



# **GREEN AUDIT REPORT 2023- 24**

**OF**

**Mittal Institute of Education, Bhopal**

**Navibagh, Near BMHRC  
Bhopal, INDIA, PIN-462038**



**CONDUCTED BY: EXTERNAL GREEN AUDIT TEAM**

## **Green Audit Report: 2023-24**

**To,**

**The Principal**

**Mittal Institute of Education (MIE)**

**District: Bhopal (M.P)**

**Subject: Green Audit Report 2023-24**

**Respected Sir,**

We appreciate the initiative taken by the college for conducting Green Audit for the AY 2023-24. We are thankful to the Management, Principal, Internal Quality Assurance Cell and all the staff members of the HEI to provide information related to the Green Audit of the college.

The report is based on the analysis and observations of the committee comprising of two members on the basis of following aspects:

1. Information provided by the institution (Green Initiatives)
2. Interaction with the members of the core committee constituted by the HEI.
3. Based on the recommendations given by the audit team during the year 2022-23.

We are also thankful to the different stakeholders of the HEI without whom it was not possible to run the institution.

We are hopeful that the suggestions given by the committee will be taken in consideration and proved to be helpful in future planning and overall growth of the institution.

Warm Regards



Prof. Pranay Kumar  
Convenor – Green Audit Committee  
(For S J Consultants)

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*Look deep into nature, and then you will understand everything better*

- Albert Einstein



# 1 ACKNOWLEDGEMENT

The Green Audit team thanks the Management and the Principal of Mittal Institute of Education, Bhopal for entrusting us with the green audit of our campus. We whole heartedly thank the teaching, non-teaching staff and students for their timely support rendered to the green audit team at different stages of the process that helped us to complete the audit in time. We also thank Heads of various departments and the teacher in charge from each department for sharing documents and information in time. The support from different clubs and forums was adequate and timely. We thank the teacher and student coordinators of different clubs. The support from the office staff during the course of the audit around the campus for various information and documents is also highly appreciated.



*Sandeep Kumar*

REGIONAL DIRECTOR  
CENTRAL POLLUTION CONTROL BOARD  
REGIONAL DIRECTORATE (SOUTH)  
MIN. OF ENV. FORESTS & CC. GOVT. OF INDIA  
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## **DISCLAIMER**

Green Audit Team has prepared this report for Mittal Institute of Education institute based on the input data submitted by the representatives/employees/stake holders of the institute complemented with the best judgment capacity of the expert team.

While all sensible care has been taken in its preparation, details contained in this report have been compiled in good faith based on information gathered.

It is further informed that the conclusions are arrived following best estimates and no representation, warranty or undertaking, express or implied is made and no responsibility is accepted by Audit Team in this report or for any direct or consequential loss arising from any use of the information, statements or forecasts in the report.

The Green Audit Team and its members shall keep confidential all the information relating to the organization and shall not disclose any such information to any third party, except that in the public domain or required by law or relevant accreditation bodies.



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## 2 CONCEPT AND CONTEXT

The National Assessment and Accreditation Council, New Delhi (**NAAC**) has made it mandatory from the academic year 2022-23 onwards that all Higher Educational Institutions should submit an annual Green, Environment and Energy Audit Report. Green Audit is assigned to the Criteria 7 of **NAAC**, National Assessment and Accreditation Council which is a self-governing organization of India that declares the institutions as Grade A, Grade B or Grade C according to the scores assigned at the time of accreditation. Moreover, it is part of Corporate Social Responsibility of the Higher Educational Institutions to ensure that they contribute towards the reduction of global warming through Carbon Footprint reduction measures.

In view of the **NAAC** circular regarding Green auditing, the Institute management decided to conduct an external environment assessment study by a **GREEN AUDIT** Team. The green audit aims to examine environmental practices within and outside the college campus, which impact directly or indirectly on the atmosphere. Green audit can be defined as systematic identification, quantification, recording, reporting and analysis of components of college environment. It was initiated with the intention of reviewing the efforts within the institutions whose exercises can cause risk to the health of inhabitants and the environment.

Through the green audit, a direction as how to improve the structure of environment and inclusion of several factors that can protect the environment can be commenced. This audit focuses on the Green Campus, Waste Management, Water Management, Air Pollution, Energy Management & Carbon Footprint etc. being implemented by the institution.



## 3 INTRODUCTION

### 3.1 ABOUT GREEN AUDIT

Now a days, the educational institutions are becoming more thoughtful towards the environmental aspects and as a result new and innovative concepts are being introduced to make them sustainable and eco-friendly. To preserve the environment within the institution, a number of viewpoints are applied by the several educational institutes to solve their environmental problems such as promotion of the saving the energy, waste recycle, water consumption reduction, water harvesting and many more...

The activities carried out by the institution can also create adverse environmental impacts. **GREEN AUDIT** is defined as an official inspection of the effects a college has on the environment. **GREEN AUDIT** can be a useful tool for a university /college to determine how and where they are using the most of the energy or water or resources; the institution can then decide how to implement changes and make savings. It can also be used to determine the nature and volume of waste, which can be used for a recycling project or to improve waste minimization plan.



Green auditing and the application of mitigation measures is a win-win situation for all the institutions, the learners and the mother earth. It can also result in health awareness and can promote the environmental awareness, values and beliefs. It provides a better understanding to staff and students about the Green impact on institution. Green auditing also upholds financial savings through reduction of resource usage. It gives an opportunity to the students and teachers for the development of ownership of the personal and social responsibility. The audit process involves primary data collection, site walk through with the team of university /college including the assessment of policies, activities, documents and records.

NAAC has made it mandatory for all Higher Educational Institutions should to an annual Green Audit Report. Furthermore, it is a part of social responsibility of the Higher Educational Institutions to ensure that they contribute towards the reduction of global warming through carbon footprint reduction measures.

### **3.2 GENERAL STEPS INVOLVED IN GREEN AUDIT**

#### **PRE-AUDIT**

- ❖ Plan the AUDIT
- ❖ Select the AUDIT Team
- ❖ Schedule the AUDIT Facility
- ❖ Acquire the Background Information
- ❖ Visit the Site

#### **ON-SITE**

- ❖ Understand the Scope of AUDIT
- ❖ Analyze the Strengths and Weaknesses of the Internal Controls
- ❖ Conduct the AUDIT
- ❖ Evaluate the Observations of AUDIT Program
- ❖ Prepare a Report of Observations Side by Side



