

**ENVIRONMENTAL AUDIT REPORT**  
of  
**Shiksha Mandal's**  
**BAJAJ INSTITUTE OF ENGINEERING,**  
**PIPRI WARDHA**



**Year: 2022-23**

Prepared by:

**ENGRESS SERVICES**

Yashashree, 26, Nirmal Bag Society  
Near Mukhtangan English School, Parvati, Pune 411009  
Phone: 09890444795 Email: [engress123@gmail.com](mailto:engress123@gmail.com)



## ENGRESS SERVICES

Yashashree, 26, Nirmal Bag Society, Near Mukhtangan English School,  
Parvati, Pune 411 009 Tel: 09890444795 Email: [engress123@gmail.com](mailto: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/BIT/22-23/03

Date: 20/05/2023

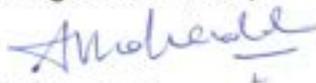
This is to certify that we have conducted Environmental Audit at Bajaj Institute of Technology, Pipri Wardha, in the Year 2022-23.

The Institute has adopted following Energy Efficient & Green Practices:

- Usage of Energy Efficient LED Light Fitting
- Installation of Solar Thermal Water Heating System
- Segregation of Waste at Source
- Installation of Sanitary Waste Incinerator
- Installation of Bio Composting Pit
- Installation of Sewage Treatment Plant
- Installation of Rain Water Management Project
- Maintenance of good Internal Road
- Tree Plantation in the campus
- Provision of Ramp for Divyangajan
- Creation of awareness by display of Posters on Resource Conservation

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



### REGISTRATION CERTIFICATES



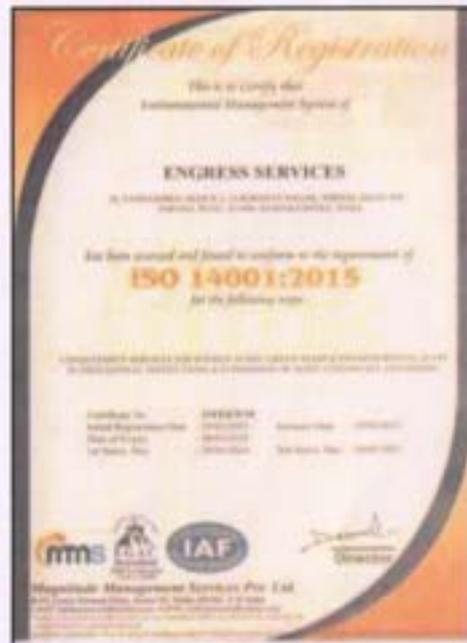
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## **ACKNOWLEDGEMENT**

We Engress Services, Pune, express our sincere gratitude to the management of Bajaj Institute of Technology, Pipri Wardha for awarding us the assignment of Environmental 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. Bajaj Institute of Technology, Pipri Wardha consumes Energy in the form of Electrical Energy used for various Electrical Equipment, office & other facilities.

2. Pollution due to Institute Activities:

- Air pollution: Mainly CO<sub>2</sub> on account of Electricity Consumption
- Solid Waste: Bio degradable Garden Waste
- Liquid Waste: Human liquid waste

3. Present Energy Consumption & CO<sub>2</sub> Emission:

| No | Particulars                      | Value  | Unit |
|----|----------------------------------|--------|------|
| 1  | Annual Energy Consumption        | 129622 | kWh  |
| 2  | Annual CO <sub>2</sub> Emissions | 116.66 | MT   |

4. Various initiatives taken for Environmental Conservation:

- Usage of Energy Efficient LED fittings
- Installation of Solar Thermal Water Heating System
- Installation of Sewage Treatment Plant

5. Indoor Air Quality Parameters:

| No | Parameter/Value | AQI | PM-2.5 | PM-10 |
|----|-----------------|-----|--------|-------|
| 1  | Maximum         | 50  | 31     | 42    |
| 2  | Minimum         | 33  | 20     | 23    |

6. Indoor Comfort Conditions:

| No | Parameter/Value | Temperature, °C | Humidity, % | Lux Level | Noise Level, dB |
|----|-----------------|-----------------|-------------|-----------|-----------------|
| 1  | Maximum         | 30.1            | 46          | 310       | 43              |
| 2  | Minimum         | 26.4            | 42          | 210       | 39              |

7. Waste Management:

7.1 Segregation of Waste at Source:

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

7.2 Bio Composting Pit:

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

### 7.3 Liquid Waste Management:

The Institute has installed Sewage Treatment Plant. The treated Water is used for gardening purpose.

