MIRANDA HOUSE

GREEN AUDIT REPORT

2024-2025

Prepared By :

EHS ALLIANCE

TABLE OF CONTENT

CERTIFICATE

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PRESENTED TO

MIRANDA HOUSE

UNIVERSITY OF DELHI

GC Narang Road, New Delhi, Delhi 110007

Has been assessed by EHS Alliance for the comprehensive study of environmental impacts on institutional working framework to fulfill the requirement of

GREEN AUDIT

ACADEMIC YEAR 2024-25

The green initiatives carried out by the institution have been verified on the report submitted and was found to be satisfactory.

The efforts taken by the management and the faculty towards environment and sustainability are appreciated and noteworthy.

EHS ALLIANCE LLP GURUGRAM

SIGNATURE

09.09.2025
DATE OF AUDIT

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ACKNOWLEDGEMENT

EHS Alliance Services extends its sincere appreciation to **Miranda House (MH)** for entrusting us with the responsibility of conducting this important **Green Audit**. We are grateful for the cooperation and support extended to our team, which greatly contributed to the successful completion of the assessment.

We would like to express our special thanks to **Prof. Bijayalaxmi Nanda**, Principal of MH, for granting us the opportunity to evaluate the environmental performance of the campus and for her continued encouragement throughout the audit process.

Our sincere gratitude also goes to **Prof. Namrata Singh,** Audit Coordinator, for her invaluable guidance, coordination, and unwavering support—without which the successful completion of this audit would not have been possible.

We further acknowledge the active involvement and contributions of several staff members in facilitating data collection and fieldwork. In particular, we extend our thanks to:

Prof. Nisha Vashistha	*Coordinator, UBA*
Prof. Rekha Kumari	*Convenor, MH Vatavaran*
Dr. E. Geetanjali	*Convenor, Garden Committee*
Dr. Deepak Yadav	*Member, IQAC*

Their commitment played a vital role in the smooth execution of the audit activities.

DISCLAIMER

This report has been prepared by the Audit Team of **EHS Alliance Services** for **Miranda House**, **University of Delhi** based on the data and information provided by representatives of the institution. The findings, analysis, and conclusions presented herein are supported by the professional expertise and best judgment of the audit team.

While every reasonable effort has been made to ensure accuracy and completeness, the information contained in this report has been compiled in good faith using the data made available during the course of the audit. The conclusions are derived from the best estimates and observations at the time of preparation.

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Signature

LEAD AUDITOR

CONCEPT AND CONTEXT

The **National Assessment and Accreditation Council (NAAC)**, New Delhi, has mandated that, effective from the academic year **2019–20**, all Higher Educational Institutions (HEIs) are required to submit an annual Green, Environment, and Energy Audit Report. This mandate falls under **Criterion 7** of the NAAC framework. NAAC, an autonomous institution of the Government of India, assesses and accredits institutions of higher education and assigns them grades—A, B, or C—based on their performance across defined parameters.

In addition to fulfilling accreditation requirements, the Green Audit reflects the **Corporate Social Responsibility (CSR)** of educational institutions, emphasizing their role in addressing climate change and contributing to **carbon footprint reduction**.

In alignment with this directive, the management of **Miranda House** resolved to undertake an external environmental assessment, engaging a qualified and competent professional audit agency. The purpose of the Green Audit is to systematically evaluate environmental practices both within and surrounding the campus, identifying activities that may have direct or indirect environmental impacts.

The Green Audit is a structured process involving the **identification, quantification, documentation, reporting, and analysis** of various environmental aspects of the institution. It is designed to review ongoing efforts and assess potential risks to the health of campus occupants and the surrounding ecosystem.

The audit serves as a tool to guide environmental improvements and recommend best practices for sustainability. It addresses key focus areas including **Green Campus Initiatives, Waste Management, Water Conservation, Air Quality, Energy Efficiency, and Carbon Emissions**.

The audit is conducted through a clearly defined framework encompassing its **objectives, methodology, analytical tools, and reporting structure**, aimed at fostering environmental consciousness and sustainable operations across the institution.

INTRODUCTION

In recent years, educational institutions have increasingly recognized the importance of environmental sustainability, prompting the adoption of innovative and eco-friendly practices. To safeguard the campus environment, many institutions have implemented strategies aimed at addressing ecological concerns such as **energy conservation, waste recycling, reduction of water consumption, rainwater harvesting**, and more.

Despite these efforts, it is acknowledged that institutional operations can have unintended adverse impacts on the environment. A **Green Audit** is a systematic, official evaluation of how an institution's activities affect the environment. It aims to assess the current environmental conditions of the campus and identify areas for improvement.

The Green Audit serves as an essential tool for colleges and universities to analyze their **consumption of energy, water, and other resources**. Through this process, institutions can make informed decisions on reducing waste, optimizing resource utilization, and implementing cost-saving measures. Furthermore, the audit helps to quantify the types and volumes of waste generated, providing a foundation for enhanced **waste minimization and recycling initiatives**.

The practice of green auditing, coupled with the adoption of suitable mitigation measures, creates a mutually beneficial scenario for institutions, the academic community, and the environment. It fosters **awareness of health and sustainability issues**, promotes **environmental values and ethics**, and enhances the understanding of the institution's ecological footprint among students and staff.

In addition to supporting environmental stewardship, green auditing contributes to **financial savings** through the efficient use of resources. It also encourages the development of a sense of **personal and collective responsibility** towards sustainability among faculty, students, and administrators.

The audit process typically includes **primary data collection**, a comprehensive **site walkthrough** with the institution’s team, and the **review of relevant policies, practices, documents, and operational records**. This holistic approach ensures a thorough and actionable assessment of the institution’s environmental performance.

