MERI COLLEGE

MANAGEMENT EDUCATION & RESEARCH INSTITUTE

(Affiliated to G.G.S. Indraprastha University, Recognised by N.C.T.E. & Approved by A.I.C.T.E., Ministry of HRD, Govt. of India)
52-55, INSTITUTIONAL AREA, JANAKPURI, NEW DELHI – 110058
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7.1.3 Quality audits on environment and energy regularly undertaken by the Institution. The institutional environment and energy initiatives are confirmed through the following

1. **Green audit / Environment audit**
2. **Energy audit**
3. **Clean and green campus initiatives**
4. **Beyond the campus environmental promotion activities**

Achievement Report on Green Campus

Over the past few years, the institution has made significant progress in various sustainability initiatives to promote a more eco-friendly and sustainable environment. These initiatives encompass a range of activities focused on reducing waste, conserving energy, and engaging in responsible corporate social responsibility (CSR) practices. Efforts to minimize waste in our campus have yielded impressive results. We have successfully reduced wastage through comprehensive waste management practices, encouraging responsible consumption, and recycling. As a result, we have achieved a state of zero wastage in many areas of our campus operations. Regular cleaning and maintenance of air conditioning systems have been established as a standard practice on our campus. This ensures the optimal performance of AC units while reducing energy consumption. It also contributes to the longevity of the equipment. Damaged insulating pipes have been promptly repaired, and those beyond repair have been replaced. This proactive approach ensures that our energy infrastructure remains efficient and minimizes heat loss. We have also engaged experts to implement rainwater harvesting systems across the campus. This eco-friendly initiative allows us to harness rainwater for various purposes, reducing our reliance on external water sources. We are steadily progressing toward a paperless environment, with approximately 70% of our operations being conducted digitally. The goal is to make our campus 100% paperless in the near future. This CSR club has forged partnerships with NGOs to donate old books and clothes to those in need. This not only reduces waste but also serves the community in a meaningful way. Energy conservation is a top priority, and we have taken various steps to reduce our carbon footprint. Posters promoting energy-saving practices are displayed throughout the college, and LED screens have been installed in all classrooms to reduce energy consumption. The majority of our air conditioning units are now rated as 3-star or 5-star in energy efficiency. Our target is to upgrade all units to 5-star ratings, further reducing our energy consumption and greenhouse gas emissions. The CSR club has organized a series of activities, including rallies, cleanliness drives, and plantation initiatives, aimed at fostering a sense of responsibility and awareness among students and staff regarding environmental conservation and community engagement. The CSR Club has actively participated in the "Swachta hi Seva" campaign launched by the Government of India. Under this campaign, the club organized cleanliness drives, further contributing to the cleanliness and sanitation of our

campus and the surrounding areas. This initiative aligns with the national agenda for cleanliness and reflects our commitment to national priorities in addition to our campus sustainability efforts. In conclusion, we have made significant strides in achieving a greener and cleaner campus. These accomplishments are the result of the collective dedication and efforts of our students, faculty, and staff. We are committed to continuously improving our sustainability initiatives and working toward a more eco-friendly and responsible future.

Action Report on Green Campus

The action report highlights the ongoing efforts and initiatives undertaken by our institution to achieve a greener and cleaner campus environment. These initiatives encompass a wide range of activities focused on recycling, responsible disposal of waste, energy conservation, and community engagement. We have established a partnership with Jaagruti, an organization specializing in waste recycling services. Through this collaboration, we efficiently recycle paper waste generated on our campus. The initiative helps reduce the environmental impact associated with paper consumption. E-waste, generated from electronic equipments like computers, printers, phones, photocopy machines memory chips etc. is recycled through government recognized vendor M/s Shiv Shakti Metals. Proper disposal and recycling of electronic waste are essential to prevent environmental harm and promote responsible management of electronic equipment. Our CSR club, in association with a recognized NGO, has undertaken the noble initiative of donating old books and clothes to individuals in need. This not only reduces waste but also contributes to the welfare of the less fortunate in our community. We prioritize the regular cleaning and maintenance of air conditioning systems across our campus. This proactive approach not only ensures the efficient performance of AC units but also extends their operational lifespan. In our quest for energy conservation, dark curtains are being systematically replaced with white curtains. This simple yet effective change helps maximize natural light penetration, reducing the need for artificial lighting and subsequently lowering energy consumption. The CSR club continues to organize rallies, cleanliness drives, and plantation initiatives to engage our students and staff in environmentally responsible practices and community service. These initiatives foster a sense of responsibility for our surroundings and instill the values of sustainability in our community. These actions represent the dedication and commitment of our institution to promote sustainability, reduce waste, and create a campus that is both environmentally conscious and actively involved in contributing positively to the community. We look forward to building on these achievements and continually improving our greener and cleaner campus initiatives.

EHS alliance

CERTIFICATE

PRESENTED TO

MANAGEMENT EDUCATION & RESEARCH INSTITUTE (MERI)

52-55, Sewa Marg, Janakpuri Institutional Area, Janakpuri, New Delhi, Delhi 110058

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

ACADEMIC YEAR 2022 - 2023

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

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

EHS ALLIANCE SERVICES * GURGAON *

SIGNATURE

08.09.2023

DATE OF AUDIT

EHS alliance

CERTIFICATE

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MANAGEMENT EDUCATION & RESEARCH INSTITUTE (MERI)

52-55, Sewa Marg, Janakpuri Institutional Area, Janakpuri, New Delhi, Delhi 110058

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GREEN AUDIT

ACADEMIC YEAR 2022 - 2023

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 SERVICES GURGAON

SIGNATURE

08.09.2023

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

ENERGY AUDIT

ACADEMIC YEAR 2022 - 2023

The energy-saving initiatives carried out by the institution have been verified in the report submitted and were found to be satisfactory.

The efforts taken by management and faculty towards all types of energy used in the institution and sustainability are highly appreciated and noteworthy.

EHS ALLIANCE SERVICES GURGAON

SIGNATURE

08.09.2023
DATE OF AUDIT

MANAGEMENT EDUCATION & RESEARCH INSTITUTE (MERI)

ENERGY AUDIT REPORT

2022-2023

PREPARED BY
EHS ALLIANCE SERVICES

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CERTIFICATE

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ACKNOWLEDGEMENT

EHS Alliance Services would like to thank the management of Management Education & Research Institute (MERI) for assigning this important work of Energy Audit. We appreciate the co-operation to the teams for completion of assessment.

We would also like to thank ***Dr. Simranjeet Kaur Bagga, Assistant Professor - Audit Coordinator***, for her continuous support and guidance, without which the completion of the project would not have been 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

Prof. (Dr.) Deepshikha Kalra - *Dean, Academics*

Prof. (Dr.) Ritu Aggrawal - H.O.D., Computer Applications

Last but not the least, we would like to thank ***Prof. Lalit Aggarwal - Vice President*** for giving us an opportunity to evaluate the environmental performance of the campus.

DISCLAIMER

EHS Alliance Services Energy Audit Team has prepared this Energy Audit Report for Management Education & Research Institute (MERI) based on input data submitted by the representatives of college complemented with the best judgment capacity of the expert team.

While all reasonable 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 organization, then all pages must be included.

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

Vijay Singh
Lead Auditor EMS & Energy

Dr. Uday Pratap
Co-Auditor EMS & Energy

ABBREVIATION

A	**Amps**
AC	**Air Conditioner**
AC	**Alternating Current**
AMET	**Academy of Maritime Education and Training**
CFL	**Compact fluorescent lamp**
CIP	**Comprehensive Inspection Programs**
DC	**Direct Current**
HSD	**High Speed Diesel**
Hz	**Hertz**
kg	**Kilogram**
kVA	**kilo-volt-ampere**
kW	**kilo Watts**
kWh	**kilowatt hour**
kWp	**Kilowatt peak**
LED	**Light Emitting Diode**
LPG	**Liquefied Petroleum Gas**
MMS	**Module mounting structure**
MPPT	**Maximum Power Point Tracker**
NAAC	**The National Assessment and Accreditation Council**
SEC	**Specific Energy Consumption**
SPV	**Solar Photovoltaic**
STC	**Standard Test Condition**
TV	**Television**
V	**Volts**
W	**Watts**
W/m2	**watt per square metre**

OVERVIEW OF THE COLLEGE

Management Education Research Institute (Janakpuri Campus) is NAAC accredited, ISO 9001:2015 certified. MERI is A+ grade, premier institute with legacy of academic excellence for more than 28 years. MERI is affiliated to Guru Gobind Singh Indraprastha University, approved by AICTE, MHRD Government of India. The institute has created niche in the field of Management, Information Technology and Journalism. MBA, BBA, B. Com (H), BCA and BA(JMC) programmes are being offered in the institute. The institute has 28 international collaborations, with reputed Universities / Institutions covering international conferences, students exchange, research and related academic activities. Management Education & Research Institute (MERI), Janakpuri, West Delhi has been established since. More so, we at MERI ensure an all-round personality development of our students, be it for their cognitive skills or an overall value-set development.