### 7.4 Sanitary Waste Management:

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

### 7.5 E Waste Management:

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

### 8. Rain Water Management:

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

### 9. Environment Friendly Initiatives:

- Maintenance of Internal Garden: About 3000 Plus Trees in the campus.
- Display of Posters on Resource Conservation

### 10. Assumption:

1. 1 kWh of Electrical Energy releases 0.9 Kg of CO<sub>2</sub> into atmosphere

### 11. References:

- For CO<sub>2</sub> Emissions: [www.tatapower.com](http://www.tatapower.com)
- For Various Indoor Air Parameters: [www.ishrae.com](http://www.ishrae.com)
- For AQI & Water Quality Standards: [www.cpcb.com](http://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

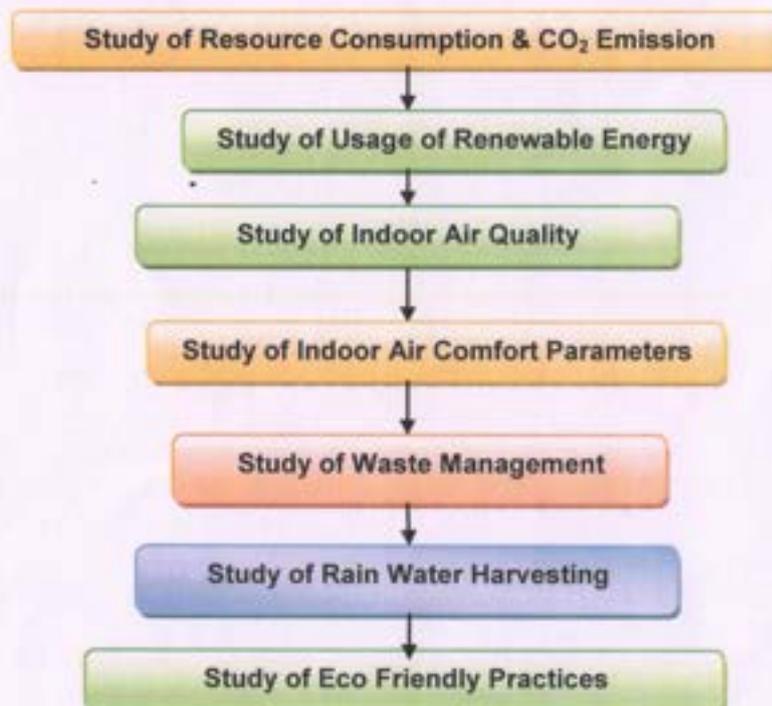
#### 1.2. Environmental Audit: Definition:

An audit which aims at verification and validation to ensure that various environmental laws are 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"*

**1.3. 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

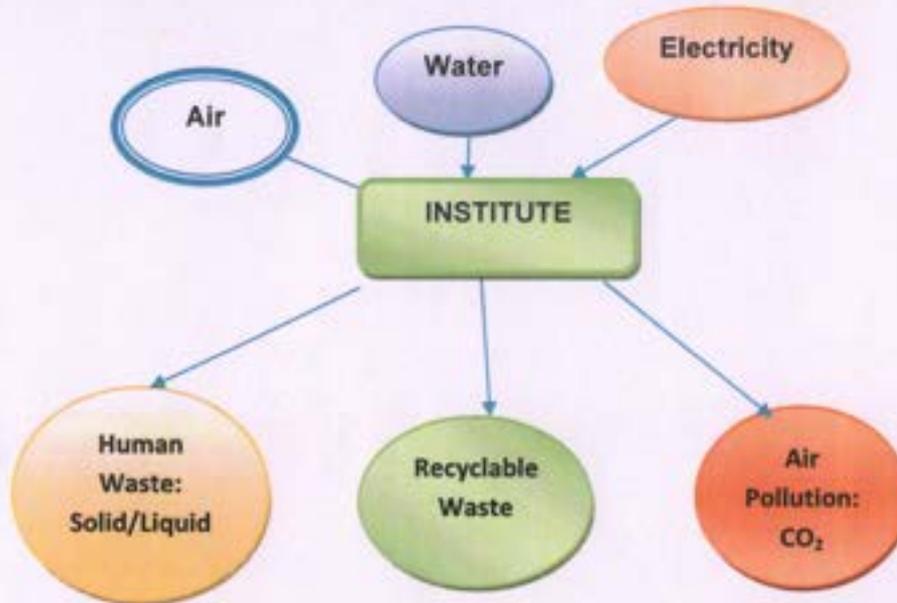
## CHAPTER-II STUDY OF RESOURCE CONSUMPTION & CO<sub>2</sub> EMISSION

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 CO<sub>2</sub> on account of consumption of Electrical Energy. The basis of Calculation for CO<sub>2</sub> emissions due to Electrical Energy is as under.