**POST AUDIT**

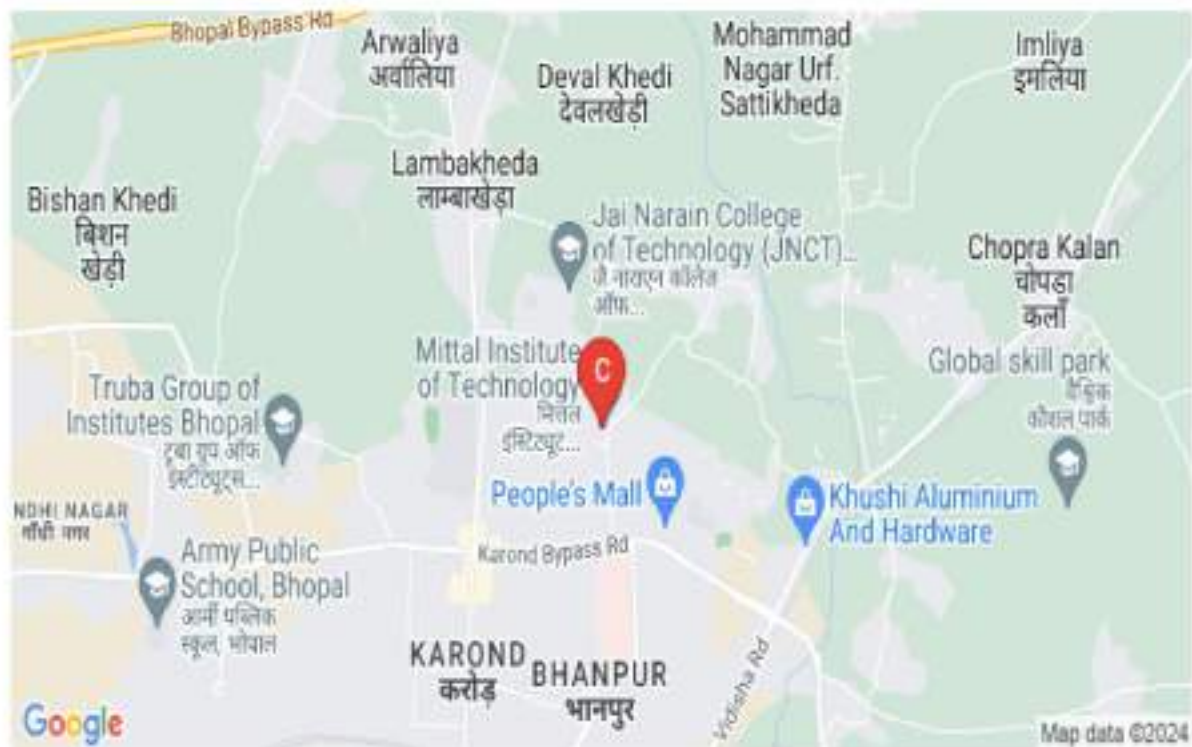
- ❖ Produce a Draft Report of the Data Collected
- ❖ Produce a Final Report of the Observations and the Inference with Accuracy
- ❖ Distribute the Final Report to the Management
- ❖ Prepare an Action Plan to Overcome the Flaws
- ❖ Keep a Watch on the Action Plan



## 4 MIE – A HISTORICAL ACCOUNT

### 4.1 BRIEF HISTORY

Mittal Institute of Education (popularly known as MIE) situated in the heart of City of Lakes BHOPAL was founded in the year 2009 at the initiative Hon'ble Prof. N. K Mittal, the then Chairman of Mittal Group of Institutions-in response to the need of the time for a broad-based, job-oriented curriculum with an initial focus on social service and entrepreneurship. The institution is supported and managed by the Mittal Group of Institutions Bhopal through the MIE Foundation Society chaired by the Mr. Surendra Mittal. The college started with Bachelor of Education (B.Ed) in the year 2009 which became our flagship programme.



Satellite 2D View of MIE

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## 4.2 GEOGRAPHY

Mittal Institute of Education is situated in Karond Area of Bhopal, it is Opposite to Bhopal Memorial Research Centre (BMHRC) Bhopal. The City of Lakes, Bhopal is district, division and also the Capital of Madhya Pradesh. The location coordinates for MIE are 23.31143, 77.43093. It is very near (~1 Km) to the BMHRC Bhopal.



Imagery ©2024 TerraMetrics, Map data ©2024 5km

### Satellite 3D View of MIE

The institute being in the centre of the city, is surrounded with all sort of facilities of transportation and conveyance.

## 4.3 GENERAL INFORMATION

Mittal Institute of Education (popularly known as MIE) was established in 2009 by the Mittal Group of Institutions Bhopal under the chairmanship of Prof. N k Mittal, in response to the need of the time for a broad, job-oriented curriculum with focus on social service and entrepreneurship. The institution imbibed the philosophy of radical approach in education by giving equal opportunities to all sections of society to strike a balance between rural and urban segments of India.

The college started with Bachelor of Education which became the institute's flagship programme. The college runs 12 UG and 1 PG

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programmes in its campus with infrastructure spread over 6 acres. At present, the institution has a student strength of nearly ~500. The institution offers few Certificate courses. The institution has MOUs/TOR/LOI with number of reputed institutions from various sectors such as education, industry, GOs and NGOs. The college is also an examination centre for many examinations.

MIE received C grade in the second cycle of NAAC accreditation in the year 2023 which is valid for a period of 5 years. The college is affiliated to Barkatullah University Bhopal.

The college follows a decentralized pattern in administration. Leadership is encouraged through formation of Clubs, Cells and Committees which are headed by faculty members. The college is guided by its various statutory bodies such as Governing Body, Academic Council and Board of Studies for the academic planning, syllabus preparation, modification or enhancement. The Departments have academic autonomy to plan, design and implement academic and co-academic programmes. The IQAC looks into the quality initiatives and develops parameters for effective planning and implementation. The institution fosters creativity and social responsibility through various initiatives like NSS and NCC. MIE is a partnering institution under the various sensitization programmes. The college has NCC, NSS and other cells and committees as per the requirement of University Grants Commission New Delhi for the holistic development of the students. Furthermore, the college has conducted various activities to promote education among the rural and tribal population.

## 4.4 VISION AND MISSION

### VISION

#### VISION:

To establish this institute as an academic institution with rich in scholarly environment

### MISSION

#### MISSION:

The college intends to:

- ❖ To inculcate moral values in the students.
- ❖ To provide and maintain high academic standards.
- ❖ To provide quality and innovative teaching.
- ❖ To provide skills to enhance the employability of the students.
- ❖ To edify and provide cultured teachers to the society, as they are the one who nurture young minds in schools.
- ❖ To make youth self-reliant and capable of showing directions to others.
- ❖ To improve communication skills.

**MOTTO:** Principle of grace in life through Learning.

## 4.5 PREVIOUS GREEN AUDIT

The previous green audit of Mittal Institute of Education was done during February, 2023 by the **Green Audit** Team. The report of the green audit was a comprehensive evaluation after thoroughly examining all the aspects related to concerned green activities of the campus. It identified the green activities in the campus involving, management, teachers and students. It also identified paucity in green practices of the campus and recommended a few practices to be implemented for it to become a greener campus. The following were the common recommendations and suggestions posted in the previous audit.

**WATER MANAGEMENT**

- ❖ Water Meter should be installed at every building of institute for monitoring of water consumption per capita.
- ❖ College should start drip irrigation to save water in campus.
- ❖ Flow rate of taps should be checked, it should not be more than 2.5 litres/minute.

**ENERGY MANAGEMENT**

- ❖ Installation of solar PV so that it can fulfil at least 70% of the electricity requirement.
- ❖ Environmental parameters shall be included in purchase policy to achieve a cradle to grave approach for sustainability.

**GENERAL AWARENESS**

- ❖ Increase plantation drives in nearby villages, local bodies, NGO and Municipal Corporation in order to balance the carbon emission and absorption.
- ❖ Arrange training programmes on environmental management system and nature conservation for schools and local people.
- ❖ Involve lower hierarchy staff in environmental awareness programmes and campaigns.

The college has reluctantly given their best to implement these recommendations within the stipulated time period. It also adopted other policies and practices that help them to achieve a green campus. The previous audit also suggested diversified recommendations such as energy management and general awareness. Most of the recommendations were dealt with by the campus authority.

**4.6 ROLE OF ORGANIZATION IN GREEN MANAGEMENT**

The part played by the college management in bringing the campus to a green 1 is



adorable. The following were the initiatives by the college authorities in green management:

- ❖ The management developed separate teams for implementing green policy in the campus.
- ❖ Regular evaluation system has been established with monitoring cells for green activities in the campus.
- ❖ The management has allotted budget for implementing green policies in the campus.
- ❖ The green monitoring cell evaluates developmental and functional activities and makes recommendations for improvement of the green aspects.
- ❖ These recommendations are implemented without delay and fail.
- ❖ Clubs that are related to green activities are encouraged to conduct programs in and around the campus.
- ❖ The management is keen on the social commitments and tries to reach out to the general public through teachers and students.
- ❖ The management is keen in conducting awareness programs based on its green policies.
- ❖ The support and part played by management is vital in the green campus related activities.