MERI Janakpuri aims to create a learning atmosphere conducive for overall development of its students. Established in 1994, Management Education & Research Institute (MERI) ranks among the top institute for BBA, B.Com(H), BA(JMC) and MBA colleges in Delhi. In order to meet the ever growing challenges of competition in global economy, the Institute strives to groom market leaders in different areas of management & IT. MERI is not only into cognitive

learning but also in value building, to ensure the development of Professional Specialists in both Management (MBA, BBA, B.Com(H)), Journalism(BA(JMC)) and IT streams .

With highly experienced faculty and world class infrastructure, MERI aims to create a learning atmosphere conducive for overall development of its students. The Institute offers MBA, BBA, B.Com(H) and BA(JMC) courses affiliated to Guru Gobind Singh Indraprastha University (GGSIPU). With its international collaborations with many universities/institutes across the world & industry interface, MERI ensures that its students are culturally aware about the world market place and have practical orientation for succeeding in the corporate world.

Management Education & Research Institute (MERI), Janakpuri New Delhi, spread over 1.0 acre plot is a NAAC accredited & an ISO 9001:2015 certified institute affiliated to GGSIPU. The Programs run by the institute include Master in Businesss Administration (MBA), with emphasis on 'Marketing', 'International Business', 'Finance', 'HR' etc. ,Bachelor of Business Administration (BBA) , Bachelor of Computer Applications BCA , Bachelor of Commerce B.COM(H) & Bachelor of Arts in Journalism and Mass Communication BA(JMC).

MISSION & VISION

MISSION

- ✓ To create conducive environment where innovative ideas and research flourish
- ✓ To optimize use of latest pedagogy for knowledge transfer
- ✓ To transfer understanding of theoretical concepts into real life scenarios
- ✓ To impart training to student to become professionally committed, ethical professionals and entrepreneurs.

VISION

To excel in professional education and research to industry and society

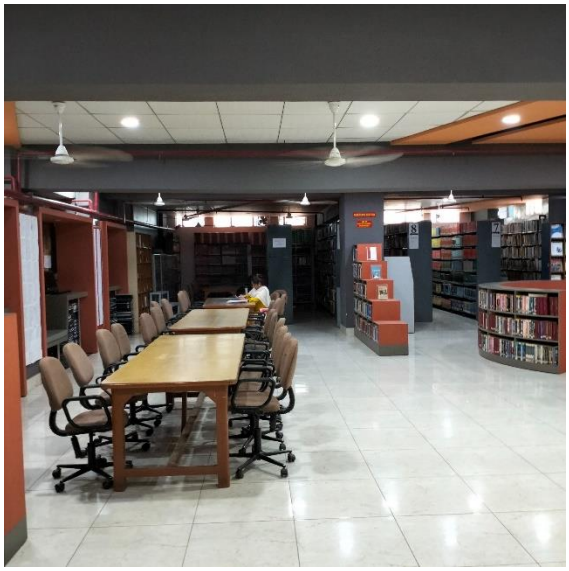
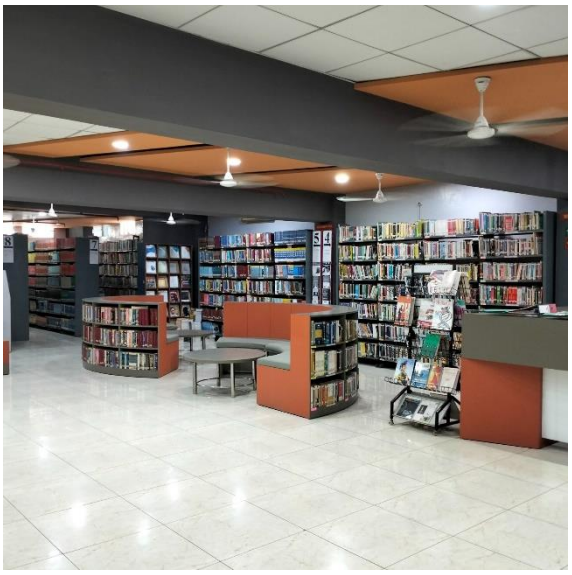
Facilities in the campus

MERI, belief that the environment plays a very crucial role in enhancing concentration on studies or any other work. The institute is centrally air-conditioned consisting of lecture halls, conference hall, seminar halls, auditorium with LCD projectors and public address systems facilitating course delivery using audiovisual inputs from slide presentations to video clips and video lessons. The Wi-Fi campus also has state of art library, computer lab along with separate girls' & boys' hostels.

MERI STARTUP HUB: The institute has also planned to boost the entrepreneurship culture among the students. Keeping this in view, the college launched its start-up hub named, MERI Start-up Hub headed by Dr. Anjali Nigam. The overall objective of the MERI StartupHub at MERI College is to establish the practical application of knowledge to facilitate entrepreneurship. By allowing potential students to get the chance to submit their creative ideas through competitions and brainstorming, and also examining original and creative ideas or concepts put forth by students, researchers, and faculty members from a range of societal and commercial sectors. Students are supplied with resources to design prototypes beneficial for promoting agriculture and rural development, which is also the one of goals of the incubation centre. It also serves as a platform for students to transform their ideas into technological innovations. A beginning was made to develop our students and convert inventions into a crucial driver for economic progress, and ideas and innovations, which flow gradually with the start-ups. The major startups started by the students are Carpool, **De Zaina** (e-aggregator for Budding Fashion), **baniyababa.com**, and **Yourstartup9** etc. Students are encouraged to gain hands-on experience and better Industrial Exposure.

CLASS ROOMS: MERI has fully equipped, modern and spacious classrooms. In order to enhance the quality of education, the teaching-learning pedagogy is IT enabled and all the classrooms are equipped with an array of presentation and multi-media tools. The college has comprehensive audio-visual set up including LCD projectors, mics etc. to facilitate and promote highly conducive and organized learning for the students.

LIBRARY: MERI has a well-planned digital library that is equipped with latest books, journals, periodicals and an array of reading materials including annual reports of industries and project reports. The state of state-of-the-art facilities, the library is well stocked with more than 28000 books apart from the reference material and 15000 electronic databases. Besides the books, the library also has access to over 1500 journals and business magazines of national and international standards.

LABS: MERI has best-in-class laboratories to enhance practical skills of the students. The institute has state-of-the-art Computer Lab, Networking Lab, Media Lab and Audio-Visual Lab. All the labs are equipped with highly sophisticated and advanced technologies.

AUDITORIUM & CONFERENCE ROOM: MERI has aesthetically designed and spacious auditorium with latest audio-visual aids, high-quality sound system, innovative lightings and other latest equipments, making it ideal for academic and extra-curricular activities. The auditorium every year hosts a variety of events such as workshops, club activities, seminars, developmental programmes, meetings, etc.


SEMINAR HALLS: MERI has well furnished and magnificent seminar hall equipped with all facilities such as audio-visual aids, projectors, high-quality sound system, and other latest equipments. The hall has a seating capacity of more than 100 and is available for academic and cultural events.

AMPHITHEATRE: A beautiful open-air amphitheater offers a wonderful ambience for entertainment of students and open air functions. The venue is used for entertainment, performances and different kinds of activities like music, concerts, talks, poetry, reading sessions, open stage plays etc.

GYMNASIUM: MERI provides Gym facility for all the students with an objective of all round development and to ensure both physical and mental well-being of the students. The Gym is equipped with world-class machines such as joggers, treadmills, strength machines, steppers, dumbbells and weight plates. Institute provides indoor sports facility like Table Tennis, Chess, Carrom, and Pool.

