



Miranda House
UNIVERSITY OF DELHI

ENVIRONMENT AUDIT REPORT

2021 - 2022

PREPARED BY
EHS ALLIANCE SERVICES



TABLE OF CONTENT

AUDIT CERTIFICATE	2
ACKNOWLEDGEMENT	3
DISCLAIMER	4
CONTEXT & CONCEPT	5
INTRODUCTION	6
OVERVIEW OF COLLEGE	7
VISION & MISSION	10
AUDIT PARTICIPANTS	12
EXECUTIVE SUMMARY	12
WASTE MANAGEMENT	14
ENERGY CONSERVATION	16
WATER & WASTEWATER MANAGEMENT	18
AIR QUALITY MANAGEMENT	21
ENVIRONMENT LEGISLATIVE COMPLIANCE	22
GENERAL INFORMATION	23
INITIATIVES CARRIED OUT BY COLLEGE	24
RECOMMENDATIONS	26
CONCLUSION	27
REFERENCE	27
ANNEXURE I – ENVIRONMENTAL RECOGNITION AND COMPLIANCE	28
ANNEXURE II – PHOTOGRAPHS OF ENVIRONMENTAL CONSCIOUSNESS	30



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CERTIFICATE



AUDIT CERTIFICATE

PRESENTED TO

MIRANDA HOUSE

GC Narang Road, University Enclave, Delhi- 110007

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

ENVIRONMENT AUDIT

The environment legal compliances and initiatives carried out by the College have been verified on the report submitted and was found to be satisfactory.

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

AUDITOR SIGNATURE



11.07.2022

DATE OF AUDIT

EHS ALLIANCE SERVICES, PLOT A-72, SURYA VIHAR, GURUGRAM, 122001
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ACKNOWLEDGEMENT

EHS Alliance Services would like to thank the management of Miranda House for assigning this important work of Environment Audit. We appreciate the co-operation to the teams for completion of assessment.

We would also like to thank **Dr. Nisha Vashishta** – *Coordinator, IQAC* for her Continuous Support and guidance, without which the completion of the project will not be possible. We are also thankful to other staff members who were actively involved while collecting the data and conducting field measurements.

We are also thankful to

Dr. Namrata Singh – *Member, IQAC*

Ms. Neetu Chopra – *Member, IQAC*

Dr. Upali – *Member, IQAC*

Dr. Seema Aggarwal – *Member, IQAC*

Prof. Monika Tomar – *Member, IQAC*

Dr. Rekha Kumari – *Convener, Vatavaran*

Ms. Saba Zulfiquar – *Member, Vatavaran*

Dr. Somdutta Sinha Roy – *Member, Vatika*

Mr. Jyoti Prakash – *Section Officer, Admin*

Mr. Shiv Kumar – *Site Engineer*

Last but not the least, we would like to thank **Prof. Bijaylaxmi Nanda (Principal)**, Miranda House for giving us an opportunity to evaluate the environmental performance of the campus.



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DISCLAIMER

EHS Alliance Services Audit Team has prepared this report for Miranda House based on input data submitted by the representatives of College complemented with the best judgment capacity of the expert team.

While all wisely 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.

If you wish to distribute copies of this report external to your organisation, then all pages must be included.

EHS Alliance, its staff and agents shall keep confidential all information relating to your organisation 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.

EHS Alliance staff, agents and accreditation bodies have signed individual confidentiality undertakings and will only receive confidential information on a 'need to know' basis.

A handwritten signature in blue ink, appearing to read 'J. Day'.

Signature

LEAD AUDITOR



CONCEPT AND CONTEXT

In India, the process for environmental audit was first mentioned under the Environment Protection Act, 1986 by the Ministry of Environment of forests on 13th march, 1992. As per this act, every person owning an industry or performing an operation or process needs a legal consent and must submit an environmental report or statement.

The National Assessment and Accreditation Council, New Delhi (NAAC) has made it mandatory from the academic year 2019–20 onwards that all Higher Educational Institutions should submit an annual Green, Environment and Energy Audit Report. Moreover, it is part of Corporate Social Responsibility of the Higher Educational Institutions to ensure that they contribute towards the sustainable environment.

In view of the NAAC circular regarding environment auditing, the College management decided to conduct an external environment assessment study by a competent external professional auditor.

The term ‘Environmental audit’ means differently to different people. Terms like ‘assessment’, ‘survey’ and ‘review’ are also used to describe similar activities. Furthermore, some organizations believe that an ‘environmental audit’ addresses only environmental matters, whereas others use the term to mean an audit of health, safety and environment-related matters. Although there is no universal definition of Environment Audit, many leading companies/institutions follow the basic philosophy and approach summarized by the broad definition adopted by the International Chambers of Commerce (ICC) in its publication of Environmental Auditing (1989).

The ICC defines Environmental Auditing as:

“A management tool comprising a systematic, documented, periodic and objective evaluation of how well environmental organization, management and equipment are performing with the aim of safeguarding the environment and natural resources in its operations/projects.”

This audit focuses on the environment legal compliances and implementation of rules defined by MoEFCC or state pollution control board. The concepts, structure, objectives, methodology, tools of analysis, and objectives of the audit are discussed below.



INTRODUCTION

Nature is very precious gift for all life forms. Disturbance in the nature causes environmental problems. These are increasing day by day as a result of urbanization and industrialization on earth. Because of unplanned utilization of resources, our planet is facing tremendous pressure resulting in a sharp rise in temperature. Therefore, there is an urgent need to plan the consumption of the resources in sustainable manner in order to conserve natural resources for future generation.

Sustainable development is becoming popular in the world for saving the earth. Utilizing resources judiciously can save the earth's precious resources. Measurement of environmental components is the most effective step to conserve and protect natural resources.