OVERVIEW OF THE COLLEGE

Miranda House, college for women, located in the University of Delhi campus, is a premier women's institution. It was established in 1948 by the then Vice Chancellor, Sir Maurice Gwyer. Lady Edwina Mountbatten laid its foundation stone on March 7 in the same year. Originally designed by renowned architect Walter George, Miranda House is built in warm red brick with cool and spacious corridors. The College shares an architectural affinity with other colonial educational institutions of the country. In the past six decades, as the College has grown, several other buildings have been added in consonance with its original design. Special efforts being made to preserve the heritage of its pristine architectural glory.

Miranda House offers liberal education in social sciences, humanities and basic sciences to more than 5000 students. The faculty, renowned for its meritorious basis profile and versatile talent, is dedicated to the cause of liberal education. In Miranda House, the students develop a sense of social responsibility, intellectual rigour, and practical knowledge. They learn communication, analytical and problem-solving skills, and a demonstrated ability to apply their education to the complex and diverse world. The College has always maintained high academic standards.

More significantly, it has provided students an enabling and creative environment to freely develop and express views that help them respond to changes in society. Being on the University campus, its proximity to other colleges facilitates the participation of Miranda students in several inter-college events, both academic and cultural. The college hostel one of the most beautiful residential buildings on the University campus The institution's philosophy is guided by a pedagogy that encourages the students to explore new domains, to critically examine the world around them and to question stereotypes.

The Legacy... traditions and institutional values

MH has a rich legacy. Established at dawn of independence it provided a unique opportunity to young women for quality higher education. They set for themselves high goals and ideals. They worked for a new society in which women would enjoy equal opportunity with men in professional and public fields. In this, they were abetted by the founding faculty who were independent minded, and belonged to the select group of highly educated women in independent India with a deep concern for quality of education they imparted. They were also charged with a spirit of adventure, steeped in idealism, and committed to women empowerment and the task of building a nation. Proud of their mission as early pioneers, they worked with single-minded devotion in setting the Miranda traditions. These attributes of total dedication have contributed in a large measure to the position of distinction occupied by the college. Over more than seven decades of its existence, the college has grown from strength to strength, continuing to provide an atmosphere of high academic excellence and rich cultural activities to its students. The college has established a niche for itself amongst the globally recognized premiere institutions of higher learning.

Being a college established and maintained by the University, Miranda House has a special place among the women's colleges of the University of Delhi. Its location in the heart of the University Campus, and its close interaction with the various Departments of the University and other campus colleges gives it a unique advantage. Although a women's college, it is not a cloister. It welcomes interaction with other colleges and educational organizations across the country, actively engaging both men and women in all its extramural activities, competing with the best on equal terms.

The extremely distinguished list of alumnae imparts a sense of confidence and immense pride in students. They view themselves as torchbearers of great traditions. All this propels them to often explore uncharted territory, think unfettered, and bend traditions in a bid to create a better world, especially for women.

MISSION & VISION

The stated mission of the college is to provide

• a stimulating active learning environment attracting young women with exceptional desire to make a difference to the world

• highest quality liberal arts and basic science education through distinctive academic programmes that instill rigour in the pursuit of knowledge

• culturally sensitive inclusive environment upholding core values of respect for diversity

• enriching co-curricular activities linking education to the world of work and communities

• dedicated and responsive faculty of scholars to assist each student fulfill aspirations and reach milestones

• competencies for new domains of knowledge and the future of work in a globally connected world

• early mentoring for leadership instilling capacity to explore new ideas, take intellectual risk, and usher paradigm change

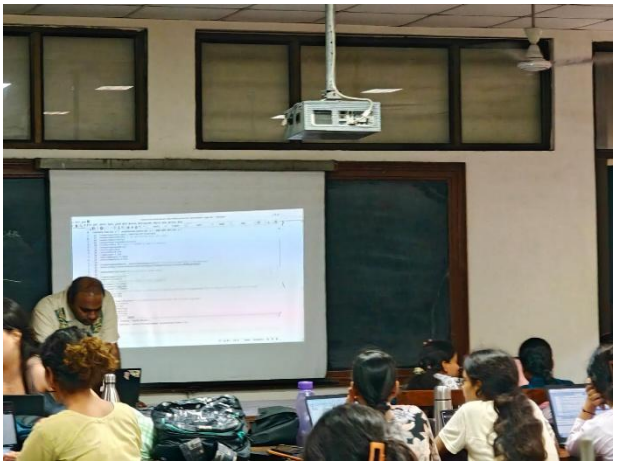
VISION

The Upanishadic maxim in the college logo “Swadhyayann pramaditavyam” enshrines Miranda House’s understanding of what education must accomplish and steers students towards introspection and self-learning. Miranda House envisions a world where women have their

rightful place and are given due recognition as leaders to reach top positions in all sectors of human endeavour. To give shape to this vision, Miranda House continually reaffirms and embraces its responsibility to build on its historic legacy of leadership in the education of women. It remains strongly committed to addressing issues of gender in all their complexity and preparing young women to: lead professionally successful lives enriched by the love of learning build personally fulfilling lives radiating integrity and strength of character sustain purposeful engagement with the world with an open mind and balanced perspective develop an understanding of their duty to nation and nation-building meet with confidence the challenges they will encounter in their lives flourish in a different cultural milieu in an increasingly interconnected world uphold the core institutional values of respect for diversity, inclusiveness, and humanism to emerge as leaders charged with new ideas and the capacity to make a difference.

FACILITIES IN THE CAMPUS

Amenities at Miranda provide far more than academic and administrative facilities on campus. It is dedicated to provide students with an exceptional infrastructure for learning as well as facilities for simplifying the procurement of fundamental skills. To accomplish the goal, Miranda House offers the following:



LIBRARY: The Miranda House Library was established on 7th March 1948 and the first book was accessioned on 22nd July 1948. The foundation stone of the present building was laid by Smt. Indira Gandhi, then Prime Minister of India on 7th March 1973. The Miranda House Library preserves and provides access to a rich and enduring source of knowledge to inform, inspire and engage its users in their intellectual and creative endeavors by the well-known motto "Right Document to the Right Reader The foundational ideal is enshrined in the upanishadic motto of the college itself, 'Vidyahi paramam Jyoti'- Knowledge is Eternal Light at the Right Time". It takes pride in fulfilling this inherent mission to the hilt. MH has common Digital Resource Centres with a cluster of 80 computers on LAN.