CAFETERIA

AUDITORIUM

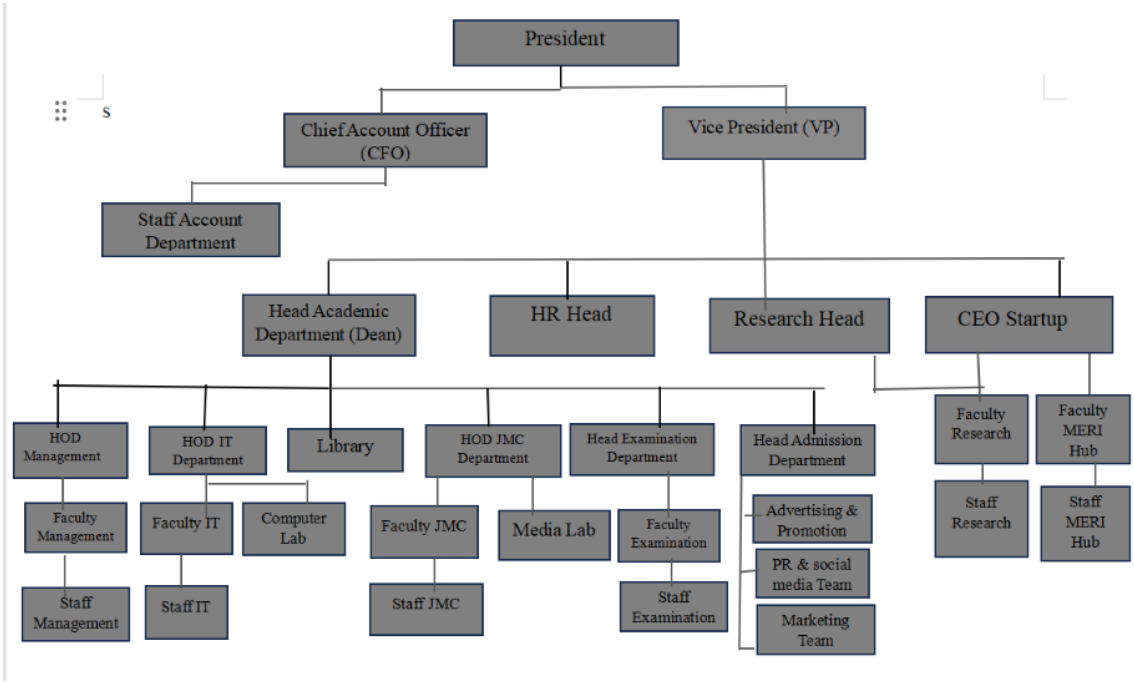
WELL EQUIPED GYMS

StartupHub

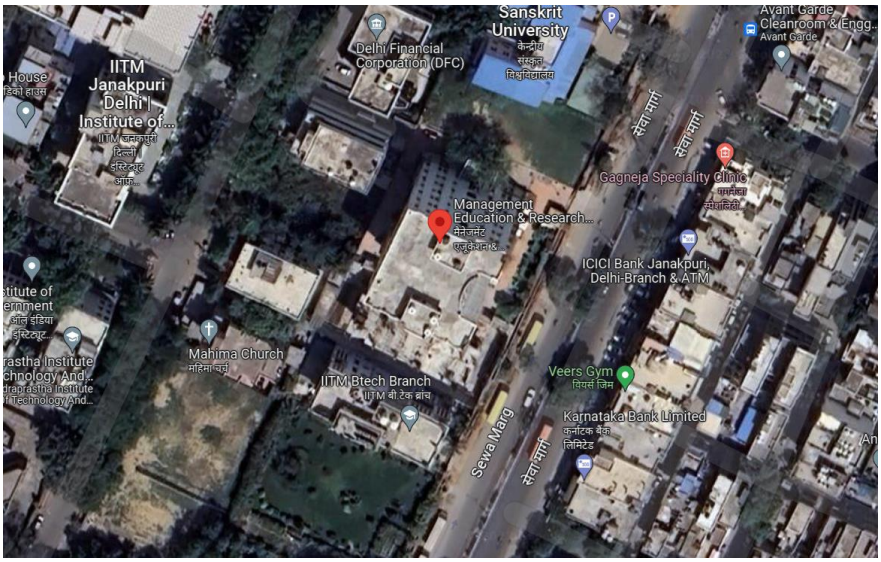
CAFETERIA: MERI provides cafeteria facility for the students in the college campus. The college cafeteria is fairly new and can accommodate about 40-50 students at one time. It provides healthy, nutritious and delicious food at reasonable rates. The food quality and hygiene conditions are periodically monitored by concerned authorities.

FIRE SAFETY: The college has vast number of fire extinguishers installed in the entire campus area for safety of the students and staff. The fire extinguishers are periodically inspected by concerned authorities.

Below is the organization Chart



Geo Location
Geo Coordinates from Google maps:
28.6099234, 77.1026792



AUDIT PARTICIPANTS

On behalf of college

Name	Designation
Prof. Lalit Aggarwal	*Vice President*
Prof. (Dr.) Deepshikha Kalra	*Dean, Academics*
Prof. (Dr.) Ritu Aggrawal	*H.O.D., Computer Applications*
Dr. Simranjeet Kaur Bagga	*Assistant Professor and Audit Coordinator*
Mr. Pawan Kishore Jha	*Assistant Professor*
Ms. Sarita Yadav	*Assistant Professor*
Ms. Shweta Ahuja	*Assistant Professor*

On behalf of EHS Alliance Services

Name	Position	Qualifications
Mr. Vijay Singh	Lead Auditor	*M.Sc. M. Tech (Environment Science & Engineering), Energy Auditor, Post Diploma in Industrial Safety Management*
Dr. Uday Pratap	Co-Auditor	*Ph.D., EMS: Lead Auditor ISO14001:2015, QCI–WASH*

EXECUTIVE SUMMARY

The purpose of this Energy Audit was to seek opportunities to improve the energy efficiency of the Management Education & Research Institute (MERI). Reducing the energy consumption despite improving the human comfort, health and safety were of primary concern.

Beyond just identifying the energy consumption pattern, this audit sought to detect and categorize the most energy efficient appliances. Additionally, some daily practices relating common appliances have been shared which may help reducing the energy consumption. Data collection for energy audit of the campus was carried out by the EHS Alliance Team. The Energy Audit Report accounts for the energy consumption patterns of the institution on actual survey and detailed analysis during the audit.

The work comprehends the area wise consumption traced using suitable equipment. The analysis was carried out by our team with the support of the staff members from Management Education & Research Institute (MERI). The report provides a list of possible actions to preserve and efficiently access the available source, resources and their saving potential was also identified. We look forward towards optimization that the authorities, students and staff members would follow the recommendations in the best possible way. The report is based on certain generalizations including the approximations wherever necessary. The views conveyed may not reveal the general opinion. They merely represent the opinion of the team guided by the interviews of clients. We are happy to submit this Energy audit report to the Management Education & Research Institute (MERI).

ENERGY AUDIT - ANALYSIS

1. ENERGY CONSUMPTION

To understand the Energy Consumption trends and for analyzing the average monthly consumption we have collected electricity energy bills from July 2022 to June 2023

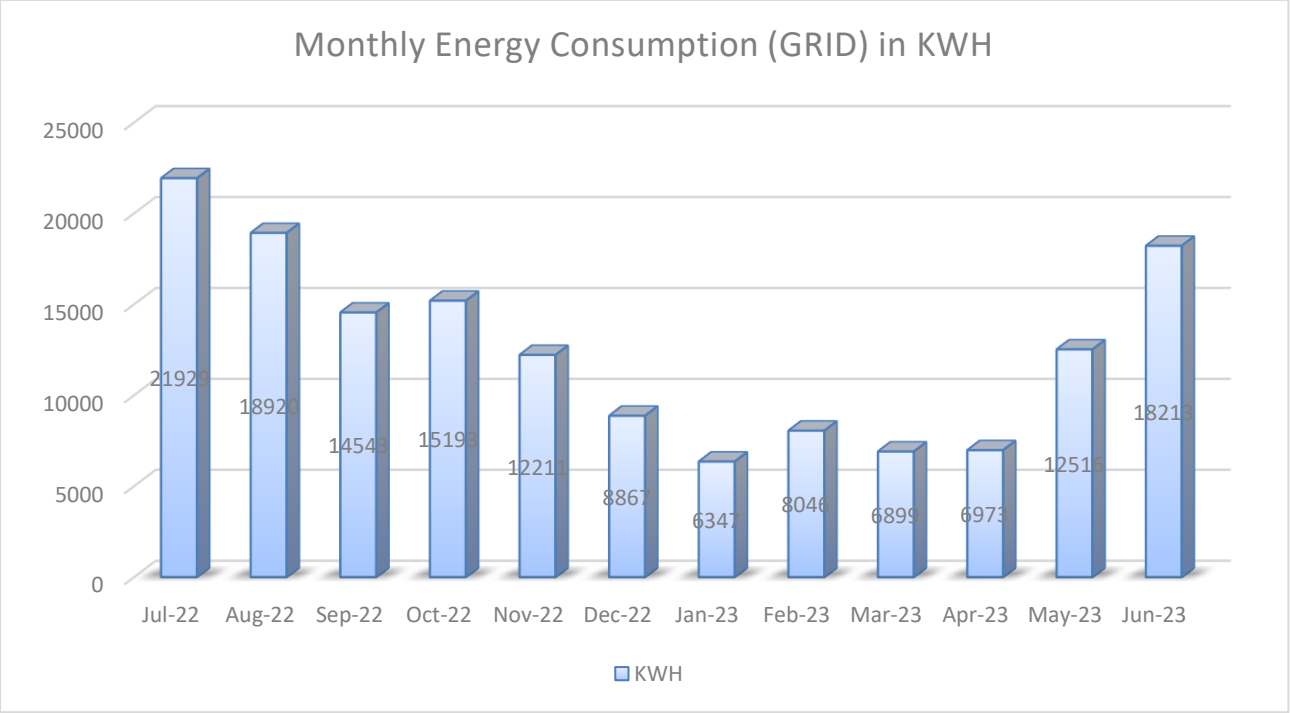
The details of **"Meter Connection"** at **"Management Education & Research Institute (MERI)"** are as follows-