#### **4.7 SWACHH MIE**

Swachh MIE, "**Green** MIE, Clean MIE" is a noble initiative of the entire campus community to institutionalize cleanliness as an integral part of its functioning. The steps taken by the management under NSS to achieve this has been a continuous process, resulting in the maintenance of greenery and cleanliness in the campus at different levels. Mainly the college aim to achieve the following objectives by implementing Swachh Campus:

- ❖ To instil the awareness in youth towards the Swachhta movement in the country.

- ❖ To contribute positively to the environmental consistency.
- ❖ To campaign for good health, well-being, clean water, sanitation and clean energy.
- ❖ To monitor the environmental performance of the institute.
- ❖ To formulate and implement a green protocol for students, faculty and campus level.



## 5 AUDIT PARTICIPANTS AND PREPARATIONS

### 5.1 MANAGEMENT

The institutes management was very keen in taking up the recommendation of conducting a **green audit** a year after the previous audit. The **Green Audit** Team agreed to conduct the **green audit** of MIE College. After this, there was a preliminary visit to the entire campus to set up different criteria and questions that are necessary for an updated green audit.

A detailed questionnaire for each proposed criteria was prepared based on the campus visit and thorough evaluation of the previous audit. The audit team in discussion with the institute's Nature Club has identified a team including teachers, non-teaching staff and students. The team has collected information that is addressed in the questionnaire.

### 5.2 TEACHING AND NON-TEACHING STAFF

#### TEACHING STAFF

Sr. No.	Name of Faculty	Designation
1.	Dr. Simrina Singh	Director
2.	Dr. Ankit Jain	Head
3.	Dr. Rani Rajput	Assistant Professor
4.	Dr. Zafar Khan	Assistant Professor

#### NON-TEACHING STAFF

Sr. No.	Name of Staff	Designation
1.	Ms. Anjali Yadav	Lab Assistant
2.	Ms. Kalpana Verma	Lab Assistant



### 5.3 STUDENTS

Sr. No.	Name of Student	Semester
1.	Mr. Anand Vishwakarma	B.Sc.
2.	Ms. Nisha Ahirwar	B.Sc.
3.	Mr. Anup Dwivedi	B.Sc.
4.	Ms. Shivani Thakur	B.Sc.
5.	Ms. Shila Namdev	B.Sc.
6.	Ms. Varsha Thakur	B.Sc.
7.	Mr. Ankit Prajapati	B.Sc.
8.	Ms. Poonam Sharma	B.Sc.
9.	Ms. Khushi Kushwaha	B.Sc.
10.	Ms. Sheela Namdev	B.Sc.
11.	Ms. Angela Joshy	B.Sc.
12.	Ms. Jaza Hussain	B.Sc.

### 5.4 ONSITE AUDIT ACTIVITIES

1. The preliminary visit and meeting with the campus authorities was the first step between the audit team and auditee.
2. Site inspection for determining parameters for audit.
3. Site visit and evaluation of collected information of the audit team.
4. Meeting with the Principal, IQAC coordinator, teachers, non-teaching staff and students.
5. Meeting with the in house audit team for evaluation and clarifications.

### 5.5 PRE-AUDIT STAGE

Green Audit is a step to mobilize the green practices. To initiate this process here at college, a team was constituted. The student team comprised of UG Students and students enrolled in the BEd. The team was given a virtual orientation by Environment Planning and Coordination Organization (EPCO, Bhopal). Selected team had the privilege of getting trained by EPCO team at EPCO office Bhopal.

## AUDIT PLANNING

Planning started with the decision of **TARGET AREAS** for Green Audit. The following were different target areas decided for the present green audit.

### 1. Floral and Faunal Diversity at Campus

This area will account the overall diversity accommodated in the campus in terms of vegetation and animals. The eco-system is incomplete without the natural engagement of these participants, so the **GREEN AUDIT** has its role in defining the accountability of the diversity present.



### 2. Weather and Air Quality in Bhopal and Campus

The air quality in and around the campus with the weather conditions round the year in the suburbs of the city will be presented in this domain.

### 3. Water Analysis of Campus Water Resources (Drinking and Non-Drinking)

The water availability and management of the resources within the campus with their processing and replenishing is will be accounted in this area.

### 4. Waste Disposal within the Campus

Waste disposal plays a significant role in determining the wellness of habitat, which will be systematically represented in this target area.

### 5. Energy Consumption and Management at Campus

The accountability of various energy sources is an inclusion of a vision to a sustainable future, it will be accounted within this domain.

#### 6. Transportation in the Campus

The facility involving the moment of the materialistic or non-materialistic things are presented in this target area.

#### 7. Carbon Footprint Analysis

This involves the account of greenhouse gas emissions that comes from various processes like production, use and end of life of a product or service.







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## 6 GREEN AUDIT ANALYSIS

### 6.1 OBJECTIVE

- ❖ To minimize environmental risk caused by neglect on the part of the faculty and students.
- ❖ To employ and promote sustainable ways of living on the campus.
- ❖ To calculate the Carbon Footprint around the campus and take desired initiatives to reduce the same.
- ❖ To create awareness regarding the deteriorating conditions of natural resources at our hands.
- ❖ To educate students about the renewable, non-renewable, exhaustive and non-exhaustive sources of energy.
- ❖ To inform about the prevailing laws being regulated by the government to build an eco-friendly nation.
- ❖ To regularly check and update the equipment currently in use at the institute.
- ❖ To minimize human exposure to health hazards.
- ❖ To update and adapt eco-friendly ways of living with technology.
- ❖ To devise and propose a safe, clean and sustainable campus.
- ❖ To assess and evaluate our current facilities with respect to our behavior and the prospective opportunities for the improvisation of our sustainable growth and development.

### 6.2 METHODOLOGY

#### PRE-AUDIT

- ❖ Determining Scope and Goals for the audit.
- ❖ Audit planning.
- ❖ Formation of audit teams.
- ❖ Discussion about areas to be reviewed.

- ❖ Preparation of the questionnaire.

### **AUDIT**

- ❖ On Site visit.
- ❖ Collection of Data.
- ❖ Review of Documents and Policies
- ❖ Interviews of responsible staff and care-takers.
- ❖ Notes on the areas that needs fixing.

### **POST AUDIT**

- ❖ Tabulation of collected data.
- ❖ Analysis of the data collected.
- ❖ Discussions on the reviewed data.
- ❖ Formation of strategies for maximum utilization of resources.
- ❖ Suggestions for the betterment of facilities on campus.

## **6.3 FLORAL AND FAUNAL DIVERSITY AT CAMPUS**

Green and clean surroundings of an educational institution plays an integral part not only for the ambiance but for a fresh and healthy environment for the students to maximize their productivity and motivate them to carry the legacy forward. The college lays a great importance on providing their students with a pollution-free, eco-friendly and sustainable atmosphere. The focus is not merely on outdoor plantation but also indoor plantation to keep the indoors fresh.

### **OBJECTIVES**

- ❖ To assess the quality of soil available for plantation on the college campus.
- ❖ To calculate and provide the essential nutrition required for healthy flora and fauna on the college campus.
- ❖ To study the existing species of plants, trees and animals around the campus.



- ❖ To plan policies around the development of a balanced ecological systems for a sustainable campus.