Environmental auditing had begun in the early 1970s with provision of civil lawsuits for non-compliance with environmental regulations. Environment auditing involves on site visit, collection of samples, performing analyses, and report generation.

Industry, the corporate world is initiating auditing for saving natural resources. Academic institutions also can contribute to the preservation and conservation of resources within their premises.

In this "Environment Audit" report would help everyone to think about preserving resources, show willingness to learn their importance, adopt steps to minimize resource use and set an example for others to follow the path of eco-friendly practices to achieve the goal of sustainable development. Effective implementation of environmental auditing helps in minimization of environmental risks at low cost.



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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 are on to preserve the heritage of its pristine architectural glory.



Miranda House offers liberal education in social sciences, humanities and basic sciences to more than 4000 students. The faculty, renowned for its meritorious profile and versatile talent, is dedicated to the cause of liberal education. Through their three years at Miranda, our students develop a sense of social responsibility, intellectual rigour, and practical knowledge. They develop communication, analytical and problem-solving skills, and a demonstrated ability to apply their education to our 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



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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. Those who will make the College hostel their home for the next three years have the privilege of residing in 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 near seven decades of its existence, the college has grown from strength to strength, continuing to provide an atmosphere of high academic



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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.





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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.

Mission

The stated mission of the college is to provide

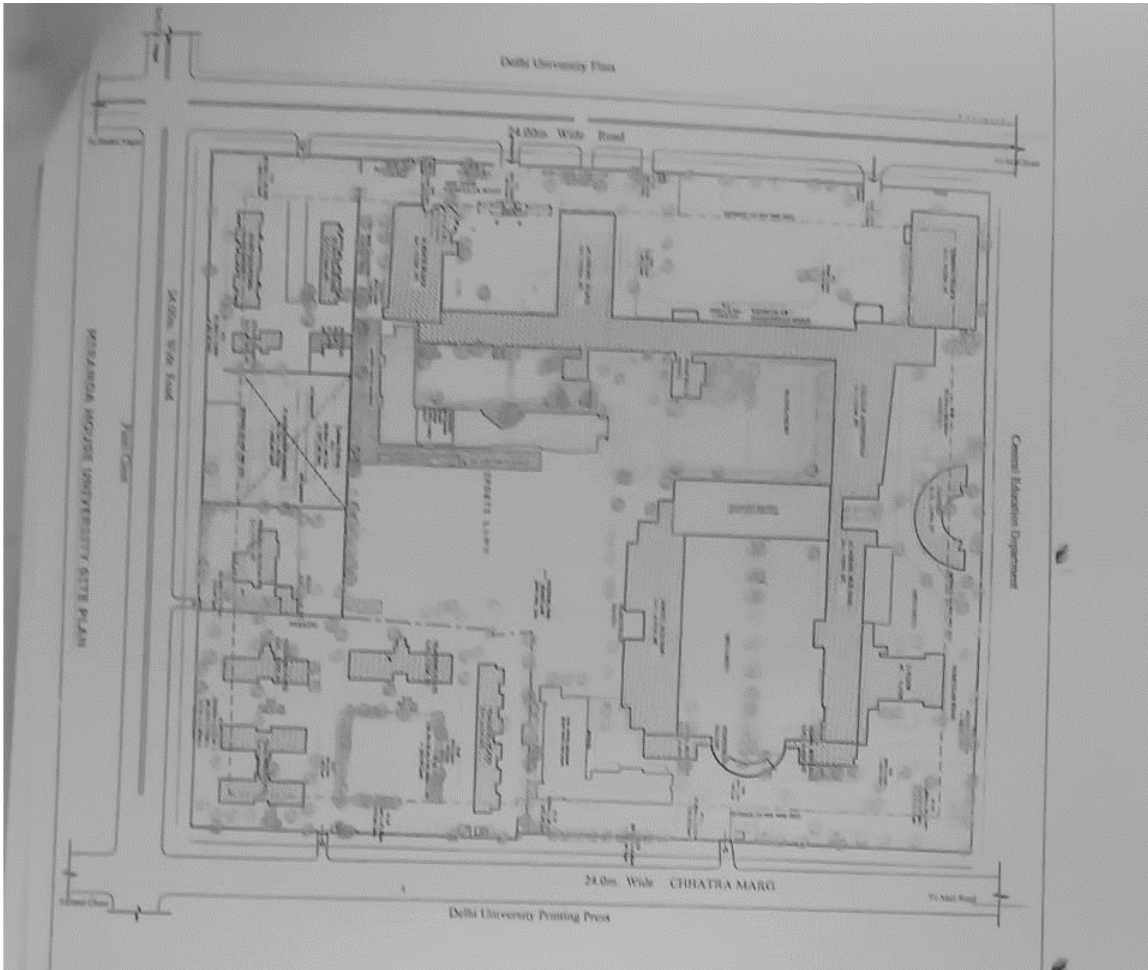
- a stimulating active learning environment attracting young women with exceptional desire to make a difference to the world
- highest quality liberal arts and basic science education through distinctive academic programmes that instill rigour in the pursuit of knowledge
- culturally sensitive inclusive 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