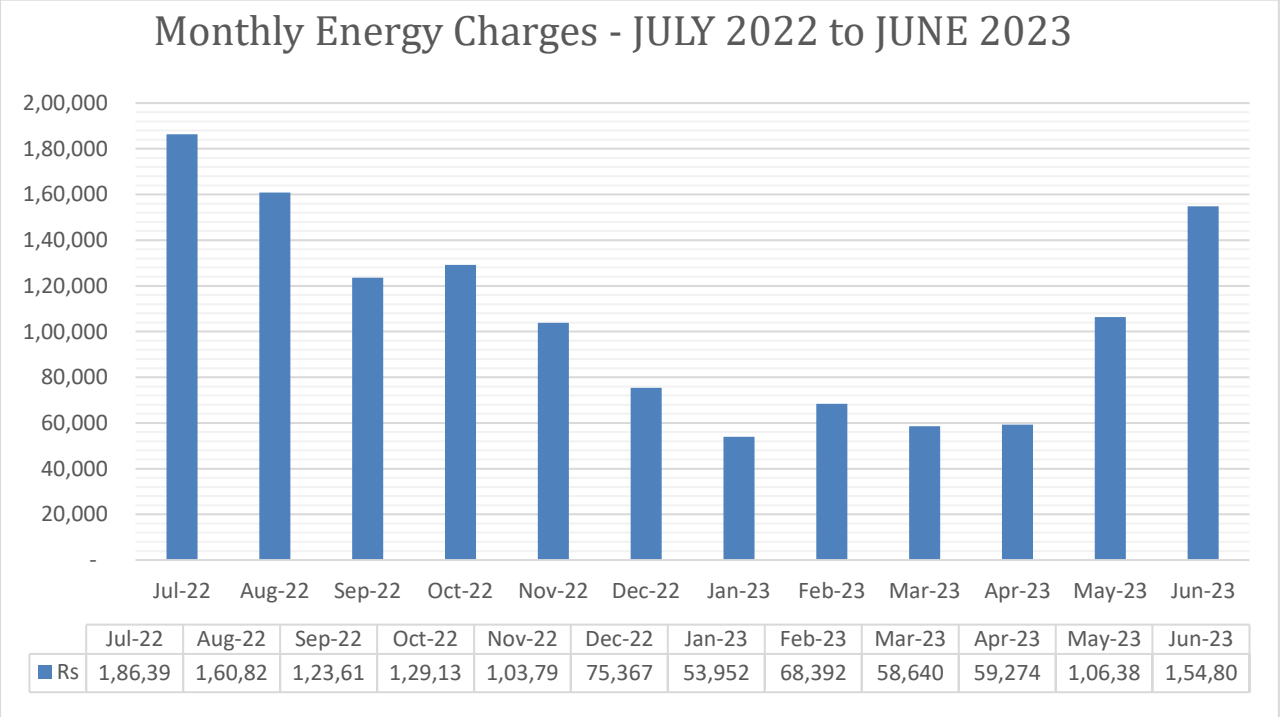
Name	-	M/S CHMN T EDU S W SOCIETY
CA No.	-	100145333

1.1 Summary of Monthly Electricity Consumption and Total Bill Amount

To understand the Energy consumption trend and for developing the baseline parameter we have collected monthly energy bill for the 12 months i.e. from July 2022 to June 2023

Month	Grid Electricity Consumption (kWh)	Net - Consumption	Solar P V	Total	Rate INR	Amount in INR
Jul-22	21929	21929	0	21,929	8.50	1,86,398
Aug-22	18920	18920	0	18,920	8.50	1,60,821
Sep-22	14543	14543	0	14,543	8.50	1,23,616
Oct-22	15193	15193	0	15,193	8.50	1,29,139
Nov-22	12211	12211	0	12,211	8.50	1,03,793
Dec-22	8867	8867	0	8,867	8.50	75,367
Jan-23	6347	6347	0	6,347	8.50	53,952
Feb-23	8046	8046	0	8,046	8.50	68,392
Mar-23	6899	6899	0	6,899	8.50	58,640
Apr-23	6973	6973	0	6,973	8.50	59,274
May-23	12516	12516	0	12,516	8.50	1,06,385
Jun-23	18213	18213	0	18,213	8.50	1,54,809
Total	**1,50,657**	**1,50,657**	**-**	**1,50,657**		**12,80,586**



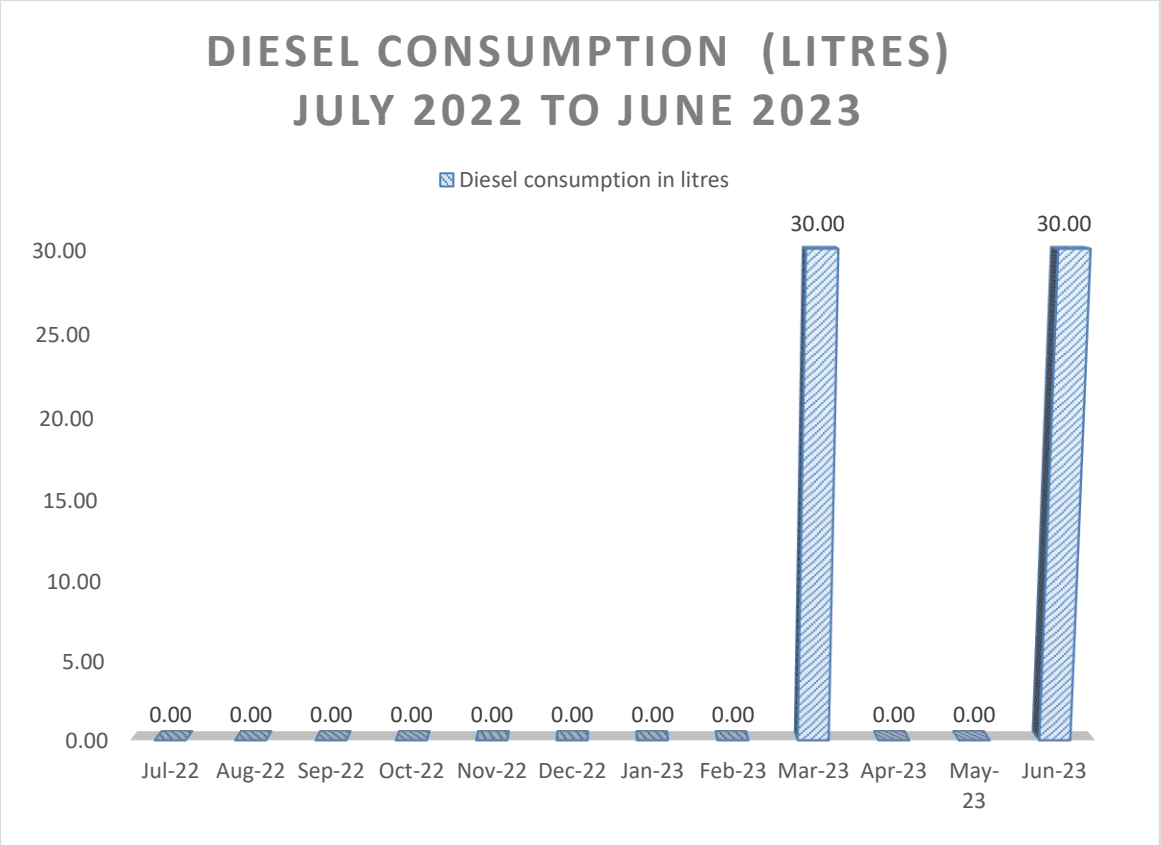


	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23
Rs	1,86,39	1,60,82	1,23,61	1,29,13	1,03,79	75,367	53,952	68,392	58,640	59,274	1,06,38	1,54,80

2. DIESEL CONSUMPTION

Below is the diesel consumption details in litres from July 2022 to June 2023.