GUEST HOUSE: Fully furnished air-conditioned Guest Rooms are available for parents and other guest's payment basis. Capacity 4 rooms with double occupancy.

CAFETERIAS: MILLET, PAM CAFÉ, NESCAFE: (The student activity area has two very popular food kiosks, the Nescafe Kiosk and the Pizza, Millet, and More (PAM). Additionally there is a Quick Bite Kiosk at the main college gate close to science departments. The canteen contractor also runs a Night Dhaba for benefit of hostel students from 9 pm to 11 pm. The hostel students have self-organized themselves to run a tuck shop for residents, with shared responsibility.)

SMART CLASSROOMS: The total of 110 formal lecture spaces provide comfortable seating for students in regular classes with the potential for easily accommodating another 10% at any time. Nearly all lecture venues have neatly arranged custom designed, comfortable desks and benches with shelves for bags; teacher table and chair. Green Ceramic Board for use with dust-free chalk or White Board for use with marker pens. Roof mounted Projector, and a pull-down white display screen for multimedia projection. Custom-designed Lecterns facility to link laptop to multimedia projector. Extra power outlets on front wall for flexible usage of the room. Air-conditioning was considered essential. Imparting knowledge based on traditional values, yet with modern and global significance in an evolving academic world

AUDITORIUM: Miranda House has an Auditorium with seating capacity of 450 in the Main Hall. As one of the oldest constructions in the college, it is part of the college building that was designed by Walter George. The architecture is unique. The Miranda House Auditorium and its stage bring alive nostalgic memories and are of historic importance.

MINI-AUDITORIUM: There are 170 seats in Miranda House's mini auditorium, which is arranged in steps so that everyone can see each other. The theatre has large windows that provide a lovely view of the surrounding greenery. It is utilized to hold training programs, seminars, conferences, workshops, lectures, and certificate courses.

SEMINAR HALL: The Seminar Hall has a seating capacity of 125. It has a high-quality sound system, wall mounted speakers, conference table mikes, roving mikes, lapel microphone, provision for recording; Roof-mounted high luminosity projection system. MH hosts several cultural events in its outdoor spaces like the open-air theatre, 2 arcades, cafeteria lawns, front lawns, sports ground, hostel lawns, etc. The bank foyer is periodically used for exhibitions and help desks for events. The Heritage Hall and the Student Activity Center are exquisite learning studios used extensively for organizing indoor music concerts, dance, theatre, workshops, exhibitions of photographs, paintings, art installations, prestigious public lectures, and panel discussions. They are innovatively used for baithak style gatherings.

AUDIT PARTICIPANTS

On behalf of the college

Name	Designation
Prof. Bijayalaxmi Nanda	*Principal*
Prof. Namrata Singh	*Coordinator, IQAC*
Prof. Nisha Vashistha	*Coordinator, UBA*
Prof. Rekha Kumari	*Convenor, MH Vatavaran*
Dr. E Geetanjali	*Convenor, Garden Committee*
Dr. Deepak Yadav	*Member, IQAC*
Mr. Ravi	*Member, IQAC*
Dr. Ambuja Bhushan Jaiswal	*Member, IQAC*
Mr. Deshraj	*Garden Supervisor*
Mr. Veer Singh	*AO, Admin*
Mr. Sudhir Aggarwal	*AO, Admin*
Mr. Joyti Prakash	*Section Officer, Admin.*
Mr. Shiv Kumar	*Site Engineer*

On behalf of EHS Alliance Services

Name	Position	Qualifications
Dr. Uday Pratap	Lead Auditor	*Ph.D., PDIS, QCI – WASH, Lead Auditor ISO 14001:2015*
Ms. Pooja Kaushik	Co-Auditor	*M.Sc., Field Expert, QCI – WASH, PGCCC*

EXECUTIVE SUMMARY

Green auditing serves as a vital mechanism for assessing whether the practices adopted by an institution are environmentally sustainable and ecologically sound. Historically, communities maintained a balanced and responsible approach toward the use of natural resources. However, over time—particularly in urban and semi-urban settings—resource consumption has become excessive and often unchecked, with increased reliance on electricity, water, fuel, and other utilities.

At this juncture, it becomes imperative to critically examine whether our institutional operations are consuming more resources than necessary and to evaluate whether these resources are being used judiciously. The Green Audit provides a structured framework to review and optimize such practices, promoting efficiency in resource utilization.

In the context of growing environmental concerns, such as climate change and the depletion of natural resources, a shift toward sustainable processes is no longer optional—it is essential. A Green

Audit supports this transition by offering a systematic approach to identify environmental inefficiencies and areas for improvement. Furthermore, it enhances environmental consciousness among faculty, staff, and students, encouraging collective responsibility for maintaining an eco-friendly campus.

This marks the **fifth Green Audit** conducted at Miranda House, in alignment with the **National Assessment and Accreditation Council (NAAC)** requirements. The primary focus of this audit was to assess critical sustainability indicators including **energy consumption (electricity and fossil fuels), water usage, soil and vegetation health, waste management practices, and the overall carbon footprint** of the campus.

To initiate the process, a comprehensive questionnaire was circulated to gather data on existing infrastructure, resource availability, and the consumption patterns of both students and staff. This data-driven approach laid the foundation for the subsequent on-site assessment and analysis.