- 1 kWh of Electrical Energy releases 0.9 Kg of CO<sub>2</sub> into atmosphere

**Table No 5: Study of Consumption of Electrical Energy & CO<sub>2</sub> Emissions: 22-23:**

| No | Month  | Energy Consumed, kWh | CO <sub>2</sub> Emissions, MT |
|----|--------|----------------------|-------------------------------|
| 1  | Apr-22 | 9039                 | 8.13                          |
| 2  | May-22 | 6626                 | 5.96                          |
| 3  | Jun-22 | 6940                 | 6.24                          |
| 4  | Jul-22 | 7371                 | 6.63                          |
| 5  | Aug-22 | 7192                 | 6.47                          |
| 6  | Sep-22 | 7576                 | 6.81                          |
| 7  | Oct-22 | 8299                 | 7.46                          |
| 8  | Nov-22 | 8944                 | 8.04                          |

|    |         |         |        |
|----|---------|---------|--------|
| 9  | Dec-22  | 7786    | 7.00   |
| 10 | Jan-23  | 18092   | 16.28  |
| 11 | Feb-23  | 23344   | 21.00  |
| 12 | Mar-23  | 18413   | 16.57  |
| 13 | Total   | 129622  | 116.66 |
| 14 | Maximum | 23344   | 21.00  |
| 15 | Minimum | 6626    | 5.96   |
| 16 | Average | 10801.8 | 9.721  |

Chart No 2: Month wise CO<sub>2</sub> Emissions:

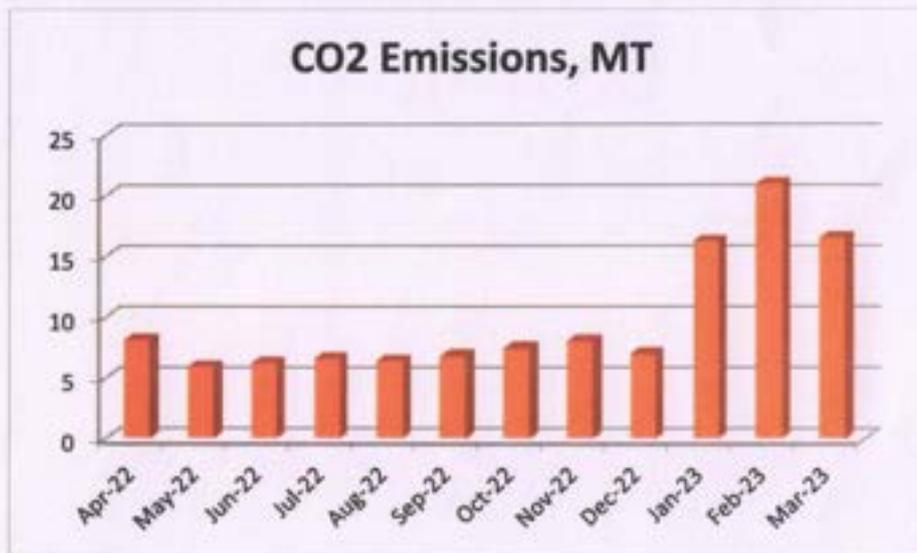


Table No 6: Important Parameters:

| No | Parameter/ Value | Net Energy Consumption (kWh) | CO2 Emissions MT |
|----|------------------|------------------------------|------------------|
| 1  | Total            | 129622                       | 116.66           |
| 2  | Maximum          | 23344                        | 21.00            |
| 3  | Minimum          | 6626                         | 5.96             |
| 4  | Average          | 10801.8                      | 9.721            |

### **CHAPTER III**

## **STUDY OF USAGE OF RENEWABLE ENERGY**

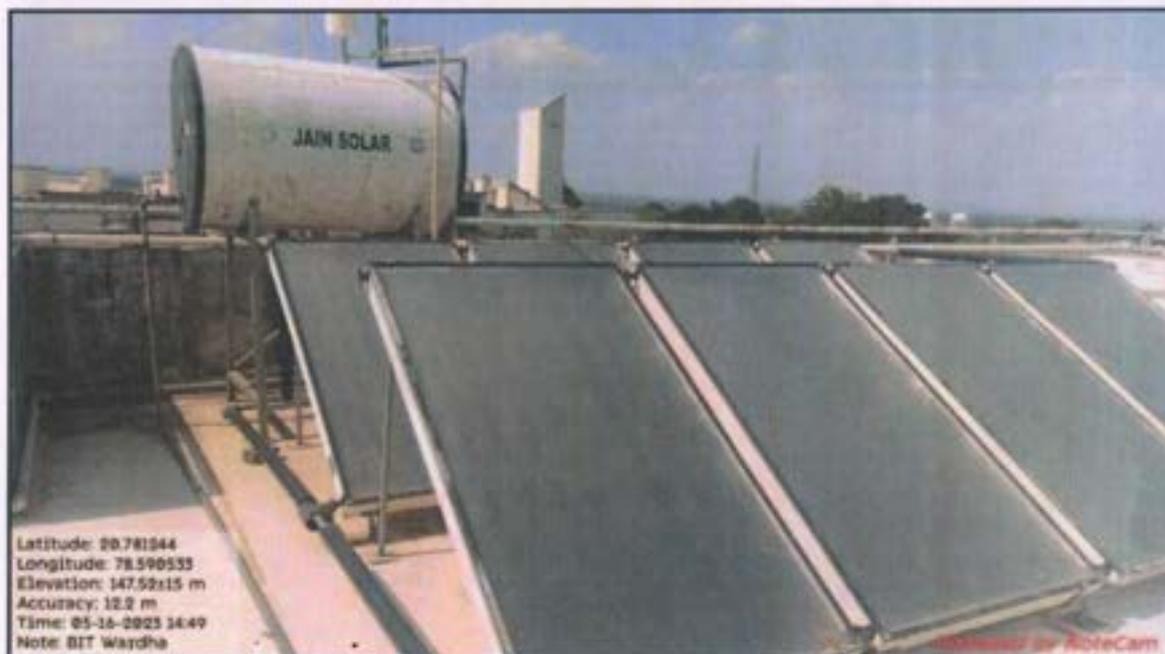
The Institute has installed Solar Thermal Water Heating System at the Hostel Blocks as well as Staff Quarters.