The audit focused on the Flora of the institute which consists of

- ❖ Plant Species found around the campus
- ❖ Garden Area outside the college library
- ❖ Herbal Garden or Medicinal Garden
- ❖ Vegetable Garden

#### **PLANT SPECIES FOUND ON THE CAMPUS**

About 60% of the total campus area is covered in vegetation of all types. Along with this, the plant species found in the garden, comprising more than 40 species of indoor and outdoor plants are spread out over the whole campus. These are enlisted below:

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S. No	Plant Species	Qty.	Family	Common name
1	Areca Catechu	182	Areaceae	Palm Tree
2	Bambusoideae	83	Poaceae	Bamboo Tree
3	Juglans	80	Juglandaceae	Walnut Tree
4	Pandanus Tectorius	120	Pandanaceae	Thatch Screwpine
5	Ophiopogon Japonicus	600	Asparagaceae	Fountain Plant
6	Syngonium Podophyllum	300	Araceae	Arrowhead Plant
7	Alternanthera Sessilis	13	Amaranthaceae	Dwarf Copperleaf
8	Manilkara Zapota	10	Sapotaceae	Sapodilla (Chikoo)
9	Ficus Variegata	76	Moraceae	Green Fruited Fig
10	Acalypha Wilkesiana	828	Euphorbiaceae	Kuppikhokhli (Copperleaf)
11	Jasminum	60	Oleaceae	Jasmine
12	Bougainvillea	246	Nyctaginaceae	Bougainvillea
13	Ficus Microcarpa	1	Moraceae	Gajumaru (Indian Laurel)
14	Pseuderanthemum Rubrum	1	Acanthaceae	Black Varnish Plant
15	Swietenia Mahagoni	85	Meliaceae	Mahogany Asiatic
16	Trachelospermum Asiaticum	127	Apocynaceae	Jasmine Tecoma
17	Tecoma Capensis	78	Bignoniaceae	Vine
18	Ixora Chinensis	1	Rubiaceae	Chinese Ixora
19	Plectranthus Barbatus	50	Lamiaceae	Coleus Forskohli
20	Coleus	50	Lamiaceae	Coleus
21	Asparagus Aethiopicus	1	Asparagaceae	Fox Tail (Sprenger's Asparagus)

22	Pentas Lanceolata	1	Rubiaceae	Egyptian Starcluster
23	Schefflera Arboricola	1	Araliaceae	Schefflera (Dwarf Umbrella Tree)
24	Catharanthus Roseus	56	Apocynaceae	Graveyard Plant
25	Diospyros Ebenum	1	Ebenaceae	Ebony Tree
26	Thuja	12	Cupressaceae	Vidya (Morpankhi)
27	Mimosa Pudica	7	Fabaceae	Shame Plant
28	Melia Azedarach	1	Meliaceae	Chinaberry (Pride of India)
29	Alstonia Scholaris	1	Apocynaceae	Saptkarni (Devil's Tree)
30	Psidium Guajava	104	Myrtaceae	Guava Tree
31	Saraca asoca	308	Fabaceae	Ashok Tree

The main source of watering are the bore wells installed on the campus. The recycled backwater collected on the campus is also used for watering purposes. Natural manure collected through the animal waste helps to nourish the soil. The health of plants is maintained through fertilizers such as urea and DAP.

#### **THE PLAYGROUND**





The garden houses 10 species of flowers, 14 species of the ornamental plants. The main source of watering are the bore wells installed on the campus. The recycled backwater collected on the campus is also used for watering purposes. Natural manure collected through the animal waste helps to nourish the soil. The health of plants is maintained through fertilizers such as urea and DAP.



### PLANT SPECIES FOUND AROUND THE CAMPUS

S. No	Plant Species	Qty.	Family	Common Name
1	Nelumbo Nueifera	38	Nelumbonaceae	Lotus
2	Codiaeum Variegatum	32	Euphorbiaceae	Garden Croton
3	Ficus Benjamina	12	Moraceae	Weeping Fig
4	Aracaceae	24	AracaceaeBrcht and J. Presl, nom Cons	Palm Branches

5	Dypsis Decaryi	5	Aracaceae	Triangle Palm
6	Draceanaangolensis	211	Asparagaceae	Cylindrical Snake Plant
7	Ligustrum Ovalifolium	1000	Oleaceae	Garden Privet
8	Beucarnearecurvata	1	Asparagaceae	Ponytail Palm
9	Rosa	50	Rosaceae	Roses
10	Araucaria Viverosguerra	2	Araucariaceae	Christmas Tree
11	Terminalia Catappa	1	Combretaceae	Indian Almond
12	Clitoriatarnatea	2	Fabaceae	Asian Pigeonwings
13	Dypsislutescens	1	Areaceae	Areca Palm
14	Tabebuia Aurea	4	Bigoniaceae	Yellow Elder
15	Ixora	3	Rubiaceae	Jungle Geranium
16	Plumeria Obtusa	5	Apocynaceae	Singapore Graveyard Flower (White Firangipani)

#### **HERBAL GARDEN OR MEDICINAL GARDEN:**

The Herbal Garden contains sixteen plant species with medicinal uses. Two species of the commonly known 'endangered' or with conservation status 'vulnerable', according to the International Union of Conservation of Nature are nurtured in the gardens of Mittal Institute of Education .

Again, the main source of watering are the bore wells installed on the campus. The recycled backwater collected on the campus is also used for watering purposes. Natural manure collected through the animal waste helps to nourish the soil. The health of plants is maintained through fertilizers such as urea and DAP. The garden is monitored professionally by gardeners and keeps a keen observation on the maintenance of the garden.

**PLANT SPECIES FOUND IN HERBAL GARDEN**

S. No	Plant Species	Qty.	Family	Common Name
1	<i>Azadirachta Indica</i>	1	Meliaceae	Neem
2	<i>Musa Acuminata</i>	1	Musaceae	Banana Tree
3	<i>Psidium Guajava</i>	2	Myrtaceae	Guava Tree
4	<i>Neolamarckiacadamba</i>	1	Rubiaceae	Burflower Tree (Kadam)
5	<i>Curcumaromatica</i>	3	Zingiberaceae	Van Haldi
6	<i>Chamaecostus cuspatidus</i>	1	Costaceae	Indian Rosewood
7	<i>Aloe Vera</i>	1	Asphodelaceae	Aloe Vera
8	<i>Solanum Nigrum</i>	3	Solanaceae	Black Nightshade
9	<i>Setaria palmifolia</i>	2	Poaceae	Palm Grass
10	<i>Prosopis Laevigata</i>	1	Fabaceae	Smooth Mesquite
11	<i>Oemleria cerasiformis</i>	1	Rosaceae	India Plum (Ber)
12	<i>Punica Granatum</i>	1	Lythraceae	Pomogrenate Plant
13	<i>Justicia Adhatoda</i>	1	Acanthaceae	Malabar Nut ( <i>Adusa</i> )
14	<i>Hibiscus</i>	1	Malaceae	Hibiscus
15	<i>Ocimum Sanctum</i>	2	lamiaceae	Kapoor Tulsi
16	<i>Senna Siamea</i>	2	Fabaceae	Cassod Tree
17	<i>Millettia Pinnata</i>	3	Fabaceae	Pongame Oil Tree (Karangi)
18	<i>Leucaena Leucocephala</i>	2	Fabaceae	River Tamarind
19	<i>Aegle Marmelos L.</i>	1	Rutaceae	Indian Bael



20	Mangifera Indica	5	Anacardiaceae	Mango Tree
21	Saracaasoca	2	Fabaceae	Ashok Tree
22	Syzgiumcumini	1	Myrtaceae	Jamun Tree
23	Hevaebrasiliensis	20	Euphorbiaceae	Rubber Tree
24	Indigofera Tinctoria	1	Fabaceae	Indigo
25	Gliricidiasepum	1	Fabaceae	Gliricidia
26	Acer	1	Sapindaceae	Maple Tree
27	Laurus Nobilis	1	Lauraceae	Bay Laurel
28	Phyllanthusemblica	1	Phyllanthaceae	Indian Gooseberry (Amla)
29	Citrus Medica Limn	1	Rutaceae	Lemon Tree
30	Petiveria	4	Petiveriaceae	Petiveria
31	Bixa Orellana	1	Bixaceae	Sindoori
32	Murrayakoenigil	1	Rutaceae	Curry tree (Meethi Neem)
33	Zingiber Officinale	10	zingiberaceace	Ginger (Adrak)

### VEGETABLE GARDEN

The college is also having a vegetable garden. The garden spreads across (0.109 Hectares) of land. The garden is taken care by the official and qualified caretaker who looks after the plants and maintains their health and quality. The varieties of plants offer a plethora of diversity in the sanctum providing nutritious and replenishing environment around and in the soil of the garden.