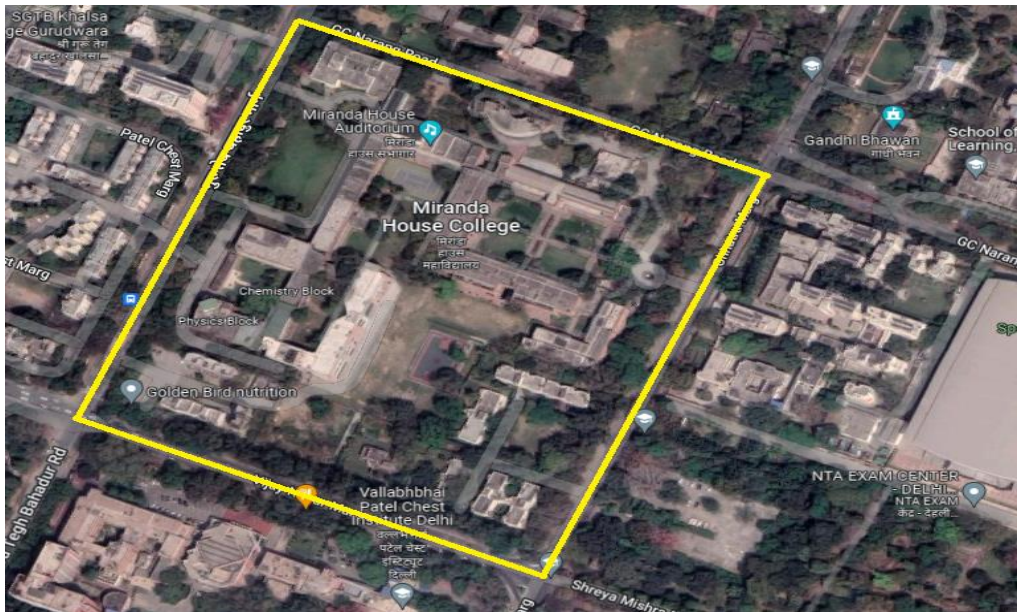
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Site layout of the Miranda House



Geo Location: Geo Coordinates from Google maps: 28.6928674, 77.2080126



AUDIT PARTICIPANTS

On behalf of College

Name - Designation/Department	
Prof. Bijaylaxmi Nanda	Principal
Dr. Namrata Singh	Member, IQAC
Dr. Somdutta Sinha Roy	Member, MH – Vatika
Ms. Neetu Chopra	Member, IQAC
Dr. Upali	Member, IQAC
Ms. Saba Zulfiquar	Member, MH – Vatavaran
Dr. Rekha Kumari	Convener, MH – Vatavaran
Dr. Seema Aggarwal	Member, IQAC
Prof. Monika Tomar	Member, IQAC
Mr. Jyoti Prakash	Section Officer, Admin
Mr. Shiv Kumar	Site Engineer