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 Solar Thermal Water Heating System:**



## 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. 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 micron
3. PM-10- Particulate Matter of Size 10 micron

**Table No 7: Indoor Air Quality Parameters:**

| No                  | Location               | AQI | PM-2.5 | PM-10 |
|---------------------|------------------------|-----|--------|-------|
| <b>Ground Floor</b> |                        |     |        |       |
| 1                   | Class Room (GFB-05)    | 46  | 30     | 32    |
| 2                   | Tutorial Room (GFB-07) | 46  | 27     | 42    |
| 3                   | Faculty Room           | 50  | 30     | 42    |
| 4                   | RAC Lab                | 46  | 28     | 42    |
| 5                   | Fluid Power Lab        | 35  | 21     | 26    |
| 6                   | Admin Office           | 46  | 27     | 26    |
| 7                   | Seminar Hall           | 47  | 27     | 32    |
| <b>First Floor</b>  |                        |     |        |       |
| 8                   | Class Room (FFB-01)    | 45  | 23     | 37    |
| 9                   | Computer Centre        | 45  | 23     | 37    |
| 10                  | Robotics & Mech.Lab    | 50  | 31     | 42    |
| 11                  | Class Room (FFB-05)    | 35  | 21     | 27    |
| 12                  | Applied Mechanics Lab  | 36  | 22     | 26    |

|                     |                       |    |    |    |
|---------------------|-----------------------|----|----|----|
| 13                  | Principal Office      | 35 | 21 | 25 |
| 14                  | Drawing Hall          | 35 | 22 | 23 |
| <b>Second Floor</b> |                       |    |    |    |
| 15                  | Class Room (SFB-01)   | 33 | 20 | 30 |
| 16                  | Class Room (SFC-09)   | 46 | 28 | 39 |
| 17                  | Computer Centre       | 48 | 27 | 34 |
| 18                  | Language Lab          | 33 | 20 | 28 |
| 19                  | TOM Lab               | 41 | 24 | 31 |
| 20                  | Class Room (SFB-09)   | 40 | 25 | 31 |
| 21                  | Seminar Hall (SFB-12) | 41 | 27 | 33 |
| 22                  | Class Room (SFB-11)   | 40 | 28 | 32 |
| 23                  | Maximum               | 50 | 31 | 42 |
| 24                  | Minimum               | 33 | 20 | 23 |

## 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 8: Study of Indoor Comfort Condition Parameters:**

| No                  | Location               | Temperature, °C | Humidity, % | Lux Level | Noise Level, dB |
|---------------------|------------------------|-----------------|-------------|-----------|-----------------|
| <b>Ground Floor</b> |                        |                 |             |           |                 |
| 1                   | Class Room (GFB-05)    | 27              | 42          | 280       | 41              |
| 2                   | Tutorial Room (GFB-07) | 28              | 44          | 240       | 41.2            |
| 3                   | Faculty Room           | 27              | 44          | 210       | 41.3            |
| 4                   | RAC Lab                | 27              | 44          | 230       | 40              |
| 5                   | Fluid Power Lab        | 27              | 45          | 245       | 41              |
| 6                   | Admin Office           | 28.2            | 45          | 250       | 41              |
| 7                   | Seminar Hall           | 30.1            | 44          | 255       | 40              |
| <b>First Floor</b>  |                        |                 |             |           |                 |
| 8                   | Class Room (FFB-01)    | 28.1            | 44          | 244       | 43              |
| 9                   | Computer Centre        | 26.4            | 44          | 310       | 43              |
| 10                  | Robotics & Mech.Lab    | 27              | 45          | 305       | 39              |
| 11                  | Class Room (FFB-05)    | 27.2            | 46          | 289       | 42              |
| 12                  | Applied Mechanics Lab  | 27.6            | 46          | 250       | 43              |
| 13                  | Principal Office       | 26.4            | 43          | 270       | 39              |
| 14                  | Drawing Hall           | 27.5            | 44          | 285       | 41              |
| <b>Second Floor</b> |                        |                 |             |           |                 |
| 15                  | Class Room (SFB-01)    | 30.1            | 44          | 244       | 41              |
| 16                  | Class Room (SFC-09)    | 30.1            | 44.8        | 251       | 40              |
| 17                  | Computer Centre        | 29.1            | 44.8        | 244       | 41              |
| 18                  | Language Lab           | 28.4            | 44          | 240       | 41              |
| 19                  | TOM Lab                | 28              | 44          | 230       | 40              |
| 20                  | Class Room (SFB-09)    | 29.6            | 43.9        | 245       | 41              |
| 21                  | Seminar Hall (SFB-12)  | 30.1            | 43.5        | 250       | 40              |
| 22                  | Class Room (SFB-11)    | 30.1            | 44          | 250       | 40              |
| 23                  | Maximum                | 30.1            | 46          | 310       | 43              |
| 24                  | Minimum                | 26.4            | 42          | 210       | 39              |