GREEN AUDIT - ANALYSIS

1.1 GENERAL INFORMATION

Does any Green Audit conducted earlier?	*Yes, this is the fifth external audit organized by the College*
What is the total strength (people count) of the Institute?	***Students*** *Male: 0 Female: 5683 Total: 5683* ***Teachers (including guest faculty)*** *Male: 41 Female: 221 Total: 150* ***Non-Teaching Staff*** *Male: 62 Female: 12 Total: 37* ***Total Strength*** *Male: 103 Female: 5916 Total: 6019*
What is the total number of working days of your campus in a year?	*There are one hundred and eighty working days in a year.*

Where is the campus located?	*The campus is located at GC Narang Road, New Delhi, Delhi 110007*
Which of the following are available in your institute?	***Garden Area:*** *Available* ***Playground:*** *Available* ***Kitchen:*** *Available* ***Toilets:*** *Available* ***Garbage/Waste Storage Yard:*** *Available* ***Laboratory:*** *Available* ***Canteen:*** *Available* ***Hostel Facility:*** *Available* ***Guest House:*** *Available*
Which of the following are found near your institute?	***Municipal Dump Yard:*** *Not located in the vicinity of the institute* ***Garbage Heaps:*** *None observed* ***Public Convenience:*** *Available* ***Sewer Line:*** *Approximately 2.0 km of sewer line exists within the campus* ***Stagnant Water:*** *Not present* ***Open Drainage:*** *Not present* ***Nearby Industry (Type):*** *None* ***Nearest Bus/Railway Station:*** *Metro Station and. Bus stop* ***Market / Shopping Complex:*** *Available nearby*

1.2 WASTE MINIMIZATION AND RECYCLING

Does your institute generate any waste? If so, what are they?	*Yes, the following types of waste are generated by the campus* • *Biodegradable waste – Horticulture waste and food waste* • *Non-biodegradable waste – Paper and plastic waste* • *Biomedical waste – sanitary disposal waste* • *E-waste* *The college takes measures to manage the solid waste on campus by segregating it at the source, composting biodegradable waste, recycling electronic waste, and restricting single-use plastics.* *The campus has color-coded waste bins for the segregation of bio-degradable (green) and non-biodegradable (blue) wastes.* *Waste paper collection bins are strategically placed on campus to collect and recycle paper. The biodegradable waste is converted into compost using the composting facility in the college. The compost is used in the college nursery and college garden.*
What is the approximate amount of waste generated	*Biodegradable waste - 80 Kg* *Non-biodegradable waste -15 Kg* *Hazardous Waste - 3 Kg* *Others < 2 Kg*

per day? (in Kg approx.)	
How is the waste managed in the institute? By Composting, Recycling, Reusing, Others (specify)	➢ *Composting is done for horticulture waste management. Composting Unit 900 kg used for compost by 5 pits* ➢ *College has initiated Steel cutlery in canteen, plastic picketing, waste segregation at source along with waste collection derive* ➢ *The college also has a MoU with Shiv Shakti Metals Pvt Ltd. They collect e-waste (computers, mobile, printers, servers, printers) and send it for recycling.* ➢ *Vatavaran, the college's environment club, collaborates with NGOs WWF to upcycle used clothes.* ➢ *Used paper is recycled into a variety of products - folders, carry bags, postcards and greetings cards, which are available for sale at the MH Souvenir Shop set up on the college campus.* ➢ *A bi-annual one-week collection drive is organized by campus.* ➢ *The college avoids the use of single-use plastic on campus.* ➢ *Two separate boxes of green and blue color for waste segregation in corridors, staffroom, and office. The college has also placed separate boxes for paper recycling.*
Do you use recycled paper in the institute?	*MH-Vatavaran has organized a handmade paper-making workshop to reuse waste paper.*
How would you spread the message of recycling to others in the community?	*Following are the ways through which the college is spreading awareness about recycling* ➢ *Waste plastic collection drives* ➢ *Installation of Dustbins for waste plastic collection, e-waste collection and recycling* ➢ *Tie-ups with authorized e-waste collection agency* ➢ *Awareness among the Students by Webinars, seminars, Sign Boards, Posters, etc.* ➢ *Seminars and add-on courses for students and faculty* ➢ *MoUs with NGOs* ➢ *Reuse waste paper for poster-making*
Can you achieve zero garbage in your institute? If yes, how?	*MH is in the process of achieving zero garbage. The college does not encourage the use of single-use plastic. College converts the biodegradable garden and kitchen waste into compost. The dry waste is reduced by using digital media to circulate messages rather than printed paper. E-waste is segregated and recycled.*

1.3 GREENING THE CAMPUS

Is there a garden in your institute?	*Yes, about 398279.22 Sq ft areas are developed as Gardens.*
Do students spend time in the garden?	*Yes, students spend around 2-4 Hours during winter.*
Total number of Plants in Campus?	*Plant type with approx. count* *Full-grown Trees 880* *Small Trees 1676* *Hedge Plants 16297* *Grass Cover sqm 398279.22 Sq ft*
Is the College campus having a Horticulture Department? (If yes, give details)	*Yes, Total 10 staff (maali) were deployed in the horticulture department*
How many Tree Plantation Drives are organized by campus per annum?	*A total of 5 plantation drives were conducted. Approximately 900 trees and hedge plants were planted by the garden committee in this Financial Year with more than an 80% survival rate.*
Is there any Plant Distribution Program for Students and Community?	*Yes, Plantation distribution drives are conducted in nearby Villages under Unnat Bharat. Moreover, the college has a practice where all guests are given a planter as a gift rather than a bouquet of flowers*
Is there any Plant Ownership Program?	*MH has a designated Kitchen Garden where college students grow and sell vegetables. The college has entered into an MoU with the Edible Routes organization to create a biodiversity trail to grow native plant species on campus. The college is also planning a rewilding project on campus.*

1.4 WATER AND WASTEWATER MANAGEMENT

List uses of water in your institute

Details of water usage in campus:
***Drinking** – 144.65 KL/month*
***Gardening** – 186.24 Kl/month*
***Kitchen and Toilets** – 1127.02 KL/month*
***Others** – 66.78 KL/month*
***Hostel** – 972.00 KL/Month*
Total = 2496.68 KL/Month

Note: Please note that all calculations have been made on the basis of NBC 2016 norms as college has no category wise water usage records.