Period	Diesel consumption (in litres)
Jul-22	0.00
Aug-22	0.00
Sep-22	0.00
Oct-22	0.00
Nov-22	0.00
Dec-22	0.00
Jan-23	0.00
Feb-23	0.00
Mar-23	30.00
Apr-23	0.00
May-23	0.00
Jun-23	30.00
Total	**60.00**



3. ANALYSIS OF DG SETS

In the campus, there is only one Diesel Generator (DG) set for its electrical power needs in case of Grid power failure. DG sets capacity is 250 kVA.

	DG Set Design Details		
Description	***Unit***	***DG at Station 1***	***DG at Station 2***
Rated capacity	kVA	60.5	125
Hz		50	50
Sl. No.		528223201882	U4H14TC2940
Make		Eicher Engines	Mahindra & Mahindra
Volts	Volts	415	415
PF		0.8	0.8
Phase		3	3
RPM		1800	1500
Amps	Amps	174	87
Mfg.		2019	06-2014

DG Set Operation details		
Operating hours during testing	Hours	0.50
% Loading	%	67.31
Energy Generation	kWh	34.64
Load	kVA	90.62
Fuel consumption during testing	Litre	8
Specific energy generation	kWh/litre	3.12

Observation and Suggestions: -

Soundproof silent generators are an efficient tool to keep both noise and vibration at low levels. For the power backup of the institution, the soundproof model is installed in the institution.

As per the trial taken during the energy audit the percentage loading of DG set is 67.31% which is ok and specific energy consumption of DG Sets 3.12 kWh/Litre which is satisfactory because as per manufacturer recommendation, best practices for SEC in DG sets range from 3.0 to 3.5 kWh/Litre and above.

We recommend the college initiate stack monitoring of DG set through an authorized lab.

4. AC SYSTEM

Energy Efficiency Ratio (EER): Performance of smaller chillers and rooftop units is frequently measured in EER rather than kW/ton. EER is calculated by dividing a chiller's cooling
Capacity (in Btu/h) by its power input (in watts) at full-load conditions. The higher the EER, the More efficient the unit. The cooling effect produced is quantified as tons of refrigeration (TR). The above TR is also called as air-conditioning tonnage.

There are Split, Windows and Ductable ACs installed in Management Education & Research Institute (MERI) in various areas of various capacity which detail is given below: -

Sl. No.	Location/ Identification	Types (Window/ Split)	Quantity	T.R.	Room Temp. (°C)	AC-Tout (°C)	AC-Tin (°C)	Room-RH (%)	Area (m2)	Air velocity (m/s)	Enthalpy Hout	Enthalpy Hin	Heat Load in TR	KW supplied	(Eff.) Power per Ton (KW/TON)	EER
1	Auditorium	Split	6	1.50	24	11	20	52	0.03	2.2	22	38	0.39	0.63	1.61	2.18
2	Auditorium	Vertical	3	4.50	24	10	18	52	0.03	2.4	24	37	0.35	0.53	1.53	2.30
3	Library	Split	1	1.50	23	12	20	52	0.03	2.3	25	38	0.33	0.55	1.67	2.11
4	Lobby	Split	2	1.50	23	11	19	52	0.03	2	22	37	0.33	0.58	1.74	2.02
5	Computer Lab-1	Ductable	2	2.00	24	10	18	52	0.03	2.4	24	37	0.35	0.53	1.53	2.30
6	Board room	Split	1	1.50	23	12	20	52	0.03	2.3	25	38	0.33	0.55	1.67	2.11
7	Print Media Lab-2	Window	2	1.50	23	11	19	52	0.03	2	22	37	0.33	0.58	1.74	2.02
8	Computer Lab -3 (Linux)	Window	2	1.50	23	12	20	52	0.03	2.3	25	38	0.33	0.55	1.67	2.11
9	Vice President Office	Split	2	1.50	23	11	19	52	0.03	2	22	37	0.33	0.58	1.74	2.02
10	Accounts	Window	1	1.50	23	11	19	52	0.03	2	22	37	0.33	0.58	1.74	2.02
11	CFO room	Split	1	1.50	24	10	18	52	0.03	2.4	24	37	0.35	0.53	1.53	2.30
12	Prof. Ritu Office	Window	1	1.50	23	11	19	52	0.03	2	22	37	0.33	0.58	1.74	2.02
13	101	Window	2	1.50	23	12	20	52	0.03	2.3	25	38	0.33	0.55	1.67	2.11
14	102	Window	1	1.50	23	11	19	52	0.03	2	22	37	0.33	0.58	1.74	2.02
15	103	Ductable	2	2.00	24	10	18	52	0.03	2.4	24	37	0.35	0.53	1.53	2.30
16	104	Ductable	2	2.00	24	10	18	52	0.03	2.4	24	37	0.35	0.53	1.53	2.30
17	105	Ductable	2	2.00	24	10	18	52	0.03	2.4	24	37	0.35	0.53	1.53	2.30
18	106	Ductable	2	2.00	24	10	18	52	0.03	2.4	24	37	0.35	0.53	1.53	2.30
19	Visitor Room 108	Window	1	1.50	23	12	20	52	0.03	2.3	25	38	0.33	0.55	1.67	2.11
20	109	Window	1	1.50	23	11	19	52	0.03	2	22	37	0.33	0.58	1.74	2.02
21	110	Window	1	1.50	23	12	20	52	0.03	2.3	25	38	0.33	0.55	1.67	2.11
22	111	Window	2	1.50	23	12	20	52	0.03	2.3	25	38	0.33	0.55	1.67	2.11
23	201	Window	2	1.50	23	11	19	52	0.03	2	22	37	0.33	0.58	1.74	2.02
24	202	Window	1	1.50	23	12	20	52	0.03	2.3	25	38	0.33	0.55	1.67	2.11
25	203	Ductable	2	2.00	24	10	18	52	0.03	2.4	24	37	0.35	0.53	1.53	2.30
26	204	Window	1	1.50	23	12	20	52	0.03	2.3	25	38	0.33	0.55	1.67	2.11
27	204	Split	1	1.50	23	11	19	52	0.03	2	22	37	0.33	0.58	1.74	2.02
28	205	Window	1	1.50	23	12	20	52	0.03	2.3	25	38	0.33	0.55	1.67	2.11
29	206	Ductable	2	2.00	23	11	19	52	0.03	2	22	37	0.33	0.58	1.74	2.02
30	207	Ductable	2	2.00	24	10	18	52	0.03	2.4	24	37	0.35	0.53	1.53	2.30
31	Faculty Room 208	Window	4	1.00	23	12	20	52	0.03	2.3	25	38	0.33	0.55	1.67	2.11

32	301	Split	1	1.50	23	11	19	52	0.03	2	22	37	0.33	0.58	1.74	2.02
33	302	Split	1	1.50	23	12	20	52	0.03	2.3	25	38	0.33	0.55	1.67	2.11
34	304	Split	1	1.50	23	12	20	52	0.03	2.3	25	38	0.33	0.55	1.67	2.11
35	305	Split	1	1.50	23	11	19	52	0.03	2	22	37	0.33	0.58	1.74	2.02
36	Media Room	Split	1	1.50	23	12	20	52	0.03	2.3	25	38	0.33	0.55	1.67	2.11
37	Media Lab	Split	2	1.50	23	11	19	52	0.03	2	22	37	0.33	0.58	1.74	2.02
38	Editing room	Window	1	1.50	23	11	19	52	0.03	2	22	37	0.33	0.58	1.74	2.02
39	403	Split	1	1.50	23	12	20	52	0.03	2.3	25	38	0.33	0.55	1.67	2.11
40	404	Dutiable	1	6.00	24	10	18	52	0.03	2.4	24	37	0.35	0.53	1.53	2.30
41	405	Split	1	1.50	23	11	19	52	0.03	2	22	37	0.33	0.58	1.74	2.02
42	GYM	Split	2	1.50	23	12	20	52	0.03	2.3	25	38	0.33	0.55	1.67	2.11
43	503	Split	1	1.50	23	11	19	52	0.03	2	22	37	0.33	0.58	1.74	2.02
44	504	Split	3	1.50	23	11	19	52	0.03	2	22	37	0.33	0.58	1.74	2.02
45	505	Split	1	1.50	23	12	20	52	0.03	2.3	25	38	0.33	0.55	1.67	2.11
46	506	Split	1	1.50	23	11	19	52	0.03	2	22	37	0.33	0.58	1.74	2.02
47	507	Split	1	1.50	23	11	19	52	0.03	2	22	37	0.33	0.58	1.74	2.02
48	Faculty Room	Split	1	1.50	23	12	20	52	0.03	2.3	25	38	0.33	0.55	1.67	2.11
49	603	Split	1	1.50	23	11	19	52	0.03	2	22	37	0.33	0.58	1.74	2.02
50	604	Split	1	1.50	23	11	19	52	0.03	2	22	37	0.33	0.58	1.74	2.02
51	605	Split	1	1.50	23	12	20	52	0.03	2.3	25	38	0.33	0.55	1.67	2.11
52	Hub	Split	1	1.50	23	11	19	52	0.03	2	22	37	0.33	0.58	1.74	2.02
	TOTAL		**81**	**89**												