**THE VEGETABLE SPECIES AVAILABLE IN THE GARDEN ARE:**

S. No	Plant Species	Qty.	Family	Common Name
1	Trigonella Foenum-Graecum	150	Fabaceae	Methi (Fenugreek)
2	Spinacia Oleracea	170	Amaranthaceae	Palak (Spinach)
3	Coriandrum Sativum	200	Apiaceae	Dhaniya (Coriander)
4	Abelmoschus Esculentus	120	Malvaceae	Bhindi (Okro)
5	Psidium Guajava	8	Myrtaceae	Amrood (Guava)
6	Carica Papaya	12	Caricaceae	Papeeta (Papaya)
7	Citrus Limon	16	Rutaceae	Nimboo (Lemon)
8	Citrus Medica	5	Rutaceae	Bijoranimbu (Citron)
9	Ziziphus Mauritiana	7	Rhamnaceae	Ber (Indian Jujube)
10	Cocos Nucifera	7	Arecaceae	Nariyal (Coconut)
11	Annona Squamosa	8	Annonaceae	Seeta Phal (Custard Apple)
12	Allium Sativum	200	Amaryllidaceae	Lehsun (Garlic)
13	Lablab Purpureus	12	Fabaceae	Sem Ballar (Hyacinth Beans)
14	Artocarpus Heterophyllus	12	Moraceae	Kathal (Jackfruit)
15	Curcuma Longa	35	Zingiberaceae	Haldi (Turmeric)
16	Manilkara Zapota	8	Sapotaceae	Chikoo (Sapodilla)
17	Musa Acuminata	8	Musaceae	Banana Tree

## **ANIMAL SPECIES ON COLLEGE CAMPUS**

The presence of domestic life on the campus ensures availability of organic milk and food products. The waste collected from these animals is used as natural manure for the vegetation around college campus. The college is a home to-

- ❖ Ducks (*Anatidae*)
- ❖ Rabbits (*Oryctolagus Cuniculus*)
- ❖ Bird Species: Sparrows, Crows, Parrots, Laughing Dove, Indian Paradise Flycatcher (*Aves*)
- ❖ Dogs for campus security (*Canis Lupus Familiaris*)

The variety of domestic animals doesn't only enrich the college campus through food and healthy vegetation but is a small venture to present forward a model to replicate a balanced eco-system.

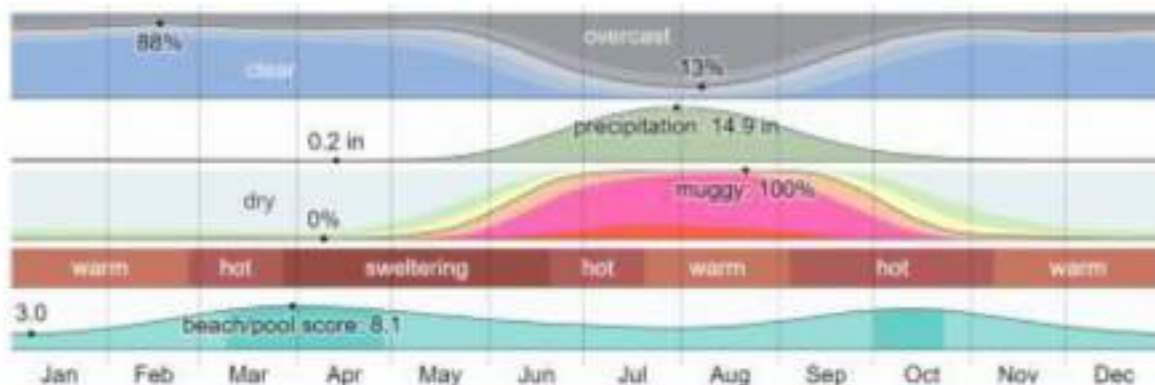
## **6.4 WEATHER AND AIR QUALITY IN BHOPAL AND CAMPUS**

### **WEATHER AND AIR QUALITY IN BHOPAL**

Bhopal is the capital of the Indian state of Madhya Pradesh and the administrative headquarters of Bhopal district and Bhopal division. It is the 17th largest city in the country and 131st in the world. Bhopal has an average elevation of 500 meters (1401 ft). Bhopal is located in the central part of India, and is just north of the upper limit of the Vindhya Mountain ranges.

In Bhopal, the wet season is oppressive and overcast, the dry season is mostly clear, and it is hot year-round. Over the course of the year, the temperature typically varies from 53°F to 104°F and is rarely below 47°F or above 109°F.





### Bhopal weather by month

The Ambient Air Quality of Bhopal is being monitored regularly by MPPCB under National Ambient Air Quality Monitoring Programme (NAMP) at 06 locations, 05 stations are representing residential and other areas, and 01 station representing industrial activity. In Ambient Air mainly 03 parameters are being monitored on regular basis i.e. Respirable Dust (RSPM) Sulphur Di-oxide (SO<sub>2</sub>) and Oxides of Nitrogen (NO<sub>x</sub>). The values of SO<sub>2</sub> & NO<sub>x</sub> are usually found within the prescribed limits whereas the dust level measured in the form of RSPM found to be beyond the prescribed limits which varies from 30 to 210 µg/m<sup>3</sup>.

The overall trend of air quality of Bhopal city (based on AQI) shows increase in pollution level continuously and moving from Satisfactory to Moderate level. The natural dust, construction activities and vehicular movement are major reasons of dust pollution. The traffic pattern is mixed type along with good public transport system. The free flow of traffic and removal of old/outdated vehicles from road may help in improvement of Air Quality up to certain extent.



**Air Quality Graph of Bhopal for Aug.-Sep 2023**

### **AIR QUALITY IN CAMPUS**

The institute is situated in Karond, Bhopal which is a nearby area to BMHRC. The air quality in this area is generally acceptable for most individuals. However, sensitive groups may experience minor to moderate symptoms from long-term exposure.

### **CARBON DIOXIDE ABSORPTION BY FLORA AT CAMPUS**

On an average carbon dioxide absorbed by a tropical tree/year = 22.6 kg

Total number of trees belonging to tropical species	339
Carbon dioxide absorbed per year by tropical trees on campus (kg)	8235

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Campus area covered under lawns and gardens (sq m)	5,568
Carbon dioxide absorbed per year by green campus area (kg)	27.14
Total carbon dioxide absorbed on campus (kg)	8262.14

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### **6.5 WATER ANALYSIS OF CAMPUS WATER SOURCES (DRINKING AND NON-DRINKING)**

Water audit was conducted with the primary aim to understand the water usage, wastage and the steps that can be taken towards the efficient use and conservation of these natural resources.

The sources of water used in the college are bore wells, the Narmada line and a well which is present, in the college campus. The well is recharged with rainwater. There are number of water tanks in the college, out of which, few are cement tanks whereas others are plastic tanks.

The major quota of estimated water consumption on the campus is intended for the purpose of irrigation; in order to maintain college gardens: covering area of 0.5 acres of land. The water collected from rooftops during rains is collected in the college pond for watering over 40 different species of medicinal as well as decorative plants and trees on campus.