## CHAPTER VI STUDY OF WASTE MANAGEMENT

### 6.1 Segregation of Waste at Source:

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

#### Photograph of Waste Collection Bins:

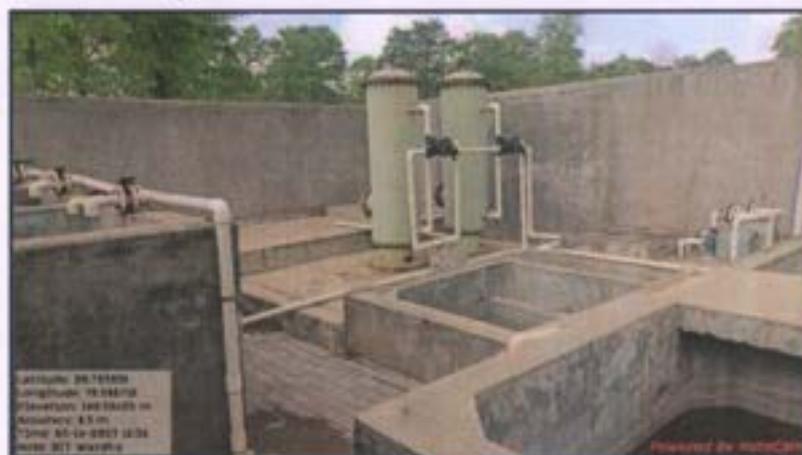


### 6.2 Bio Composting Pit:

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

### 6.3 Liquid Waste Management:

The Institute has installed Sewage Treatment Plant. The treated Water is used for gardening purpose.



**6.4 Sanitary Waste Management:**

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



**6.5 E Waste Management:**

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

## **CHAPTER-VII**

### **STUDY OF RAIN WATER MANAGEMENT**

The Institute has implemented the Rain Water Management 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 bore well and recharge land water table.

**Photograph of Rain Water Management Pipe Section:**



## CHAPTER-VIII STUDY OF ECO FRIENDLY INITIATIVES

### 8.1 Internal Tree Plantation:

The Institute has well maintained landscaped garden in the campus.

Photograph of Tree plantation:



### 8.2 Creation of Awareness about Energy Conservation:

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

Photograph of Poster on Energy Conservation:



**ANNEXURE-I:  
VARIOUS AIR QUALITY, WATER QUALITY, NOISE & INDOOR  
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 Water Quality Standards:**

| No | Designated Best Use   | Criteria   |
|----|---|--|
| 1  | Drinking Water Source without conventional Treatment but after disinfection | pH between 6.5 to 8.5<br>Dissolved Oxygen 6 mg/l or more |
| 2  | Drinking water source after conventional treatment and disinfection         | pH between 6 to 9<br>Dissolved Oxygen 4 mg/l or more     |
| 3  | Outdoor Bathing (Organized)   | pH between 6.5 to 8.5<br>Dissolved Oxygen 5 mg/l or more |
| 4  | Controlled Waste Disposal   | pH between 6 to 8.5                                      |

### 3. 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%  |



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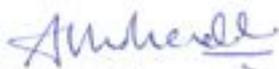
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- Installation Sanitary Waste Incinerator
- Installation of Rain Water Management Project
- Maintenance of good Internal Road
- Tree Plantation in the campus
- Provision of Ramp for Divyangajan
- Creation of awareness by display of Posters on Resource Conservation

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

For Engress Services,



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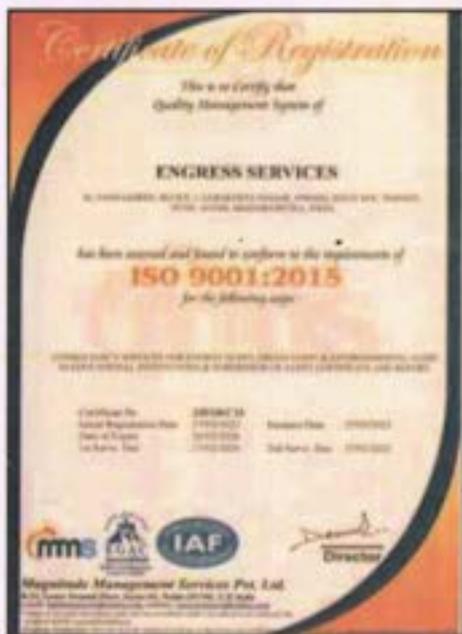
**REGISTRATION CERTIFICATES**