On behalf of EHS Alliance Services

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

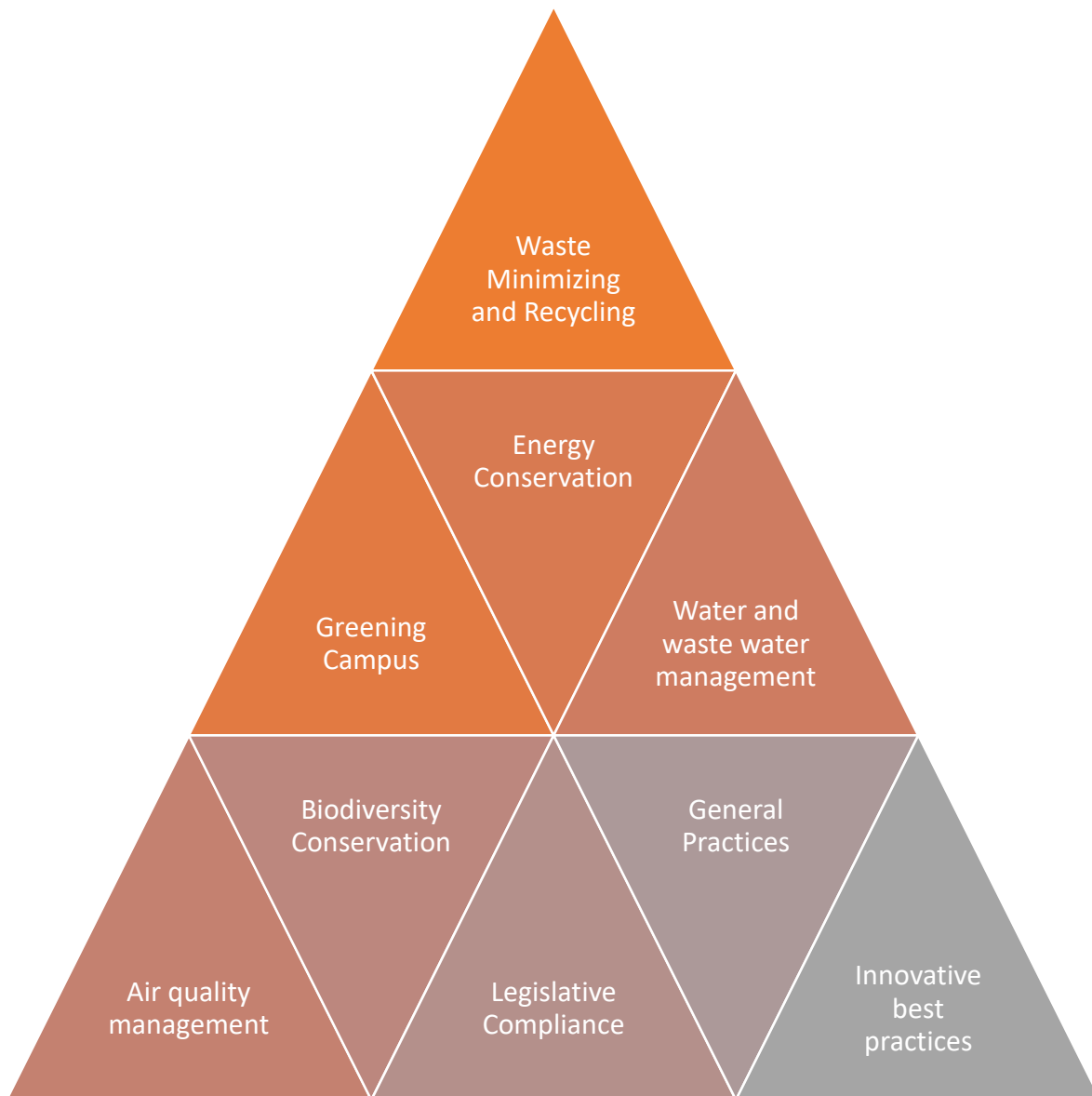
EXECUTIVE SUMMARY

The environment audit is a snapshot in time, in which one assesses campus performance in complying with applicable environmental laws and regulations. Though a helpful benchmark, the audit almost immediately becomes out-dated unless there is some mechanism in place to continue the effort of monitoring environmental compliance. Our approach to promote a Green Campus to inculcate the sustainable value systems among the students, so that they carry the learning and practices them in their future endeavours. This will ensure that Sustainability and Environmental practices get embedded in all the institutions and organizations in the country.



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

This is very second environment audit of College for doing their bit towards environmental protection and environmental awareness at local and global front. Audit criterion is environmental cognizance, waste minimization and management, biodiversity conservation, water conservation, energy conservation and environmental legislative compliance by the campus. A questionnaire is used during audit. This audit report contains observations and recommendations for improvement of environmental consciousness.





WASTE MANAGEMENT

TYPES OF WASTE ON COLLEGE CAMPUS

To create effective waste management plans, College first need to know the types of waste they produce. Below, we have compiled a list of various kinds of waste commonly generated on institutional campus:

1. **FOOD WASTE** - College campus generates food waste. The average mess and canteen generates approximately 10 kg of food waste a day. The reasons for food waste on an educational campus may be over purchasing food to ensure a sufficient supply and then throwing it away, especially in all hostel messes where plentiful stores are essential. And in the cafeteria or hostel mess, students may pile food onto their ample trays, find it unappealing once they sit down and dutifully scrape it into the garbage. Immediate attention is given to the food waste minimization techniques.
2. **RECYCLABLE PAPER, CARDBOARD, PLASTIC, GLASS AND CANS** - Campus tends to produce vast quantities of these recyclables. Even in the digital age, many students, professors and staff members still prefer handwritten notes and end up with piles of unwanted paper once their courses and projects are complete. For solution to this critical issue, MH has paper recycling plant in the campus, which has been in constant use for over ten years. The snacks so essential to late-night studying or socializing tend to come in recyclable plastic, glass or aluminium containers. And shipments of necessary items throughout the year are likely to arrive in recyclable plastic and cardboard packaging. The same is sold/auctioned to the scrap vendors time to time.
3. **STUDENT CLOTHES AND HOUSEWARES** - As we have mentioned above, many students find it more convenient to throw away their clothes and dorm furnishings at the end of the year than donate or recycle them. Team ECHO Miranda House and WWF India in collaboration with MH Vatavaran, organised an 'Old Clothes Collection Drive', which was a part of "Best from Waste: A Miranda House Initiative" (Project ECHO, WWF India) from 21 March 2022 – 25 March 2022.
4. **E-WASTE** - Student and facility electronics often form a large portion of a campus's waste — As campus continually upgrade their computing facilities and office computers to keep up with the latest technology, the old computers have to go somewhere. So do old printers, phones, copy machines and other electronics that receive upgrades over the years. Discarded student electronics often become part of a College's waste stream as well. Students may throw away old phones, TVs, tablets, laptops and printers, along with cords and other accessories. Recycling is a much more eco-friendly option — the metals in old



electronics often have a high reuse value. College has tie-up with external authorised agency details mentioned in legislation compliances.

5. **CHEMICAL WASTE** - Chemical waste on a College campus may come from numerous sources. Campus laboratories generate waste chemicals, as do cleaning services. The detergents used in campus laundry rooms eventually become waste as well. Much of these chemical substances are hazardous waste under Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 and must undergo specific disposal processes according to state environmental rules and regulations.
6. **MAINTENANCE WASTE** - In the maintenance department, spent paints, solvents, adhesives and lubricants all form potentially hazardous waste. Because they are difficult to recycle, spent incandescent light bulbs usually become landfill waste. Spent fluorescent light bulbs, which contain small amounts of mercury, typically require special handling because of the environmental and health risks they pose.
7. **BIOLOGICAL WASTE** - Biological waste from laboratories will require special handling and disposal as per BMW Rules, 2016. Tissue from biology labs forms biological waste, as do tissue samples, contaminated bandages and used sharps from medical facilities.
8. **FURNITURE** - Furniture waste on a College campus has a couple different sources. The campus itself may also get rid of old furniture as it modernizes its classrooms, cafeterias, computer labs and study spaces. Annually sold to junk dealer.
9. **BOOKS/MAGAZINES/NEWSPAPERS** - Books accounted for solid waste generation and College often generate tons of textbook waste. As courses upgrade to new editions, they may end up throwing their newly obsolete textbooks into the garbage if donation programs cannot use them. Students of MH donate their text books and notes to junior students, or else are auctioned to reseller.
10. **C & D WASTE** - Due to expansion of College campus building and renovation works result significant amount of construction and demolition waste that should be either used for back filling or disposed off through authorised dumping site by CPCB/SPCB.
11. **SOLID WASTE** - The College is managing solid waste by providing it to the MCD.
12. **HORTICULTURE WASTE** – College campus has lavish greenery and grounds that results significant horticulture waste which is managed by in-house composting system.