How does your institute store water? Are there any water-saving techniques followed in your institute?

College stores water in overhead and underground tanks. Storage capacity along with quantity is mentioned below.

Type of Storage	Tank Capacity (Ltr)	Count of Tanks	Total Capacity (Ltr)
Overhead Tank	500	75	37500
Overhead Tank	1000	19	19000
Overhead Tank	2000	3	6000
Overhead Tank	3000	1	3000
Underground Tank	5000	3	15000
Underground Tank	34000	3	102000
Under Ground Tank	10000	1	10000

Saving Techniques

- *MH ensures regular water tank maintenance and checks water quality standards on campus.*
- *The water tanks and water coolers are checked every three months, and RO systems are regularly changed.*

Locate the point of entry of water and point of exit of wastewater in your institute.

***Entry** - The primary source of water is the Delhi Jal Board (MCD). MH also has bore wells which are used as secondary sources.*

***Exit**- From Canteen, Toilets, Hostel, bathrooms and Labs through covered drainage which is connected to municipal sewage*

Write down ways that could reduce the amount of water used in your institute

Basic ways:

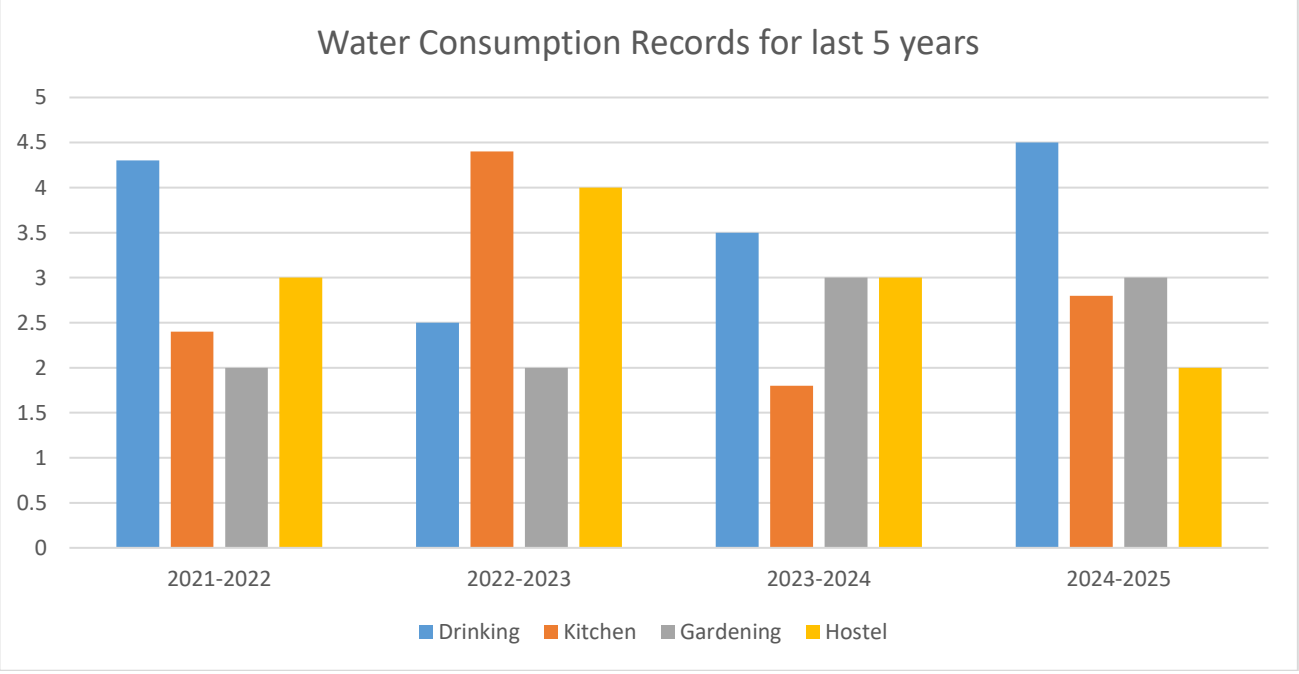
- *The college ensures that the faucets in the washrooms and water filtration units are checked regularly and do not have any leakages.*
- *The college checks the water flow in the taps.*
- *The college has initiated the installation of auto-push taps to reduce water wastage.*
- *The campus has 60+ double-level flush systems in the academic blocks to further reduce water usage.*
- *College has implemented several unique and unconventional approaches to sustainability that have yielded positive results. One example is*

implementing a campus-wide water conservation program with RO-reject water recycling and drought-resistant landscaping.

- *The college-planted adusa, scientifically known as Justicia adhatoda, is a versatile and medicinal plant often used in traditional remedies and its minimal water resilience makes it as excellent choise for water conservation. Also, the college planted Sisymbrium, Chamrod, and Vajradanti, which require less water. Habitat restoration projects like the biodiversity trail are undertaken to preserve and enhance local biodiversity, creating green spaces that support native wildlife and also facilitate as good water conservers."*
- *Habitat restoration projects like the biodiversity trail are undertaken to preserve and enhance local biodiversity, creating green spaces that support native wildlife.*
- *The RO reject water is used in the plants.*
- *The college has initiated growing plants native to the semi-arid regions, requiring less water to survive.*

These initiatives have significantly reduced water usage on campus while promoting sustainable water management practices.