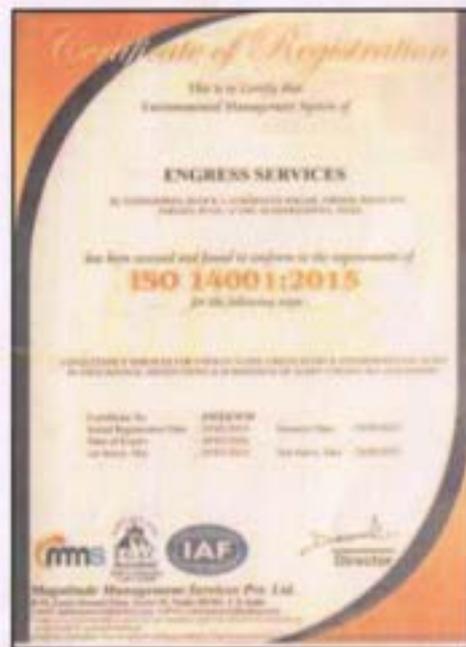
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| 5      | Study of Rain Water Management                         | 15      |
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| 1  | Annual Energy Consumption        | 129622 | kWh  |
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3. Renewable Energy & Energy Efficiency Projects:

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

4. Waste Management:

5.1 Segregation of Waste at Source:

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**7. Green & Sustainable Practices:**

- Maintenance of good Internal Road
- Maintenance of Internal Garden: 3000 plus Trees in the campus.
- Provision of Ramp for Divyangajan
- Creation of awareness on Resource Conservation Display of Posters

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- For CO<sub>2</sub> Emissions: [www.tatapower.com](http://www.tatapower.com)

## ABBREVIATIONS

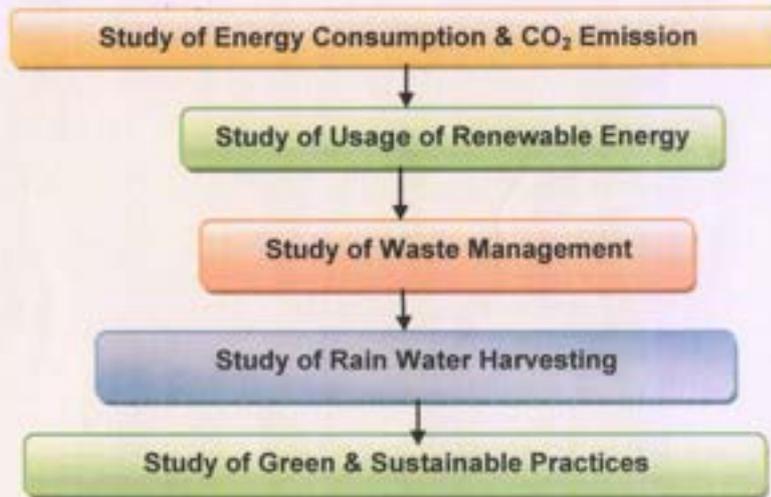
|                 |                             |
|-----------------|-----------------------------|
| BEE             | Bureau of Energy Efficiency |
| kWh             | Kilo Watt Hour              |
| LPD             | Liters Per Day              |
| Kg              | Kilo Gram                   |
| MT              | Metric Ton                  |
| CO <sub>2</sub> | Carbon Di Oxide             |
| Qty             | Quantity                    |

## CHAPTER-I INTRODUCTION

### 1.1 Introduction:

A Green Audit is conducted at Bajaj Institute of Technology, Pipri Wardha.

### 1.2 Audit Procedural Steps:



### 1.3 Institute Location Image:



Institute  
Campus

## CHAPTER-II

### STUDY OF ENERGY CONSUMPTION & CO<sub>2</sub> 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<sub>2</sub> Emissions:

The basis of Calculation for CO<sub>2</sub> emissions due to Electrical Energy is as under

- 1 kWh of Electrical Energy releases 0.9 Kg of CO<sub>2</sub> into atmosphere

Based on the above Data we compute the CO<sub>2</sub> 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<sub>2</sub> Emissions:

| No | Month   | Energy Consumed, kWh | CO <sub>2</sub> Emissions, MT |
|----|---------|----------------------|-------------------------------|
| 1  | Apr-22  | 9039                 | 8.13                          |
| 2  | May-22  | 6626                 | 5.96                          |
| 3  | Jun-22  | 6940                 | 6.24                          |
| 4  | Jul-22  | 7371                 | 6.63                          |
| 5  | Aug-22  | 7192                 | 6.47                          |
| 6  | Sep-22  | 7576                 | 6.81                          |
| 7  | Oct-22  | 8299                 | 7.46                          |
| 8  | Nov-22  | 8944                 | 8.04                          |
| 9  | Dec-22  | 7786                 | 7.00                          |
| 10 | Jan-23  | 18092                | 16.28                         |
| 11 | Feb-23  | 23344                | 21.00                         |
| 12 | Mar-23  | 18413                | 16.57                         |
| 13 | Total   | 129622               | 116.66                        |
| 14 | Maximum | 23344                | 21.00                         |
| 15 | Minimum | 6626                 | 5.96                          |
| 16 | Average | 10801.8              | 9.721                         |