Remarks: - We have checked the Energy Efficiency Ratio of AC's and EER of ACs is fairly OK. But in the future, you should purchase 5-Star rated invertor-based split AC's because the power consumption of inverter-based BEE 5-Star rated AC's is less than non-star rated ACs.

Also, we recommend the Management Education & Research Institute (MERI) to organize periodic maintenance schedules and take corrective actions for insulating of AC's refrigerant lines in order to protect against energy losses.

5. FANS ANALYSIS

In the Management Education & Research Institute (MERI), there are 386 fans installed, out of which 366 are ceiling fans of 70W. The observations and suggestions are given below.

Sl. No.	Location/ Identification	Ceiling Fan-70W	Pedestal Fan
1	Auditorium	21	
2	Audi outside	3	
3	Library	24	
4	Lobby	5	
5	Computer Lab	9	
6	Medical room		2
7	Board room	3	
8	back	1	
9	Computer Lab	4	
10	Computer Lab	4	
11	canteen	7	
12	Accounts	1	1
13	CFO room	1	
14	Ritu mam room	1	
15	Amphitheatre	3	
16	101	4	
17	102	4	
18	103	8	
19	104	8	
20	105	8	
21	106	8	
22	109	1	
23	110	1	
24	111	3	
25	201	4	
26	202	4	
27	203	8	
28	204	6	
29	206	8	
30	207	4	
31	208	8	13

32	301	8	
33	302	8	
34	303	9	
35	304	8	
36	305	8	
37	sound	1	
38	studio	2	
39	401	4	
40	402	4	
41	403	8	
42	404	12	
43	405	8	
44	406	4	
45	407	4	
46	GYM		4
47	501	4	
48	502	4	
49	503	8	
50	audio room	12	
51	505	8	
52	506	4	
53	507	4	
54	601	4	
55	602	4	
56	603	8	
57	604	9	
58	605	8	
59	606	4	
60	607	4	
61	corridor	10	
62	Hub	9	
	TOTAL	**366**	**20**

Total no of Ceiling Fans (70W)	=	Nos.	366
Total wattage of 70W Ceiling Fans	=	Watt	25620
Total wattage of BEE 5 Star rated Fans (30W)	=	Watt	10980
Total saving in Wattage after replacement	=	Watt	14640
Operating hours per day	=	Hours	8
Operating days per annum	=	Days	182
Energy charges per unit in Rs.	=	INR	8.5
Saving in Rs./annum	=	INR	181185
Investment INR	=	INR	915000
Payback period: - Months	=	YEARS	5.05

Observation and Suggestions: -

In the college, all the ceiling fans are of 70 W but BEE 5 Star Rated of 30W Ceiling Fans are present in the market. We recommend replacing existing fans with BEE 5 Star rated 30W fans.

Note:- Energy saving will increase or decrease if the operating hours of the machine /equipment are increased or decreased and the payback period will also increase or decrease if the cost of investment (Cost of machine/equipment/accessories of the machine) will increase or decrease because cost of investment is taken on a tentative basis.

6. ANALYSIS OF LIGHTING SYSTEM

6.1 Brief description of the existing system

For assessing the energy efficiency of the lighting system, an Inventory of the Lighting System has been noted/collected, with the aid of a lux meter, measurement and documentation of the lux levels at various locations at the working level have been done.

6.2 Inventory of Lighting

Sl. No.	Location/Identification	LED 6W	10W wall LED	Surface 10W LED	14W LED	LED 3W	Profile 12W LED	Tube light 18W	LED Tube Light 20W	Tube light 12W	60W LED
1	Auditorium			10	61	21					
2	Audi outside				11						
3	Library			2	74	7					
4	GF toilet	4									
5	Lobby				4	26					
7	Medical room							2			
8	Board room	4			4						
9	Xerox Machine		1								
10	GF computer				11						
11	Computer Lab				6			1			
12	Computer Lab							3			
13	canteen			2	11		4				
14	Accounts				4						
15	CFO room				2			1			
16	Ritu mam room				2			1			
17	Female toilet							4			
18	Amphitheatre							2			
19	Vise President Office	3				3	4				
20	101				4						
21	102				4						
22	103				6					1	
23	104										6
24	105				5						
25	106				6						
26	Visitor Room 107						4				
27	Advisor Office 108						4				
28	109				3						
29	110				2						
30	111				7						
31	201				4					2	
32	202				4					2	
33	203				6						

34	204				6						
35	205								4		
36	206				6						
37	207				6						
	208				17					1	
38	301									3	
39	302				6						
40	303				9						
41	304				6						
42	305									4	
43	corridor									2	
44	PCR				2						
45	sound				4						
46	editing room				2						
47	makeup				2						
48	studio										14
49	401									3	
50	402									2	
51	403				8						
52	404				12						
53	405				8						
54	406									2	
55	407				2					2	
56	corridor									2	
57	GYM				24						
58	501				4						
59	502				4						
60	503				8						
61	audio room				12						
62	505				8						
63	506				4						
64	507				4						
65	corridor				10						
66	toilet				4						
67	601				4						
68	602									4	
69	603				8						
70	604				9						
71	605				8						
72	606				4						
73	607				4						
74	corridor				10						
75	Hub				12						
76	toilet				4						
	TOTAL	**11**	**1**	**14**	**482**	**57**	**16**	**14**	**4**	**30**	**20**

6.3 Lux Measurement

Description	Lux	Remark
Class Rooms	120 to 235	Acceptable
Offices	130 to 240	Acceptable
Corridors	35 to 90	Acceptable
Washrooms	45 to 76	Acceptable
Outdoor	36 to 95	Acceptable
Computer Lab	150 to 289	Acceptable
Parking area	45 to 94	Acceptable
Canteen	69 to 185	Acceptable

Observation

The college has initiated an LED-based lighting solution. LEDs save energy, the life span is much greater, and emit virtually no heat. We recommend replacing the tube lights with LEDs.

Additionally, we recommend installing motion sensor-based lights in common areas such as libraries, washrooms, corridors, etc.

We also recommend using solar lights for open areas like parking, ground, street lights, etc., and motion sensor lights for common areas such as libraries, corridors, washrooms, etc. The table below shows the performance characteristics comparison of all luminaries.

Table - Luminous Performance Characteristics of Commonly Used Luminaries					
Type of Lamp	Lumens/Watt		Colour Rendering Index	Typical Application	Typical Life
	Range	Avg.			

