICES

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:

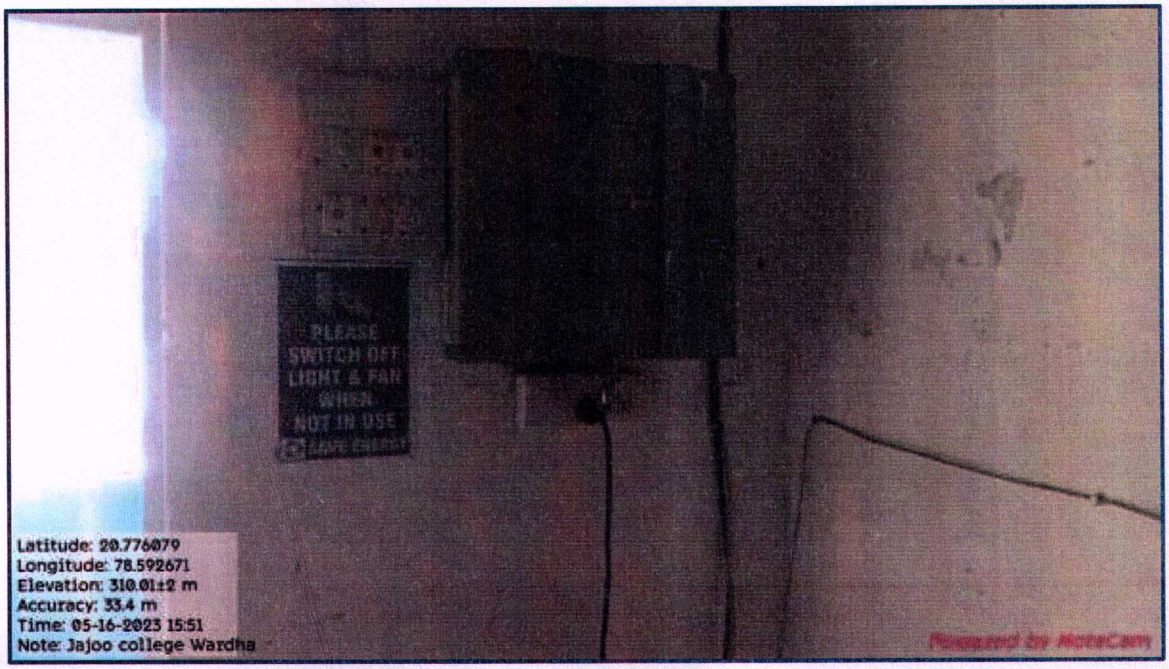
For easy movement of Divyangajan, the Institute has made provision of Ramp.

Photograph of Ramp:

6.3 Creation of Awareness about Energy Conservation:

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

Photograph of Poster on Energy Conservation:



6.4 Tree Plantation:

Tree plantation event was organized in the campus under NSS Unit.

Photograph of Tree Plantation in the Campus:

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

No	Name of Trees	Number of Trees
1	Saraca asoca (Ashoka)	16
2	AzadirachtaIndica (Neem)	52
3	Thuja occidentalis	22
4	Millettia pinnata (Karanj)	10
5	Beteamonosperma (Palas)	32
6	Cascabela thevetia (Kaner)	73
7	Cassia fistula (Bahava)	8
8	Sesamum indicum (Sesame)	20
9	Vachellia leucophloea (Hiwar)	53
10	Tecoma Stans (Tecoma)	72
11	TectonaGrandis (Sagwan)	350
12	Bombax ceiba	1
13	Bauhinia racemosa	2
14	Aegle marmelos	3
15	Ficus religiosa (Pipal)	2
16	Ziziphus mauritiana (Ber)	350
17	Ficus racemosa	3
18	Annona reticulata (Custard apple)	10
19	Phyllanthus Emblica (Aamla)	1
20	Plumeria	5
21	Ficus benghakensis (banyan)	3
22	Rosa rubiginosa (Gulab)	8
23	Leucaena leucocephala (subabul)	24
24	Lantena	151
25	Bougainvillea glabra (Bougainvillea)	50
26	Albizia lebbeck (shrish)	12
27	Duranta erecta	200
28	Aloevera	1
29	Agave Americana	25
30	Carica papaya	1
31	Mallotus philippensis (rohini)	20
32	Murraya koenigii (Curry leaves)	3
33	Citrus limon (Lemon)	1
34	Magnifera Indica (Mango)	5
35	Cosmos	52
36	Ixora	32
37	Alstonia Scholaris	2
38	Jasminum sambac	1
39	Syzygium cumini (Jambul)	1
40	Tinospora cordifolia	3
41	Cactus	4