Chart No 1: Month wise CO<sub>2</sub> Emissions:

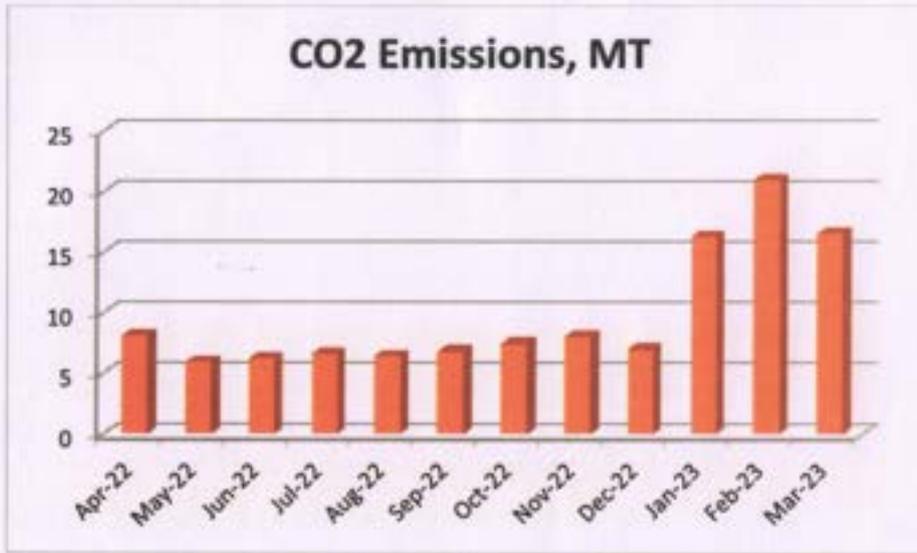


Table No 2: Important Parameters:

| No | Parameter/ Value | Energy Generated (kWh) | Energy Purchased (kWh) |
|----|------------------|------------------------|------------------------|
| 1  | Total            | 129622                 | 116.66                 |
| 2  | Maximum          | 23344                  | 21.00                  |
| 3  | Minimum          | 6626                   | 5.96                   |
| 4  | Average          | 10801.8                | 9.721                  |

### **CHAPTER III**

## **STUDY OF USAGE OF RENEWABLE ENERGY**

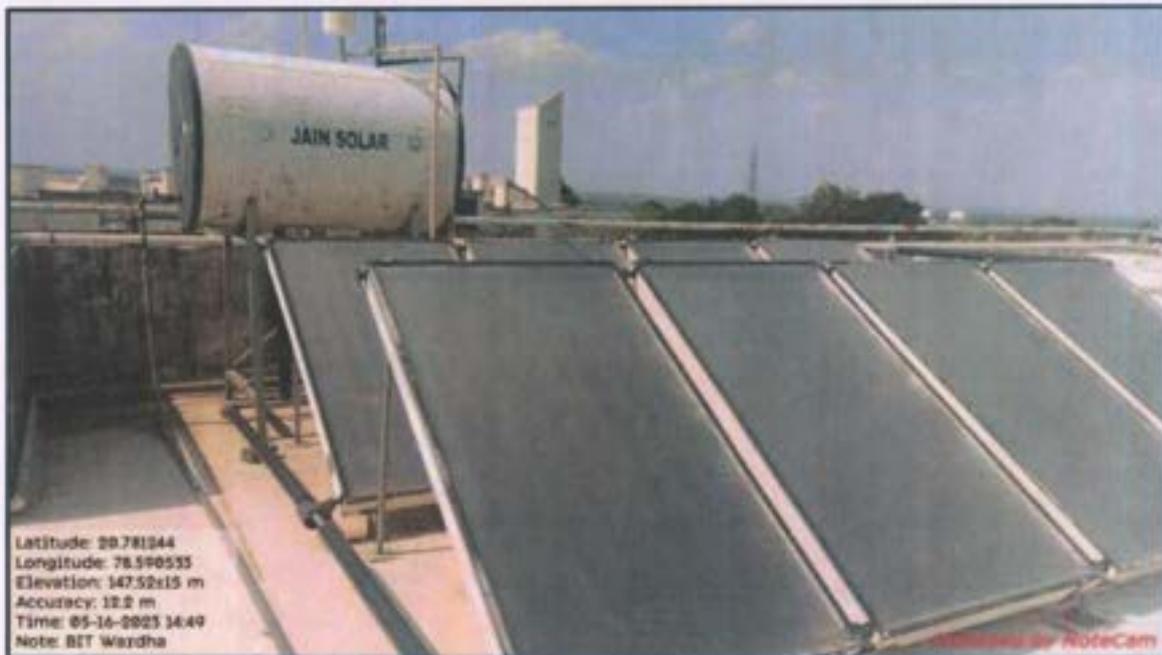
The Institute has installed Solar Thermal Water Heating System at the Hostel Blocks as well as Staff Quarters.