Incandescent	8-18	14	Excellent (100)	Homes, restaurants, general lighting emergency lighting	1000
Fluorescent lamps	46-60	50	Good w.r.t coating (67-77)	Offices, shops, hospitals, homes	5000
Compact fluorescent Lamps (CFL)	40-70	60	Very Good (85)	Hotels, shops, homes, offices	8000-10000
High pressure mercury (HPMV)	44-57	50	Fair (45)	General lighting in factories, garages, car parking. flood lighting	5000
Halogen lamps	18-24	22	Excellent (100)	Display, flood lightening, stadium exhibition grounds, construction areas	2000 - 4000
High pressure sodium (HPSV) SON	67-121	90	Fair (22)	General lighting in ware houses, factories, street lighting	6000 - 12000
Low pressure sodium (LPSV) SOX	101-175	150	Poor (10)	Roadways, tunnels, canals, street lighting	6000 - 12000
Metal halide lamps	75-125	100	Good (70)	Industrial bays, spot lighting, flood lighting, retail stores	8000
LED Lamps	30-50	40	Good (70)	Reading lights, desk lamps, night lights, spotlights, security lights, signage lights, etc.	40000 - 100000

7. OTHER POWER CONSUMPTION

7.1 Inventory of IT Infrastructure

Equipment	Count
Desktop	233
Laptop	5
Printers	11
Scanners	3
Servers	2
DVR & Camera	165
UPS	13
Web camera	20
projector	19

7.2 Water pump details

Sr. No.	Description	Unit	1.5 HP	1.5 HP	1.5 HP
			Pump No.-1	Pump No.-2	Pump No.-3
1	Rated Power of Motor	KW	1.1 KW	1.1 KW	1.1 KW
2	Motor Eff.	%	80%	80%	80%
3	Discharge Head	m	20	20	20
4	Suction Head	m	50	30	30
5	Pump Type	Submersible/Monoblock/ Centrifugal Etc.	Submersible	Monoblock	Monoblock

7.3 Other Loads

Sl. No.	Location/Identification	18 W Exhaust Fan	100 W Exhaust Fan	Water Cooler-230W	180W-Desert Cooler
1	Canteen			3	
2	Terrace			2	
3	Guard room				1
4	Medical room	1			
5	Ladies' washroom	2			
6	Auditorium		3		
7	Library		4		

ANALYSIS

There should be a regular maintenance schedule for equipment like pumps, exhaust fans, and IT equipment. Electronics such as computers, printers, scanners, etc. more than 3 years or 5 years (as per their life) should be replaced with new computers/laptops. Ideal Temperature should be maintained for all electronic appliances.

8. CAPACITOR BANK

There is no Capacitor bank available on the campus.

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

MANAGEMENT EDUCATION & RESEARCH INSTITUTE (MERI)

ENVIRONMENT AUDIT REPORT

2022-2023

PREPARED BY
EHS ALLIANCE SERVICES

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CERTIFICATE

EHS alliance

CERTIFICATE

PRESENTED TO

MANAGEMENT EDUCATION & RESEARCH INSTITUTE (MERI)

52-55, Sewa Marg, Janakpuri Institutional Area, Janakpuri, New Delhi, Delhi 110058

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

ACADEMIC YEAR 2022 - 2023

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

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

EHS ALLIANCE SERVICES GURGAON

SIGNATURE

08.09.2023
DATE OF AUDIT

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ACKNOWLEDGEMENT

EHS Alliance Services would like to thank the management of Management Education & Research Institute (MERI) 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. Simranjeet Kaur Bagga, Assistant Professor - Audit Coordinator,*** for her Continuous Support and guidance, without which the completion of the project would not have been 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

Prof. (Dr.) Deepshikha Kalra - *Dean, Academics*

Prof. (Dr.) Ritu Aggrawal *- H.O.D., Computer Applications*

Last but not the least, we would like to thank ***Prof. Lalit Aggarwal - Vice President*** for giving us an opportunity to evaluate the environmental performance of the campus.

DISCLAIMER

EHS Alliance Services Audit Team has prepared this report for Management Education & Research Institute (MERI) based on input data submitted by the representatives of College 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.

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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 development of urbanization and industrialization on earth. Because of unplanned utilization of resources, our planet is facing tremendous pressure results 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 judicially 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 results to competent authorities.

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.

OVERVIEW OF THE COLLEGE

Management Education Research Institute (Janakpuri Campus) is NAAC accredited, ISO 9001:2015 certified. MERI is A+ grade, premier institute with legacy of academic excellence for more than 28 years. MERI is affiliated to Guru Gobind Singh Indraprastha University, approved by AICTE, MHRD Government of India. The institute has created niche in the field of Management, Information Technology and Journalism. MBA, BBA, B. Com (H), BCA and BA(JMC) programmes are being offered in the institute. The institute has 28 international collaborations, with reputed Universities / Institutions covering international conferences, students exchange, research and related academic activities. Management Education & Research Institute (MERI), Janakpuri, West Delhi has been established since. More so, we at MERI ensure an all-round personality development of our students, be it for their cognitive skills or an overall value-set development.

MERI Janakpuri aims to create a learning atmosphere conducive for overall development of its students. Established in 1994, Management Education & Research Institute (MERI) ranks among the top institute for BBA, B.Com(H), BA(JMC) and MBA colleges in Delhi. In order to meet the ever growing challenges of competition in global economy, the Institute strives to groom market leaders in different areas of management & IT. MERI is not only into cognitive learning but also in value building, to ensure the development of Professional Specialists in both Management (MBA, BBA, B.Com(H)), Journalism(BA(JMC)) and IT streams .

With highly experienced faculty and world class infrastructure , MERI aims to create a learning atmosphere conducive for overall development of its students. The Institute offers MBA, BBA, B.Com(H) and BA(JMC) courses affiliated to Guru Gobind Singh Indraprastha University (GGSIPU). With its international collaborations with many universities/institutes across the world & industry interface, MERI ensures that its students are culturally aware about the world market place and have practical orientation for succeeding in the corporate world.

Management Education & Research Institute (MERI), Janakpuri New Delhi, spread over 1.0 acre plot is a NAAC accredited & an ISO 9001:2015 certified institute affiliated to GGSIPU. The Programs run by the institute include Master in Businesss Administration (MBA), with emphasis on 'Marketing', 'International Business', 'Finance', 'HR' etc. ,Bachelor of Business Administration (BBA) , Bachelor of Computer Applications BCA , Bachelor of Commerce B.COM(H) & Bachelor of Arts in Journalism and Mass Communication BA(JMC).

MISSION & VISION

MISSION

- ✓ To create conducive environment where innovative ideas and research flourish
- ✓ To optimize use of latest pedagogy for knowledge transfer
- ✓ To transfer understanding of theoretical concepts into real life scenarios
- ✓ To impart training to student to become professionally committed, ethical professionals and entrepreneurs.

VISION

To excel in professional education and research to industry and society

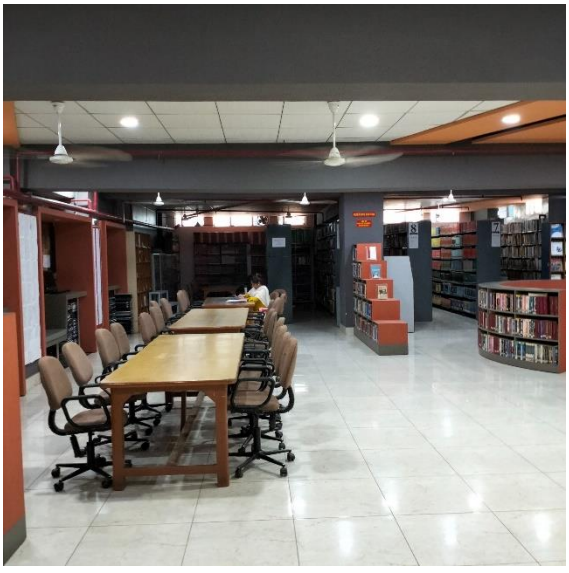
Facilities in the campus

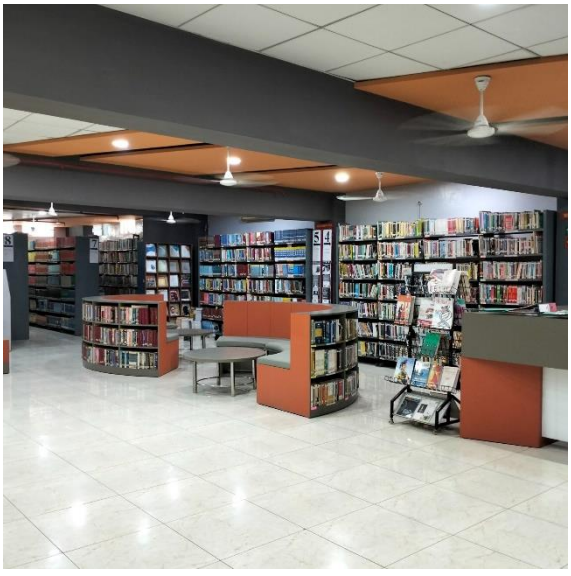
MERI, belief that the environment plays a very crucial role in enhancing concentration on studies or any other work. The institute is centrally air-conditioned consisting of lecture halls, conference hall, seminar halls, auditorium with LCD projectors and public address systems facilitating course delivery using audiovisual inputs from slide presentations to video clips and video lessons. The Wi-Fi campus also has state of art library, computer lab along with separate girls' & boys' hostels.