Water is also used in our college laboratories. However, due to the adoption of the micro-scale analysis technique, the wastage of lab water has been reduced to a great extent. The college pumps a total of 373160 liters per month, with the usage varying from drinking water to water for gardening purposes.



**ESTIMATED CONSUMPTION OF WATER EVERYDAY ON CAMPUS:**

**Water Consumption for each month:** 3,79,974 liters

**Water Consumption for each day:**  $3,79,974/30 = 12,666$  liters/day (approx.)

**Water Consumption for each activity:**

(a) For Drinking = 2520 liters/day

(b) For Staff Use = 6600 liters/day

(c) For Cleaning and Sanitation on Campus = 5160 liters/day

**TOTAL (a+b+c) = 14280 liters/day**

**OBJECTIVES**

- ❖ To develop policies and strategies for the sustainable management of fresh water resources.
- ❖ To identify the water losses due to leakages and overflow from the water tanks.
- ❖ To identify wastage of water in the college campus.
- ❖ To assess the quality of the ground water and to take proactive steps to reduce its deterioration.
- ❖ To identify cost-effective water-saving techniques.
- ❖ To create awareness among water users, i.e., the students, the staff and the management by imparting knowledge regarding sustainable use of water resources.

**DATA OF WATER USAGE ON COLLEGE CAMPUS**

S.No.	PARAMETERS	RESPONSE
1.	Man-made sources of water	Bore wells, Narmada line
2.	Total no. of bore wells.	2
3.	Total no. of motors.	3
4.	Total horse power of the motors.	5 HP each
5.	Total no. of wells	1
6.	Total depth of each well.	NA
7.	Present water level in the well.	500
8.	No. of water tanks.	03
9.	Combined capacity of the water tanks.	15000 liters
10.	Total amount of water utilized each month.	1500000 liters
11.	Is there any wastage of water?	Yes
12.	What are the sources of wastage of water?	Overflow of tank, Washrooms
13.	Where is the waste water discharged?	Into the drains, collected and used for irrigation on campus
14.	Is waste water generated from the labs?	Yes
15.	Whether waste water from labs is mixed with the ground water?	No
16.	Is lab water treated before its disposal?	No
17.	Whether any green chemistry method practiced in labs?	Yes, <b>Micro-Scale Analysis</b> technique is used by the chemistry students.
18.	No. of water coolers.	6
19.	Amount of water used for sanitary purposes.	50000 liters per day

20.	No. of bathrooms in staff rooms, common, hostel.	03
21.	No. of toilet urinals.	15
22.	No. of waterless toilets.	Nil
23.	Total no. of water taps.	20
24.	No. of taps in the canteen.	2
25.	No. of taps in the laboratories.	3
26.	Is there any leakage and loss of water from the taps?	No
27.	Are there any signs reminding people to turn off the tap after use?	No
28.	Total quantity of water used in two hostels.	50000 Liters
29.	Total no. of water fountains.	1
30.	Total no. of leaky water fountains.	Nil
31.	How often are the gardens watered?	Daily
32.	Total amount of water used for gardening and irrigation.	50000 liters per month
33.	Is drip irrigation used for gardening?	Yes 2000 liters/ month
34.	Amount of water used for cleaning college buses	
35.	Is rain water harvesting practiced?	Rainwater is collected from rooftops through pipelines into the college pond.
36.	No. of water meters in the college.	Nil
37.	Amount of water charges paid for the water connections.	Nil



## 6.6 WASTE DISPOSAL WITHIN THE CAMPUS

### OBJECTIVES

Waste management encompasses a multidisciplinary approach that integrates engineering principles, economics, urban and regional planning, management techniques, and social sciences. Its objective is to minimize the overall wastage within the system under consideration.

According to the Environmental Protection Act of 1990, waste is defined as any undesirable material. This includes scrap material, effluents, or any surplus substance or item requiring disposal due to being damaged, worn out, contaminated, or otherwise polluted. Wastes are essentially those substances or objects that no longer serve a purpose within the business cycle or chain of utility. A systematic waste management approach should address all types of resources at every stage. The prime objectives are as follow:

- ❖ To assess the activities involved in the generation of waste.
- ❖ To assess the effectiveness and efficiency of the waste management practices being undertaken by the college.
- ❖ To determine the structure, anatomy and estimated volumes of the waste generated.
- ❖ To identify the lapses in the segregation, treatment and disposal of waste.
- ❖ To identify any potential environmental impacts from the generated waste.

### TOTAL NUMBER OF STAKEHOLDERS IN THE COLLEGE:

	No. of Students	No. of Teachers	No. of Non-Teaching Staff
<b>Male</b>	127	4	3
<b>Female</b>	136	16	5
<b>Total</b>	263	20	8

**TOTAL AREA OCCUPIED:**

<b>Name of Places</b>	<b>Area Occupied</b>
<b>Garden</b>	5,000 Sq. ft.
<b>Play Ground</b>	65,340 Sq. ft.
<b>Kitchen</b>	12,000 Sq. ft.
<b>Laboratory</b>	
❖ <b>Computer</b>	1000 Sq. ft.
❖ <b>Physics</b>	500 Sq. ft.
❖ <b>Chemistry</b>	1800 Sq. ft.
<b>Canteen</b>	1200 Sq. ft.
<b>Car/Two/Four-Wheeler Shade Area</b>	5000 Sq. ft.

**TYPES OF WASTE ARE BEING GENERATED IN THE INSTITUTE APPROXIMATELY PER DAY:****Canteen Waste**

The type of waste collected from canteen includes extracted tea waste, leftover food, vegetable and fruit remains, peels, rotten vegetables, empty milk pouches, packaging products, disposable items etc. This comprises to near about 2.8 kg of Biodegradable and as well as non-biodegradable waste.

**Dry Leaves and other Garden Waste:**

An approximate 3.3 kg/ day garden waste is generated every day in the entire Institute. This includes dry and decomposing leaves, twigs, branches, unused manure etc.

**Solid Waste:**

Vegetable wastes (cooked and uncooked), leftover food, packaging materials, papers, plastics, rags and other fabrics, dust, ash comprise of the Solid waste

generated by the institute that amount to about 5-6 kg of waste per day.

**E-Waste:**

E-waste includes the electronic items that are no longer in use such as batteries, e-robots, wires, peripherals discarded etc. E-waste is collected on regular basis by the Department of Computer Science and Applications

**Waste from Laboratories:**

Unused and discarded chemicals, lab-wares and instruments constitute the laboratory waste that is collected in the form of non-biodegradable waste, approx. 650gm.

**INITIATIVES TAKEN BY INSTITUTE TO COMBAT THE GENERATED WASTE****Biodegradable waste:**

The Biodegradable waste involving the dry leaves, leftover food and peels of fruits and vegetables are used to make manure by the method of composting.

**Non-Biodegradable Waste:**

Non-biodegradable waste is managed by the following ways:

- ❖ Laboratory waste and discarded glass materials are dumped in the dedicated dry waste bins or containers kept for collection by Local Municipalities.
- ❖ Sanitary waste like napkins is also dumped in the dry waste section.
- ❖ Medical waste like cotton swabs, used bandages etc are thrown in the dry dustbins which are further collected by Nagar Nigam.

**E-Waste:**

The Institute has collaborated with various agencies like for proper management of E-waste.





Source: [www.bsstbgaal.edu.in](http://www.bsstbgaal.edu.in)

## 6.7 ENERGY CONSUMPTION AND MANAGEMENT AT CAMPUS

We utilize energy for smooth running of our day-to-day life. From our personal to social, every aspect of our otherwise mundane life is brightened through the electricity that transmits from the power plants into every electrical appliance of ours. As this consumption increases, the threat to the depleting, non-renewable sources increase, this pace of consumption and neglected wastage can create a red alert situation for our coming generations.