Water consumption Records for last five Years



1.5 ANIMAL WELFARE

List the animals (wild and domestic) found on the

5 Cats, 1-2 stray dogs, 25+ butterfly species, 1000+ Squirrels and 25+ Bird species are found in campus. A variety of bird's species and other flora and fauna are available, so institute is putting efforts for biodiversity conservation and documentation.

campus (dogs, cats, squirrels, birds, insects, etc.)	
Does your institute have a Biodiversity Program or a KARUNA CLUB?	*Yes, Miranda House's Avaya society actively organizes awareness through various campaigns and activities including seminars, poster competition, etc.*

1.6 CARBON FOOTPRINT - EMISSION & ABSORPTION

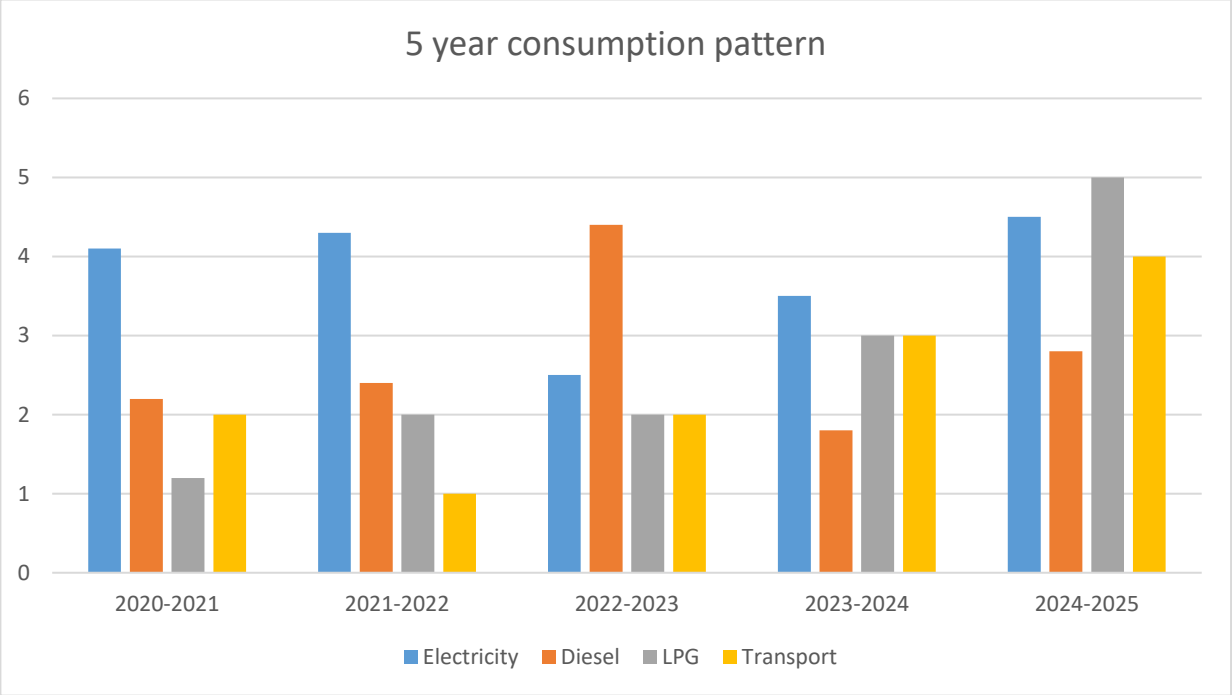
Electricity used per year - CO2 emission from electricity	*(electricity used per year in kWh/1000) x 0.84* *= 0.00 tons*
LPG/PNG used per year - CO2 emission from LPG/PNG	*(LPG/PNG used per year in KG) x 2.68* *= 395.41 x 2.68* *=1.06 tons*
Diesel used per year CO2 emission from HDS (Diesel)	*(Diesel used per year in liters) x 2.99* *= 150 x 2.99* *=0.45 tons*
Transportation per year (car) CO2 emission from transportation (Bus and Car)	*There are 20 cars in college of faculties and staff members.* *= 20*2*2*180/100*0.02* *=1.44 tons* *There are 15 two wheelers in college, one runs on petrol and other runs on Electric.* *= 20*2*2*180/100*0.02* *=2.16 tons* *Total = 3.60 tons*

Total CO2 emission per year is 5.11 tons

After considering the carbon absorption capacity of the campus, the total carbon emission is 0 tons.

We can say that the college is carbon neutral for academic year 2024-25. College should go for carbon credit or IREC certification and carbon trading for current year.

Five years consumption showcase:



CARBON ABSORPTION BY FLORA IN THE INSTITUTION

The campus, spread over **398279.22 sq. ft.**, hosts a rich variety of greenery that significantly contributes to carbon absorption:

- **Trees:**
  - There are **880 full-grown trees** of various species. Each full-grown tree has a carbon absorption capacity of **22 kg of CO_2 per year**, resulting in a total absorption of **19.36 tons of CO_2** (880 trees × 22 kg).
  - Additionally, the campus has **1676 semi-grown trees**, each with an estimated carbon absorption capacity of **30%** that of a full-grown tree (i.e., **6.8 kg CO_2** per tree). Thus, the total absorption from semi-grown trees is approximately **11.40 tons of CO_2** (1676 trees × 6.8 kg).
- **Hedge Plants:**
  - Approximately **16297 hedge plants** of various species are maintained in garden spaces and non-built-up areas. While CO_2 absorption varies by species, in consultation with Environmental Science experts, an average absorption rate of **200 g CO_2 per plant per year** has been assumed. This results in a total estimated absorption of **3.26 tons of CO_2** annually (16297 plants × 0.2 kg).
- **Lawns:**
  - The entire **398279.22 sq. ft.** of lawn area is covered with buffalo grass, Mexican grass, and indigenous grass species. Grass absorbs CO_2 at a rate of **1 gram per 10 sq. ft. per day**, which totals approximately **14.54 tons of CO_2 per year** (398279.22 sq. ft. × 365 days × 0.1 g).