ENERGY CONSERVATION

- 1. List ten ways that you use energy in your institute. (Electricity, LPG, firewood, others). Using this list, try to think of ways that you could use less energy every day.**

College uses electricity for fans, AC, lights, printers, computers, etc. LPG is used for cooking food in hostel mess and canteen. Diesel is being used in DG sets..

Saving methods

- *Solar power plant – 7KW installed, to save electricity*
- *Electricity saves by use of LED bulbs for illumination*
- *Sensor based lights are installed in new building and library for energy saving*
- *LPG saves by use of Pressure cookers for cooking food.*
- *Solar heaters usage in kitchens and hostels*

- 2. Are there any energy saving methods employed in your institute? If yes, please specify. If no, suggest some**

Yes, Renewable source of energy through 7 KW solar panel is operational

- 3. How many CFL/LED bulbs has your institute installed?**

Approx 50 % of Total Conventional bulbs and tubelights are replaced by LED/CFL Lights.

- 4. Do you run “switch off” drills at institute?**

Yes

- 5. Are your computers and other equipment’s put on power-saving mode?**

No, college switch off the mains

- 6. Does your machinery (TV, AC, Computer, weighing balance, printers, etc.) run on standby modes most of the time? If yes, how many hours?**

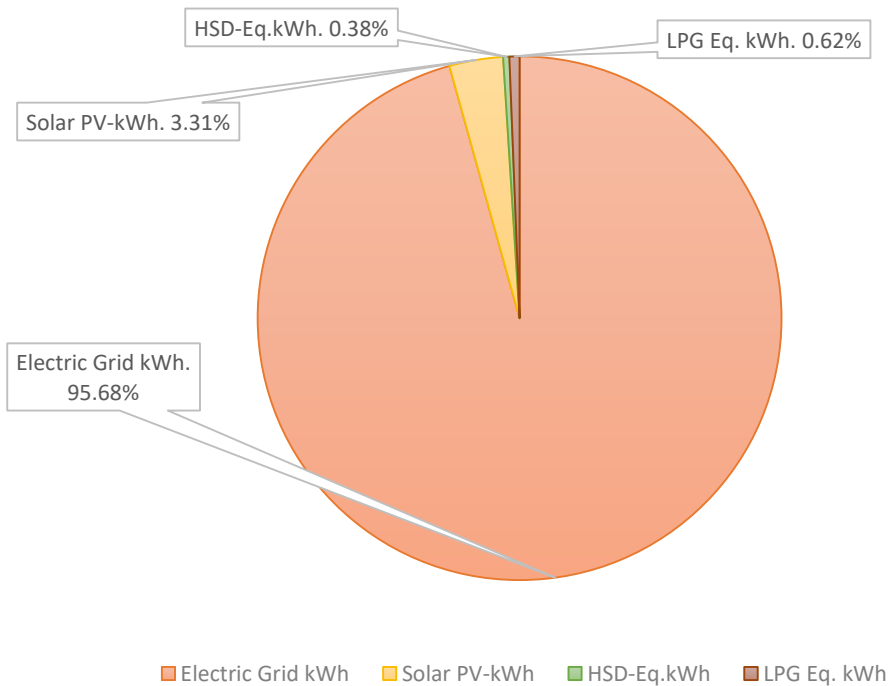
Yes, approx. 6 hours



Energy Share	kWh	Percentage
<i>Electric Grid kWh</i>	<i>581988.00</i>	<i>95.68%</i>
<i>Solar PV-kWh</i>	<i>20160.00</i>	<i>3.31%</i>
<i>HSD-Eq.kWh</i>	<i>2325.05</i>	<i>0.38%</i>
<i>LPG Eq. kWh</i>	<i>3785.32</i>	<i>0.62%</i>
Total -kWh	608258.38	100%

*Solar power plant is not operational because of the ongoing pandemic restrictions

Energy Share in KWH





WATER AND WASTE-WATER MANAGEMENT

1. List uses of water in your institute

Basic use of water in campus:

Drinking – 178.67 KL/month

Gardening – 372.47 Kl/month

Kitchen and Toilets – 1176.81 KL/month

Others – 228.49 KL/month

Hostel – 855.90 KL/Month

Total – 2812.34 KL/Month

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

There are total 192500 liters water storage of water and boosting within the College campus.

Sl. No	Storage Type	Capacity	Quantity	Total (in Liters)
1	OVER HEAD TANK	500	75	37500
2	OVER HEAD TANK	1000	19	19000
3	OVER HEAD TANK	2000	3	6000
4	OVER HEAD TANK	3000	1	3000
5	UNDER GROUND TANK (Fire tank)	5000	3	15000
6	UNDER GROUND TANK	34000	3	102000
7	UNDER GROUND HEAD TANK	10000	1	10000
	TOTAL STORAGE CAPACITY			192500

Saving Techniques

- Avoid overflow of water controlled valves are provided in water supply system.
- Close supervision for water supply system.
- Sprinklers usage for gardening and grass cover
- Water Conservation awareness for new students



3. Locate the point of entry of water and point of exit of waste water in your institute. (Entry and Exit)

Entry - Water comes from MCD.