Energy Consumption refers to total power or energy consumed to run a facility. Energy Consumption changes for each system or organization. In a Domestic Household, the total energy consumption would include electricity, piped gas, along with appliances used for cleaning, washing, etc. Whereas, for the Industrial Sector, the total energy consumed would be summation of consumption by the machinery used to produce, manufacture and run the complex facility.

The Total Energy Consumption for an educational institute would be the sum total of all the electrical appliances, the lab equipments used in computer labs, machinery running on the campus for maintenance purposes, along with the electrical inventory in the canteen and the college hostel.

Electric energy is measured either in joules (J), or in watt hours (W·h)

$$1 \text{ W}\cdot\text{s} = 1 \text{ J}$$

$$1 \text{ W}\cdot\text{h} = 3600 \text{ W}\cdot\text{s} = 3600 \text{ J}$$

### OBJECTIVES

- ❖ To assess and determine the sources of energy consumption on the campus
- ❖ To identify the sections that cause maximum wastage
- ❖ To determine the areas with maximum potential for conservation of electrical energy.
- ❖ To recognize the effective cost and energy saving proposal along with vital

payback periods, which could be put to effect in the college facilities

- ❖ To help our college maximize the efficiency of its investments and installations for its students

The institution uses energy in the following forms:

- ❖ From M. P. M. K. V. V. Co. Ltd.
- ❖ Electricity SOLAR Grid connected Solar Plant
- ❖ High Speed Diesel Generator (HSDG), (125W, 82W)
- ❖ Solar based Street Lights (Qty. 30)

Total Electrical Consumption on the campus includes:

- ❖ Teaching Equipments such as LCD Projectors and Monitors
- ❖ Computer Labs
- ❖ Lighting, Fans & Air-Conditioning
- ❖ Laboratory Equipments
- ❖ Office Equipment such as Printers, Xerox machines, Computers, etc.
- ❖ Cafeteria Items such as Refrigerators, Coffee Machine, Water Filters, etc.
- ❖ Hostel Facilities
- ❖ Other Miscellaneous Needs such as CCTV, UPS, Router system, Flood light, Pumping motor etc.

The average cost for electricity consumption for the college is INR 2,28,426/Month.

#### **MONTHLY ELECTRICITY CONSUMPTION (KWH) AND BILL FOR THE YEAR (2023-24)**

<b>S. No</b>	<b>Month</b>	<b>Electricity Consumption (kWH)</b>	<b>Electricity Bill (INR)</b>
1	Aug 23	831092	₹1,33,557/-
2	Sep 23	833175	₹1,25,155/-
3	Oct 23	835187	₹84,645/-



4	Nov 23	837038	₹65,889/-
5	Dec 23	839097	₹65,889/-
6	Jan 24	840840	₹83,611/-
7	Feb 24	843520	₹69,381/-
8	Mar 24	845095	₹64,084/-
9	Apr 24	847303	₹84,730/-
10	May 24	849746	₹82,469/-
11	Jun 24	856954	₹1,00,155/-

#### NUMBER OF APPLIANCES RUNNING ON THE CAMPUS

##### MAIN BLOCK

	Tubelight	LED	Ceiling Fans	AC	Wall Fans
<b>Total</b>	200	125	200	5	6

##### ADMIN BLOCK

	Tubelight	LED	Ceiling Fans	AC	Wall Fans
<b>Total</b>	100	75	100	2	2

<b>Accounts Office/Placement/Labs</b>					
	<b>Tube light</b>	<b>LED</b>	<b>Ceiling Fans</b>	<b>AC</b>	<b>Window Cooler</b>
<b>Ground Floor</b>	2	91	50	1	20
<b>First Floor</b>	-	100	56	1	23
<b>Second Floor</b>	-	6	2	1	-

**DAILY ENERGY CONSUMPTION BY COMPUTER APPLIANCES**

<b>S.No.</b>	<b>Name of the Appliance</b>	<b>Power rating (Watt)</b>	<b>Qty</b>	<b>Power consumption (Watt)</b>	<b>Usage (Hrs/Day)</b>	<b>Power Consumption/day (Watt)</b>
	<b>A</b>	<b>B</b>	<b>C</b>	<b>D=BXC</b>	<b>E</b>	<b>F=EXF</b>
1	Desktop	171	40	6840	6	41040
2	Laptop	50	25	1250	8	10000
3	Laser Printer	400	1	400	3	1200
4	Printer	500	5	2500	4	10000
5	Projector	220	1	220	2	440
6	Scanner	10	1	10	2	20
7	Semi-Multi Function Laser Printer	200	2	400	3	1200
8	TV	150	1	150	6	900
9	Smart Classroom	138	1	138	2	276
10	Duplicator	50	1	50	2	100
11	Web Camera	5	1	5	2	10
12	CCTV	6	32	192	24	4608

\*The Total Energy Consumption recorded here is approximate. Actual Energy Consumption might differ based on the actual usage of the appliance for a particular time period.

### **Other Yearly Energy Expenses**

1. Petrol / Diesel used for official vehicles = INR 2,52,198/- (2023-24)

## **6.8 CARBON FOOTPRINT ANALYSIS**

A carbon footprint is the total amount of greenhouse gas emissions that is generated from the production, use and decay of a product or service. It includes carbon dioxide- the gas most commonly emitted by humans and, others including methane, nitrous oxide, and fluorinated gases, which trap heat in the atmosphere, causing global warming. Usually, the bulk of an individual's carbon footprint will come from transportation, housing and food.

It is surprising, how most climate harming carbon emissions arise from flying, driving, living, working and eating.

Greenhouse gases include the carbon-containing gases such as carbon dioxide and methane. These are emitted through:

- ❖ The burning of fossil fuels
- ❖ Land clearance
- ❖ The production and consumption of food, manufactured goods, materials, wood, roads, buildings
- ❖ Transportation and other services

Generally, total carbon footprint cannot be calculated exactly because of inadequate knowledge of data about the complex interactions between contributing processes, including the influence of natural processes that store or release carbon dioxide.



## OBJECTIVES

- ❖ To better understand how, the college contributes to climate change.
- ❖ To identify the sources of carbon emission.
- ❖ To identify the amount of emission.
- ❖ To identify the areas where the emissions can be reduced.
- ❖ To identify the ways of reducing the emission

## EVALUATION OF CARBON EMISSIONS BY POWER CONSUMPTION OF DIFFERENT APPLIANCES

1 unit=1KWh

Coal required to produce 1 unit of energy, coal equivalent of 1 unit = 0.538 kg

Carbon dioxide emitted by 1 kg coal = 2.98 kg

<b>Total Power consumption by different appliances in a day (in Watt)</b>	6,10,500 W
<b>Total power consumption (in kWh)</b>	618
<b>Total units consumed in a day</b>	618
<b>Coal equivalent of units consumed in a day (in kg)</b>	63.5
<b>Carbon dioxide emitted in a day (in kg)</b>	186.1
<b>Carbon dioxide emitted in 300 working day/year (in tons)</b>	55.18

## 7 INITIATIVES TAKEN AND GREENING AT CAMPUS

### INITIATIVES TAKEN

#### Solid Waste Management

- ❖ The institution has two functional compost pits for organic solid waste management.
- ❖ There is ban on single use plastic and plastic crockery in the campus.

#### E-waste Management

- ❖ College has installed a permanent e-waste collection corner for regular and timely management. College has a separate storeroom for the safe storage of electronic waste. After a certain interval of time college disposes the E-waste to concerned agencies through the auction process.

#### Rain Water Harvesting

- ❖ The main building of college has a rainwater harvesting system for better groundwater recharge. The stored water in this tank can be used for gardening purposes and supply to the ground.