Total Annual Carbon Absorption Capacity of the Campus:

- From full-grown trees: **17.45 tons**

- From semi-grown trees: **11.40 tons**
- From hedge plants: **3.26 tons**
- From lawns: **14.54 tons**

Grand Total: Approximately 48.55 tons of CO_2 per year

GREEN INITIATIVES BY CAMPUS

1. Solid Waste Management

- The college effectively manages horticultural waste through composting, promoting environmentally responsible disposal practices.
- Paper consumption is reduced by digitizing attendance records and internal assessment processes.
- The library encourages the use of digital resources by continuously updating its collection of e-books and e-journals.
- Awareness campaigns are conducted to educate students on food wastage and strategies for minimizing it.
- Students are motivated to adopt the habit of reusing and recycling non-biodegradable materials.
- The institution regularly hosts workshops on solid waste management for student engagement and learning.
- The use of single-use plastics and plastic crockery is strictly prohibited on campus.
- Through various initiatives and awareness drives, the college actively promotes the principles of Reduce, Reuse, and Recycle (3Rs) as part of its sustainability commitment.

2. Liquid Waste Management

- Leakproof water fixtures are installed and maintained routinely to prevent wastage.
- Water-saving measures include the construction of Indian-style toilets, which consume significantly less water compared to Western-style systems.
- A dedicated staff member is assigned to promptly address any water leakage issues in taps, pipelines, tanks, or flushing systems.
- Wastewater generated from the campus RO (Reverse Osmosis) system is reused for gardening.

3. E-Waste Management

- A separate, secure storage room is designated for electronic waste.
- E-waste is periodically disposed of through an auction process, involving certified waste management agencies.

4. Rainwater Harvesting

- College has large tank rainwater storage tank for groundwater recharge.
- Grey-water from hostel kitchen is recycled using Hydroponics technique.

5. Renewable Energy Initiatives

- The college uses solar energy through Solar Photovoltaic (SPV) Street Lights, and a Grid Interactive Rooftop SPV plant.
- The college has installed solar PV (150 KW) on the rooftop of building.
- The college is purchasing solar energy from solar park to avoid carbon emission and save electricity bills in a sustainable way.
- surplus energy generated by the 150kWp renewable SPV that is fed into the grid leads to deduction in equivalent electricity units.
- 40 standalone SPV lights and 7 Solar water heaters contribute towards electricity saving o The College is using solar lights for street lights.

6. Air Pollution Control

- Personal vehicles of students are not allowed on campus, thereby reducing vehicular emissions.

7. Environmental Club – *MH-VATAVARAN* Initiatives

- On 3rd July, the society, in collaboration with MH Vatika, organized a Plantation Drive
- International Plastic Bag Free Day was celebrated on 3rd July.
- World Nature Conservation Day was celebrated on 28th July
- International Tiger Day was celebrated on 29th July
- The Orientation Programme ’24 was held on 29th August with the theme Go Green with MH Vatavaran, introducing first-year students to the EcoSouvenir Shop and eco-products stall.
- An eco-friendly rakhi-making workshop was also conducted.
- MH Vatavaran celebrated Vriksh Raksha Bandhan under the theme “Nurture Nature, Tie a Bond Beyond Rakhi!” in the month of Aug.
- A Cleanliness Drive was organized in collaboration with NSS and Unnat Bharat Abhiyan in the month of September
- A Plastic Waste Collection Drive was held to mark World Cleanup Day.
- The society also organized a Cloth Donation Drive as part of the District Eco-SDG Championship.
- On World Cleanup Day, a Nukkad Natak on Plastic and Garbage Disposal was staged, focusing on SDGs 3, 11, and 12
- Several outreach activities followed: a Diwali Workshop (making bookmarks and diaries), food distribution drive on Global Roti Day, and participation in the *Sustainability Conclave: Role of Youth in Realizing SDGs by 2030 on 22nd October
- A Cleanliness Drive was also organized with Aavya – the Animal Welfare Society
- Events like International E-Waste Day (14th October), Freshwater Dolphin Day (24th October), and International Climate Action Day (24th October) were celebrated on the campus
- To commemorate National Tree Week (23rd November – 1st December) and World Fisheries Day (21st November), awareness blogs were published.
- World Soil Day (5th December), International Cheetah Day and World Wildlife Conservation Day (4th December), and International Mountain Day (11th December), were celebrated by spreading awareness on biodiversity and conservation
- MH Vatavaran launched the sustainable initiative “Eco-Cans: From Waste to Wonder” from 6th to 13th February at MH Tech Park.

- MH Vatavaran also participated in the Longest Chain of Used Plastic Bags Contest under Panasonic's Harit Umang Program on National Science Day (28th February)
- The society also celebrated Digital Cleanup Day (15th March), World Sparrow Day (20th March), World Forestry Day (21st March), and World Water Day (22nd March), supported by activities such as a Poster-Making Competition on "Water for Peace", active Earth Hour 2025 observance, and participation in the NGT National Conference at Vigyan Bhawan
- MH Vatavaran was also proud to showcase two benches made from recycled plastic with Bisleri, marking a tangible outcome of its recycling initiatives.
- MH celebrated Earth Day by organizing EcoSouvenir stall at Tempest and a Poster-Making Competition, themed Our Power, Our Planet.
- World Environment Day celebrations were carried out on 5th June 2025
    - Madhuban 2025, an annual magazine was released that themed around land restoration, desertification, and drought resilience
    - An oath-taking ceremony was also conducted to reaffirm the society's commitment to environmental stewardship
    - A seminar, quiz, reel competition, and plantation drive, all successfully executed with active faculty support and student participation.

RECOMMENDATIONS

- **Integrate Environmental Parameters into Procurement:**
  Environmental considerations shall be incorporated into the institute's purchase policy to adopt a cradle-to-grave approach, ensuring sustainability throughout the lifecycle of products.