Exit- From Canteen, Toilets, bathrooms, Hostels and Laboratories through covered drainage which is connected to sewage

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

Basic ways:

- *Sprinklers usage for gardening and grass cover*
- *Maintenance and monitoring of valves in supply system to avoid overflow, leakage and spillage*
- *Water Conservation awareness for new students*
- *In new block, push tap are installed to save water*

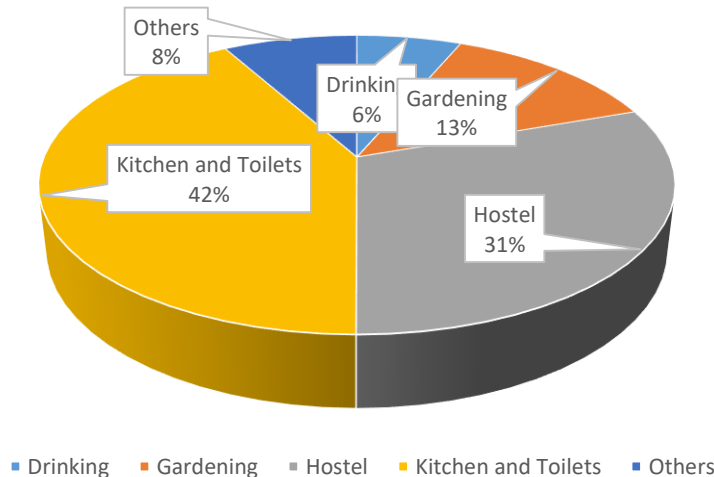
5. Does your institute harvest rainwater?

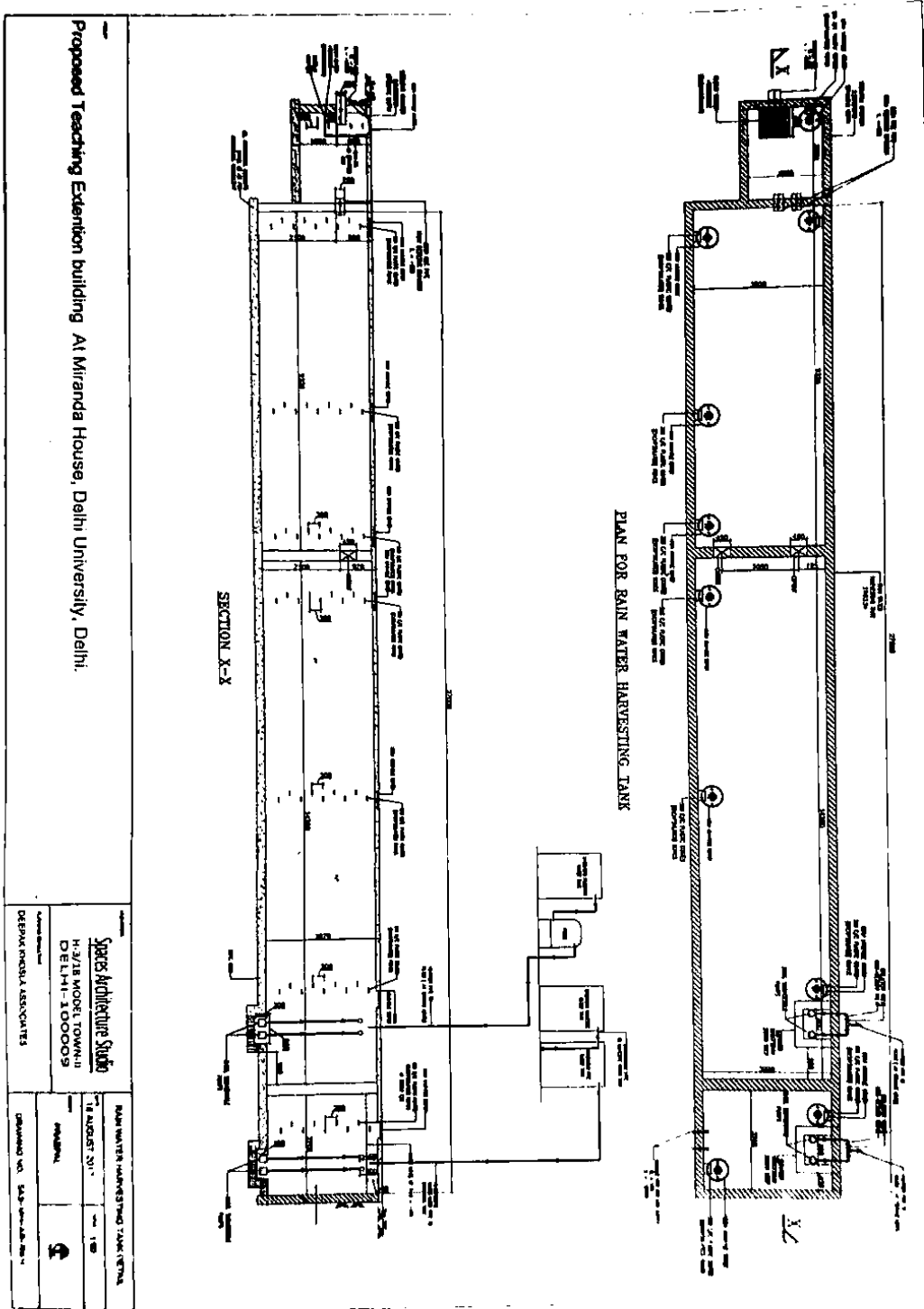
College is collecting rain water in a large underground storage tank with capacity of 2 lacs litres. Drawing of the same is shown below.

6. Is there any water recycling System?

No

Water Consumption (KL per Month)





The drawing of Rainwater storage tank



AIR QUALITY MANAGEMENT

1. Are the Rooms in Campus Well Ventilated?

Yes, as per National Building Code, guidelines

2. Window Floor ratio of the Rooms?

Very Good, ample daylight utilization because of big windows.

3. What is the ownership of the vehicles used by your campus?

There are no college owned vehicles.

4. Provide details of school-owned vehicles?

NA

5. PUC done?

NA

6. Specify the type of fuel used by your campus's vehicles

NA

8. Air Quality Monitoring Program (If, Any)

No



ENVIRONMENT LEGISLATIVE COMPLIANCE

1. Are you aware of any environmental Laws Pertaining to different aspects of environmental management?

Yes, faculty members and administrative team is well aware of national environmental laws.