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 Solar Thermal Water Heating System:**



## CHAPTER IV STUDY OF WASTE MANAGEMENT

### 4.1 Segregation of Waste at Source:

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

#### Photograph of Waste Collection Bins:

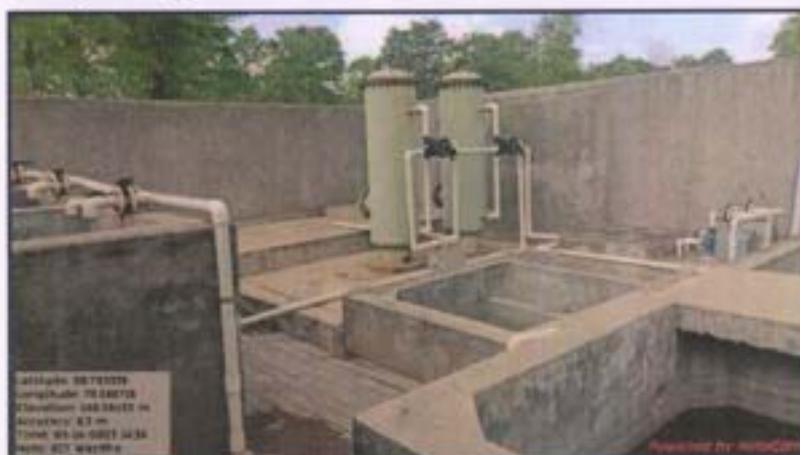


### 4.2 Bio Composting Pit:

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

### 4.3 Liquid Waste Management:

The Institute has installed Sewage Treatment Plant. The treated Water is used for gardening purpose.



**4.4 Sanitary Waste Management:**

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



**4.5 E Waste Management:**

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

## **CHAPTER V**

### **STUDY OF RAIN WATER MANAGEMENT**

The Institute has implemented the Rain Water Management 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 bore well and recharge land water table.

**Photograph of Rain Water Management Pipe 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.

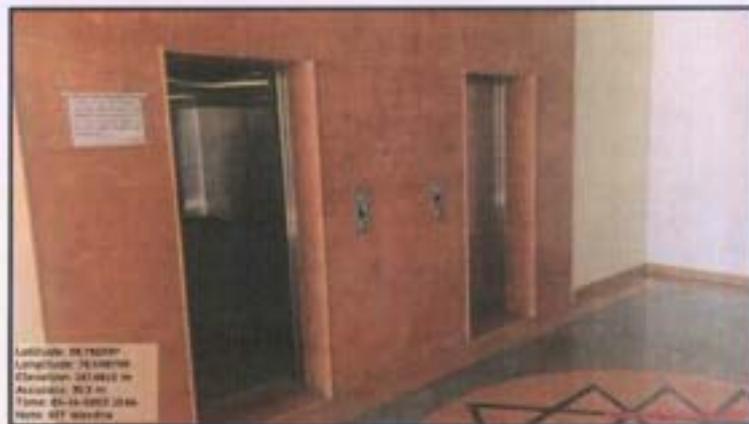
Photograph of Internal Road & Tree plantation:



### 6.2 Provision of Ramp and Lift for Divyangajan:

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

Photograph of Ramp:



### 6.3 Creation of Awareness about Energy Conservation:

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

Photograph of Poster on Energy Conservation awareness:



#### 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:**

Presently the College Campus has more than 3000 trees some are listed below::

| <b>Common Name of plant</b> | <b>Botanical Name of Plant</b> |
|-----------------------------|--------------------------------|
| Cycas                       | Cycas revoluta                 |
| Coconut                     | Cocos nucifera (L.)            |
| Areca Palm                  | Dyopsis lutescens              |
| Mango                       | Mangifera indica               |
| Custard apple               | Annona squamosa L.             |
| Teak                        | Tectona grandis                |
| Chafa                       | Plumeria alba                  |
| Neem                        | Azadirachta indica             |
| Ficus                       | Ficus benghalensis             |
| Saptaparni                  | Alstonia scholaris             |
| Cassia                      | Cassia fistula                 |
| Gulmohar                    | Delonix regia                  |
| Kachnar                     | Bauhinia variegata             |
| Karanj                      | Pongamia pinnata               |
| Jatropha                    | Jatropha integerrima           |
| Tecoma                      | Tecoma stans                   |
| Ornamental Fucus            | Ficus benghalensis             |
| Bougainvillia               | Bauhinia variegata             |
| Ficus (Umbar)               | Ficus racemosa                 |
| Canna                       | Canna indica                   |
| Nerium                      | Nerium indicum                 |
| Ashoka                      | Saraca asoca                   |
| Agave                       | Agave angustifolia             |
| Sadaphuli                   | Catharanthus roseus            |