- **Expand Solar Power Capacity:**
  The capacity of the existing solar power plant should be enhanced to meet at least **75% of the campus's total electricity demand**, promoting greater energy self-sufficiency and reducing carbon footprint.

- **Regulate Tap Flow Rates and Conduct Training:** Tap flow rates should be regularly monitored and maintained at **no more than 2.5 liters per minute**. Additionally, **training programs on environmental management systems and nature conservation** should be organized for school students and the local community.

- **Install Water Meters Across Campus: Water meters** should be installed in all buildings to enable the **monitoring of per capita water consumption**, thereby promoting efficient water use and conservation.

- **Adopt Green Building Guidelines for Expansion:** All future infrastructure development and expansion projects should strictly adhere to **Green Building Guidelines**, ensuring energy-efficient, environmentally responsible construction.

CONCLUSION

This audit has involved extensive team discussions and meetings with key staff members, covering a wide range of environment-related topics. The **Environment committee MH-Vatavaran of Miranda House** actively promotes the conservation and responsible use of natural resources.

Approximately **75% of the college campus** is dedicated to landscaping and green spaces, reflecting the institution's commitment to environmental stewardship. The college demonstrates a conscious effort to operate in an environmentally responsible manner, considering the ecological impact of most of its activities.
The recommendations outlined in this report present additional strategies for enhancing current practices and guiding the institution toward becoming a more sustainable and eco-conscious campus.

Moving forward, it is essential to initiate new efforts such as **encouraging active participation of students and staff in community outreach programs focused on environmental conservation**, thereby fostering a culture of sustainability beyond the campus boundaries.

REFERENCE

- The Environment [Protection] Act – 1986 (Amended 1991) & Rules-1986 (Amended 2010)
- The Petroleum Act: 1934 – The Petroleum Rules: 2002
- The Central Motor Vehicle Act: 1988 (Amended 2011) and The Central Motor Vehicle
- Rules:1989 (Amended in 2005)
- Energy Conservation Act 2010.
- The Water [Prevention & Control Of Pollution] Act – 1974 (Amended 1988) & the Water (Prevention & Control of Pollution) Rules – 1975
- The Air [Prevention & Control Of Pollution] Act – 1981 (Amended 1987) The Air (Prevention & Control of Pollution) Rules – 1982
- The Gas Cylinders Rules – 2016 (Replaces the Gas Cylinder Rules – 1981
- E-waste management rules 2016
- Electrical Act 2003 (Amended 2001) / Rules 1956 (Amended 2006)
- The Hazardous Waste (Management and Handling and Trans-boundary Movement) Rules, 2008 (Amended 2016)
- The Noise Pollution Regulation & Control rules, 2000 (Amended 2010)
- Relevant Indian Standard Code practices

ANNEXURE – PHOTOGRAPHS OF ENVIRONMENT CONSCIOUSNESS


TAVARAN
22-23

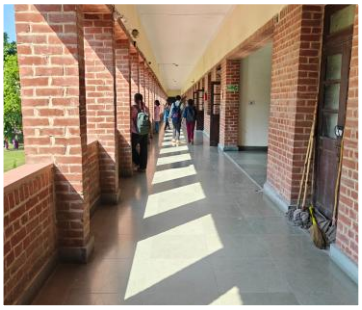

MIRANDA HOUSE


PLASTIC
COLLECTION
DRIVE


MIRANDA HOUSE


Azadi Ka Amrit Mahotsav
GREEN CHAMPION
DEVELOPED INDIA MISSION
Certificate
Certi No:DESC/P3/24-218
District Eco-SDG Champion 2024
This is to certify and grade that MIRANDA HOUSE is hereby recognized as District Eco-SDG Champion 2024 with Outstanding Performance Grade 'A++' for NORTH DELHI District, DELHI. The Institution has successfully demonstrated its support to Sustainable Development Goals and Social Responsibility by conducting and showcasing several Eco-SDG and Skill Development activities, thereby contributing to national development.
P. Sudheer Kumar
ED- APEX SDG
APEX SDG (and its Consortium for District Eco-SDG Championship 2024 is a Facilitator for implementing Sustainable Development Goals (SDGs) in Higher Education Institutions, Industries, Corporates and Enterprises, and is registered under Ministry of Micro, Small and Medium Enterprises (MSME).
APEX SDG
Sustainability in Industries/Corporates/Educational Institutions/Business Fraternities
Skilling through Internships APEX SDG

Well maintained campus

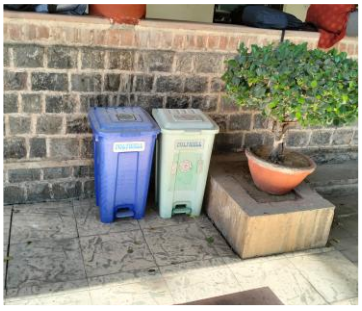


Well ventilated building

Lush green campus

Sports Ground

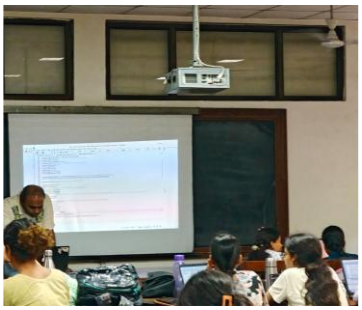
Paving stone installed in campus



Color coded dustbins

Ornamental plants in campus

Indoor plants in campus



Smart Classrooms

Hydropnic System

Composting Plant

Bio Degradable Waste Segregation

Green House Nursery

Indoor Plants

Herbal Garden

Nakshatra Garden

Plantation

3R In Action

Auditorium

Solar Lights Installed

Rainwater Storage Tank

Save Electricity

Save Water

Girl's Hostel

Ventilated Classroom

Urinals To Save Water

Solar PV For Renewable Energy

********** END OF THE REPORT **********