- 1) Segregation and recycling of Waste (Solid Waste Management Rules 2016)*
- 2) De-concretization of trees (National Green Tribunal Act, 2010)*
- 3) Protection of trees on campus (Delhi Preservation of Tree Act, 1994, National Green Tribunal Act, 2010)*
- 4) Reduce Noise on campus (Noise pollution (regulation and control) rule, 2000)*
- 5) Reduce single use of plastic, and recycling of plastic (Plastic Waste Management Rules, 2016)*
- 6) Recycling of electronic waste (e-waste Management and Handling Rules 2011)*

2. Does your institute have any rules to protect the environment? List possible rules you could include.

Yes, the eco club MH - Vatavaran is conscious about the environment protection and takes proper measures in terms of awareness campaigns, activities, webinar, seminars, etc.

3. Does Environmental Ambient Air Quality Monitoring conducted by the Institute?

No

4. Does Environmental Water and Waste water Quality monitoring conducted by the Institute?

No

5. Does stack monitoring of DG sets conducted by the Institute?

No



6. Is any warning notice, letter issued by state government bodies?

No

7. Does any Hazardous waste generated by the Institute?

No

GENERAL INFORMATION

1. Does your institute have any rules to protect the environment? List possible rules you could include.

Yes, MH Vatavaran society carries out different workshops, campaigns, awareness programmes for environment protection in campus.

2. Are students and faculties aware of environmental cleanliness ways? If Yes Explain

Yes, various awareness campaigns like plantation, energy conservation, pollution reduction campaigns carried out by College

3. Does Important Days Like World Environment Day, Earth Day, and Ozone Day etc. eminent in Campus?

Yes, World Environment Day, Ozone Day, Earth Day, World water day, World wetland Day, Earth hour and more are celebrated by campus.

4. Does Institute participate in National and Local Environmental Protection Movement?

Yes, college participated in following activities

- *Swatch Bharat Abhiyan by students at campus*
- *MH Vatavaran members engaged themselves in Paryavaran Saathi Chatbot under the campaign 'Yudh, Pradushan ke Virudh', launched by Government of N.C.T of Delhi, for increasing the awareness and fighting against Air Pollution.*



- *MH Vatavaran participated in the two phases of 'Swachhta Action Plan' organised by Mahatma Gandhi National Council of Rural Education, Ministry of Education, Government of India. In the first phase, MH Vatavaran members participated in the individual cleanliness drive- 'Gandhi Chhadi' and the second phase involved a plantation drive 'Each One Plant One'*

5. Does Institute have any Recognition or certification for environment friendliness?

Certificates are attached in annexure I

7. Does Institution conduct a green or environmental audit of its campus?

This is the second external audit carried out by the College.

8. Has the institution been audited /accredited by any other agency such as NABL, NABET, TQPM, NAAC etc.?

Yes, College is accredited as NAAC A+ rated college and NIRF ranking

INITIATIVES CARRIED OUT BY COLLEGE

- In the month of June, MH Vatavaran members participated in the Plantation Drive- "Selfie with Plant", organised by Mahatma Gandhi National Council of Rural Education and the Ministry of Education, Government of India, on the occasion of World Environment Day (05 June 2022). Under this event, the participants planted a tree and took a selfie with it.
- MH Vatavaran launched an "Anti-Litter Drive" under the theme of "Only One Earth" in which the volunteers cleaned their surroundings and spread the message of cleanliness on environment day
- In the month of May, MH Vatavaran organised a "Slogan Writing Competition" on the occasion of International Day for Biological Diversity (22 May 2022). The theme for the competition was 'Regaining the Rich Biological Diversity'.



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- On the occasion of World Water Day, 22 March 2022, MH Vatavaran organised a "Slogan Writing Competition" on the theme - Groundwater Depletion and Contamination.
- MH Vatavaran members also attended a webinar conducted by the Wetland Authority of Delhi on this occasion of World Water Day, which included a panel discussion by four groundwater experts to make students aware about the importance of groundwater.
- On the occasion of Earth Hour, on 26 March 2022, MH Vatavaran, in collaboration with WWF ECHO Miranda House, organised a campaign "Disconnect to Connect". Under this campaign, the participants switched off lights and possible electrical appliances during the Earth Hour, i.e., 8:30 PM – 9:30 PM and connected to mother earth by practising skygazing and night photography.
- MH Vatavaran members observed National Energy Conservation Day on 14 December 2021 by turning off lights for 10 minutes at 9:00 PM.
- MH Vatavaran volunteers participated in speech competition on the topic "Air Pollution and its Mitigation", organised by the National Environment Youth Parliament 2022, under the aegis of Ministry of Education.
- On 25 November 2021, MH Vatavaran conducted an in-house webinar on Noise Pollution wherein everyone was enlightened on the issue through a presentation.
- On 29 November 2021, six MH Vatavaran members went to the college to set up bins and posters of energy conservation across the college campus.
- On 27 October 2021 College organized 'Plastic Bottle Revival Project 2.0', wherein they revived the wilted plants and gave a fresh look to the Vertical Plastic Bottle Garden of college.
- Vigilance Awareness Week was celebrated from 26 October to 01 November 2021. On 01 November 2021, MH Vatavaran organised an informative and interactive session with TRAFFIC WWF India to commemorate Vigilance Awareness Week.
- Team ECHO Miranda House and WWF India in collaboration with MH Vatavaran, organised an 'Old Clothes Collection Drive', which was a part of "Best from Waste: A Miranda House Initiative" (Project ECHO, WWF India) from 21 March 2022 – 25 March 2022.
- On 18 February 2022, MH Vatavaran organised 'Campus Bird Count' in MH Campus under 'The Great Backyard Bird Count', for the students to experience and appreciate the diversity of birds within the campus