#### Renewable Energy

- ❖ The college has also installed approximately 148 solar panels (90 KWh) in the two-wheeler parking.
- ❖ The College is using solar lights (Qty. 30) for street lights.

#### Air Pollution Reduction

- ❖ Students are encouraged to use electric Personal Vehicles for commuting to the campus.
- ❖ College is monitoring air quality by analyzing the PM<sub>2.5</sub> Concentration

### **Nature Club Initiatives**

- ❖ The Club organized 'Poster Making Competition' on the occasion of World Nature Conservation Day in July 2023.
- ❖ The club also initiated spark of awareness in students by celebrating National Energy Conservation Day.
- ❖ To mark the importance of water, Nature club organized an extempore competition with the theme Leveraging Water for Peace on world water day
- ❖ The club also celebrated World Environment Day 5<sup>th</sup> June, by organizing a plantation drive and quiz competition on the topic Environment Protection using Sustainable energies.

### **Greening at campus**

- ❖ Two plantation drives were carried out in the current year in the Campus.
- ❖ Plants survival rate is around 92%.
- ❖ The dried leaves are collected for preparing manure for the plants and trees on the campus.
- ❖ The 60% of the area of campus along with the hostel is covered in vegetation.
- ❖ Separate man power dedicated to maintain the greenery and to keep check on the ecosystem of the institute is hired.





## 8 RECOMMENDATIONS

- ❖ Increase the capacity and installations of solar PV so that it can fulfil at least 50% of the electricity requirement.
- ❖ Awareness Program should be conducted by the concerned clubs on periodic basis for Nature conservation and Environment Sustainability.
- ❖ College should start reutilizing the waste water for increasing ground water levels generated in campus after multiple uses (Water Purifiers, waste water from taps in washrooms).
- ❖ System monitoring the Flow rate of taps should be improved, it should be implemented to more locations in the campus and it should not be more than 2.5 litres/minute.
- ❖ Training of lower hierarchical staff for efficient use of water and management of waste in the campus.



## 9 CONCLUSION

This audit involves illustrative team discussions and meetings with key staff members on a variety of environmental-related topics. The NATURE club of MIE Bhopal promotes awareness on greener campus and conservation of resources.

Overall, 60% of MIE, Bhopal is for landscaping. The college makes a significant effort to act in an environmentally responsible manner and takes into account the environmental effects of the majority of its activities. The recommendations and suggestions in this report provides some more ways in which the college can work to improvise its practices and develop itself into a more sustainable institution.

It's important to begin a few things, such as enhancing Solar PV capacity, initiating drip irrigation and increasing the monitoring of the water flow from the taps. Additionally, we emphasize on usability of water meters in each building/block and should work on the water balancing report.

Conclusively, the institute has an inclination to carry the legacy forward and justify the motto "**TOWARDS A BETTER WORLD**" by elevating the understanding of young minds which participate and makes a significant contribution towards a greener and cleaner planet.



## 10 FUTURE ACTION PLANS

Implementation of Vermicomposting Kiosks.

Awareness Program on periodic basis regarding Sustainable Farming.

Proper waste water management should be encouraged

Proper monitoring and disposal of waste discharge from chemical laboratories

Implementation of sign boards and indications of water and energy usage.

Energy maintenance and management by proper usage of electrical appliances.

Vegetable and agriculture crop planting has to be increased using advanced technologies.

Promotion of visit to agriculture farm lands and processing centres of the relevant students.

The students and staff who are active in green audit related activities have a clear vision about how and what should be planned for a greener campus. They think that planting of more saplings during the world environment day or world nature day and other such days focusing of importance of ecosystem would cater more awareness and enthusiasm in students who join afresh each year. The college is also planning to initiate plant a tree/adopt a tree program where each student will be planting a sapling and taking care of it during his or her stay in the college.



MITTAL INSTITUTE OF EDUCATION



*Suresh Kumar*

REGIONAL DIRECTOR  
CENTRAL POLLUTION CONTROL BOARD  
REGIONAL DIRECTORATE (SOUTH)  
MIN. OF ENV. FORESTS & CC. GOVT. OF INDIA





# MITTAL INSTITUTE OF EDUCATION

## NAAC ACCREDITED

(Approved by NCTE New Delhi, Higher Education Govt. M.P. & Affiliated to BU, Bhopal M.P.)

Opposite Bhopal Memorial Hospital & Research Center, Navi Bagh, Bhopal - 38

Tel : 0755-2980081,

E-mail : miebpl2009@gmail.com

Ref. No. MIE/OFF/1706

Date : 25 August

All members of Mittal Institute of Education, staffs and students are informed that our college is organising **NO VEHICLE DAY** on 25 August.

All the staff and student and inform to comewithout vehicle on that day. All are request to use bicycle or public transport on that day to minimise pollution.

The schedule is circulated through notice boards and whatsapp group.

Principal

MIE

CC

To the registrar



# MITTAL INSTITUTE OF EDUCATION

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Opposite Bhopal Memorial Hospital & Research Center, Navi Bagh, Bhopal - 38

Tel : 0755-2980081,

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Ref. No. MIE/HE/22-23/44-A

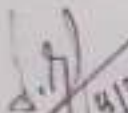
Date : 4/02/23

### IMPORTANT NOTIFICATION

It is being instructed to create awareness among all the staff members and students for effective implementation of **PAPERLESS OFFICE**.

Considering the fact all staff members and the students are here by inform that the use of one side paper within the campus with immediate effect.

The schedule is circulated through notice boards and whatsapp group.

  
Principal

MIE

CC for information

To the registrar



# MITTAL INSTITUTE OF EDUCATION

## NAAC ACCREDITED

(Approved by NCTE New Delhi, Higher Education Govt. M.P. & Affiliated to BU, Bhopal M.P.)

Opposite Bhopal Memorial Hospital & Research Center, Navi Bagh, Bhopal - 38

Tel : 0755-2980081,

E-mail : miebpl2009@gmail.com

Ref. No. MIE/OFF/1706

Date : 25 August

All members of Mittal Institute of Education, staffs and students are informed that our college is organising **NO VEHICLE DAY** on 25 August.

All the staff and student and inform to comewithout vehicle on that day. All are request to use bicycle or public transport on that day to minimise pollution.

The schedule is circulated through notice boards and whatsapp group.

Principal/

MIE

CC

To the registrar



<b>ENGINEERING COURSES</b> B.E./Civil, Mechanical, Electrical, Electronics Computer Science M.Tech <b>PHARMACY COURSES</b> B.Pharmacy, M.Pharmacy Dip. Pharmacy <b>MANAGEMENT &amp; COMMERCE</b> BBA, MBA BCA B.Com B.Com - Comp. Appl B.Com - Taxation	<b>POLYTECHNIC COURSES</b> Diploma in Mech, Engg <b>UPSC COURSES</b> B.Sc - Biotechnology B.Sc - Computer Sc B.Sc - PCM B.Sc - CBI B.Sc - Clinical Nutritionist B.Sc - Food & Nutrition PG Diploma in Dietetics <b>HEALTHING</b> B.Sc Nursing	 <b>Mittal</b> <b>Group of Institutes</b> Approved by MPE, MPSE Affiliated to Bundelkhand University, Bhopal 2013, New Delhi, 110 016 <b>A TRADITION OF          EXCELLENCE IN EDUCATION          SINCE 1987</b> www.mittalgroupofinstitutes.org mithol@gmail.com
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# GREEN AUDIT REPORT

## 2023- 24

OF

### Mittal Institute of Education, Bhopal

Navibagh, Near BMHRC  
 Bhopal, INDIA, PIN-462038



**CONDUCTED BY: EXTERNAL GREEN AUDIT TEAM**