- On the occasion of World Wetlands Day, 02 February 2022, MH Vatavaran organized a quiz and an 'Online Comic Strip Making Competition' with the theme of 'Importance of Wetlands'
- On 12 February 2022, MH Vatavaran, in collaboration with National Service Scheme (NSS) Miranda House, organised an online workshop on 'Nadi-ko-Jano'- a campaign for crowdsourcing data about rivers, launched by Research for Resurgence Foundation (RFRF).
- Three MH Vatavaran members participated in 'One Day Nest Making Workshop' on 08 October 2021 conducted by 'The Nest Man of India', Mr. Rakesh Khatri.
- To commemorate the International Day for Disaster Risk Reduction, MH Vatavaran screened a documentary titled 'Naked Science- Tsunami Warning' on 26 October 2021, which was followed by a discussion.

RECOMMENDATIONS

- Eco-friendly parameters should be included in the purchase of articles and goods for the campus.
- Provide sanitary waste disposal facility as per the CPCB guidelines for management of sanitary waste (as per Solid Waste Management Rules, 2016). Installation of Incinerator is recommended in campus
- Car-pooling practices can be adopted by campus to minimise air pollution.
- The periodic maintenance schedule for renewable sources of energy to achieve optimised efficiencies.
- Environmental Monitoring i.e. (Ambient Air Quality monitoring, Stack Monitoring of DG sets, Water monitoring need to be conducted by State Pollution Control Committee, approved laboratory) should be conducted periodically.
- Agreement with third party authorised vendors should be done for different types of waste management, such as e-waste, BMW, Plastic waste, etc.



CONCLUSION

This audit involved extensive consultation with all the campus team, interactions with key personnel on a wide range of issues related to environmental aspects. Overall 75% of College campus is for landscaping and 60% is green cover. Miranda house is dedicated to promote the environment management and conservation in the campus and community. The audit has identified some suggestions for making the campus premise more environment friendly. The recommendations and suggestions are mentioned for campus to initiate actions.

The audit team opines that the overall site is well-maintained from environmental perspective. Even though the college does perform fairly well, the recommendations in this report highlight many ways in which the college can work to improve its actions and become a more sustainable institution.

REFERENCES

- **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)**



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- **The Noise Pollution Regulation & Control rules, 2000 (Amended 2010)**
- **The Batteries (Management and Handling) rules, 2001 (Amended 2010)**
- **Relevant Indian Standard Code practices**

ANNEXURE I – ENVIRONMENTAL RECOGNITION AND COMPLIANCE





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ANNEXURE II – PHOTOGRAPHS OF ENVIRONMENTAL INITIATIVES



Awareness program



Clothes collection drive



Wildlife - photography contest



webinar on disaster management



Awareness session on Importance of mangrooves



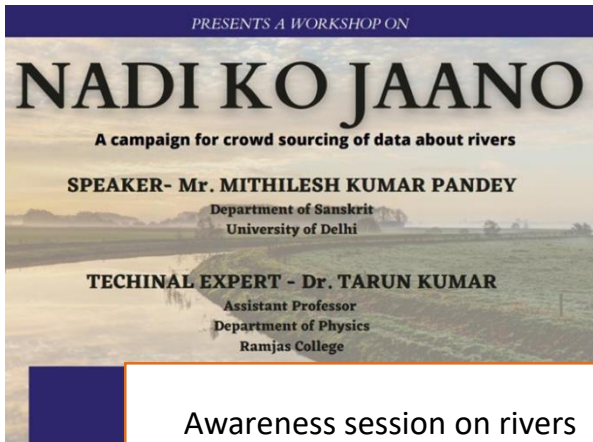
Rangoli competition on 'Say no to crackers'



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Awareness session on rivers



Activity on 'Importance of wetlands'



Solar lights installed in the campus



Energy conservation posters in the campus



Waste management awareness posters



Disaster preparedness awareness posters in the campus



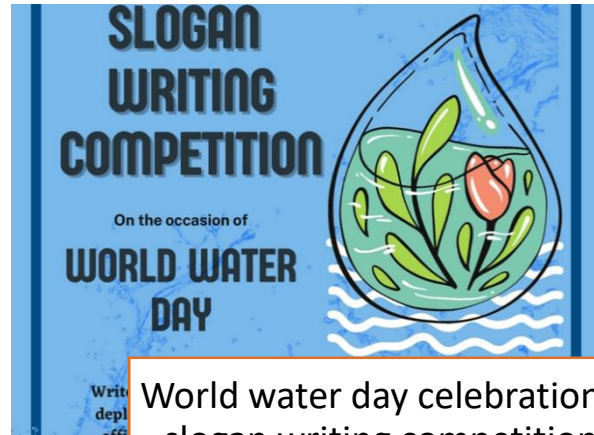
Prepared for: **Miranda House**



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From garden waste to mulch



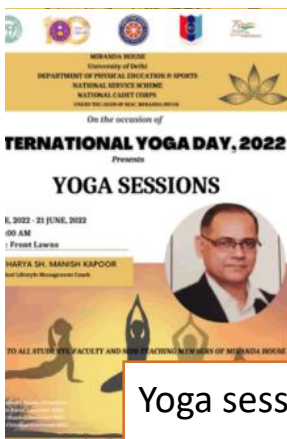
World water day celebration - slogan writing competition



E-waste awareness campaign



Swachh Bharat Abhiyan activity



Yoga session on International Yoga Day



International Yoga Day Celebration

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