MERI STARTUP HUB: The institute has also planned to boost the entrepreneurship culture among the students. Keeping this in view, the college launched its start-up hub named, MERI Start-up Hub headed by Dr. Anjali Nigam. The overall objective of the MERI StartupHub at MERI College is to establish the practical application of knowledge to facilitate entrepreneurship. By allowing potential students to get the chance to submit their creative ideas through competitions and brainstorming, and also examining original and creative ideas or concepts put forth by students, researchers, and faculty members from a range of societal and commercial sectors. Students are supplied with resources to design prototypes beneficial for promoting agriculture and rural development, which is also the one of goals of the incubation centre. It also serves as a platform for students to transform their ideas into technological innovations. A beginning was made to develop our students and convert inventions into a crucial driver for economic progress, and ideas and innovations, which flow gradually with the start-ups. The major startups started by the students are Carpool, **De Zaina** (e-aggregator for Budding Fashion), **baniyababa.com**, and **Yourstartup9** etc. Students are encouraged to gain hands-on experience and better Industrial Exposure.

CLASS ROOMS: MERI has fully equipped, modern and spacious classrooms. In order to enhance the quality of education, the teaching-learning pedagogy is IT enabled and all the classrooms are equipped with an array of presentation and multi-media tools. The college has comprehensive audio-visual set up including LCD projectors, mics etc. to facilitate and promote highly conducive and organized learning for the students.

LIBRARY: MERI has a well-planned digital library that is equipped with the latest books, journals, periodicals and an array of reading materials including annual reports of industries and project reports. The state of art facilities, the library is well stocked with more than 28000 books apart from the reference material and 15000 electronic databases. Besides the books, the library also access to over 1500 journals and business magazines of national and international standards.





LABS: MERI has best-in-class laboratories to enhance practical skills of the students. The institute has state-of-the-art Computer Lab, Networking Lab, Media Lab and Audio-Visual Lab. All the labs are equipped with highly sophisticated and advanced technologies.

AUDITORIUM & CONFERENCE ROOM: MERI has aesthetically designed and spacious auditorium with latest audio-visual aids, high-quality sound system, innovative lightings and other latest equipment, making it ideal for academic and extra-curricular activities. The auditorium every year hosts a variety of events such as workshops, club activities, seminars, developmental programmes, meetings, etc.

SEMINAR HALLS: MERI has well-furnished and magnificent seminar hall equipped with all facilities such as audio-visual aids, projectors, high-quality sound system, and other latest equipment. The hall has a seating capacity of more than 100 and is available for academic and cultural events.

AMPHITHEATRE: A beautiful open-air amphitheatre offers a wonderful ambience for entertainment of students and open-air functions. The venue is used for entertainment, performances and different kinds of activities like music, concerts, talks, poetry, reading sessions, open stage plays etc.

GYMNASIUM: MERI provides Gym facility for all the students with an objective of all round development and to ensure both physical and mental well-being of the students. The Gym is equipped with world-class machines such as joggers, treadmills, strength machines, steppers, dumbbells and weight plates. Institute provides indoor sports facility like Table Tennis, Chess, Carrom, and Pool.

CAFETERIA

AUDITORIUM

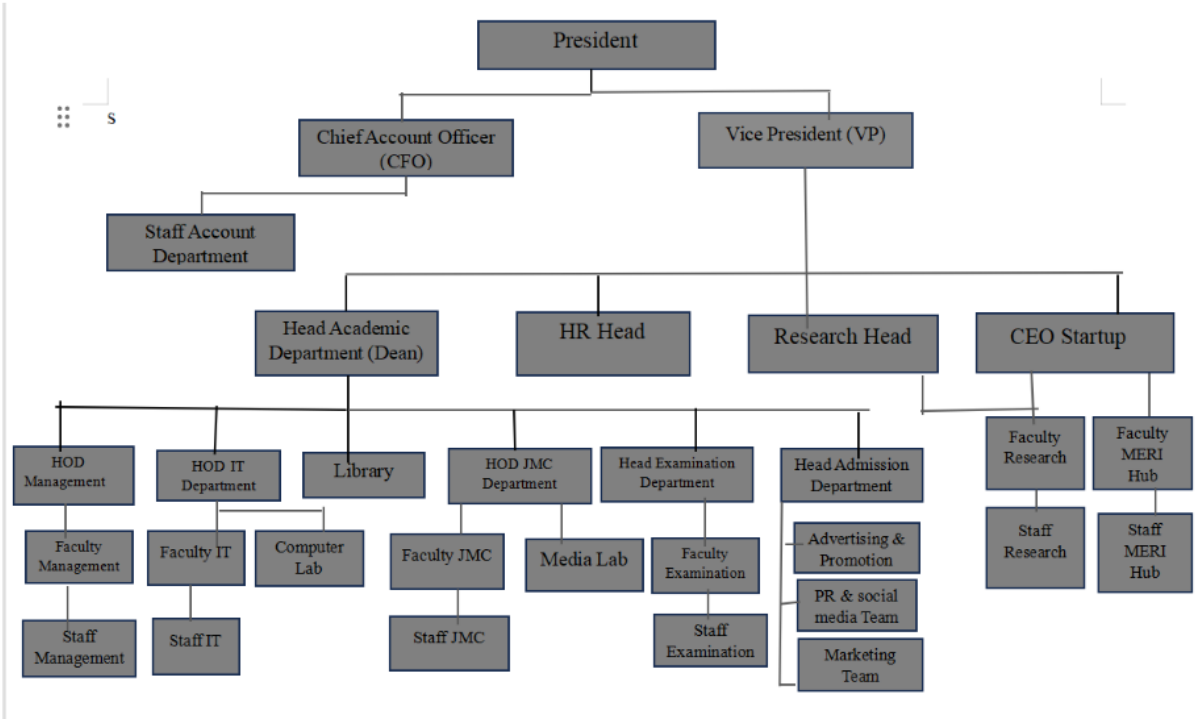
WELL EQUIPED GYMS

StartupHub

CAFETERIA: MERI provides cafeteria facility for the students in the college campus. The college cafeteria is fairly new and can accommodate about 40-50 students at one time. It provides healthy, nutritious and delicious food at reasonable rates. The food quality and hygiene conditions are periodically monitored by concerned authorities.

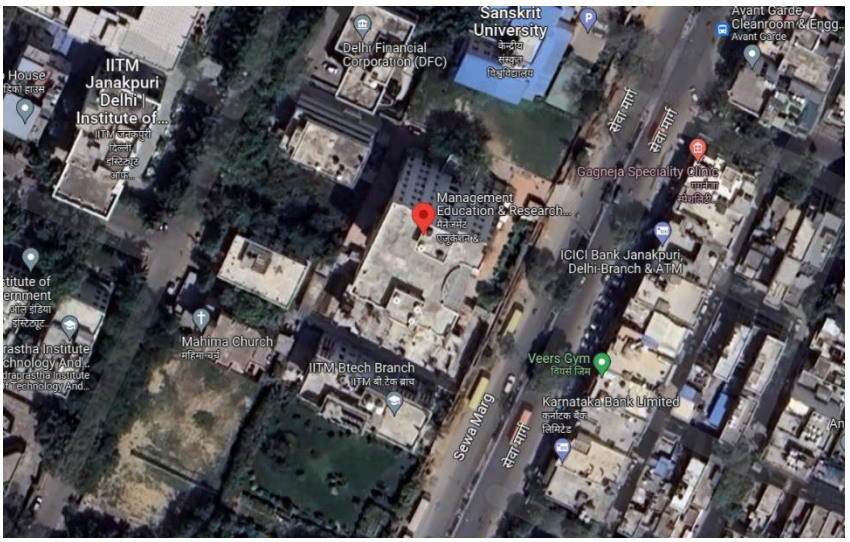
FIRE SAFETY: The college has vast number of fire extinguishers installed in the entire campus area for safety of the students and staff. The fire extinguishers are periodically inspected by concerned authorities.

Below is the organisation Chart



Geo Location

Geo Coordinates from Google maps:
28.6099234, 77.1026792



AUDIT PARTICIPANTS

On behalf of the college

Name	Designation
Prof. Lalit Aggarwal	*Vice President*
Prof. (Dr.) Deepshikha Kalra	*Dean, Academics*
Prof. (Dr.) Ritu Aggrawal	*H.O.D., Computer Applications*
Dr. Simranjeet Kaur Bagga	*Assistant Professor and Audit Coordinator*
Mr. Pawan Kishore Jha	*Assistant Professor*
Ms. Sarita Yadav	*Assistant Professor*
Ms. Shweta Ahuja	*Assistant Professor*
Ms. Preeti Verma	*Assistant Professor*

On behalf of EHS Alliance Services

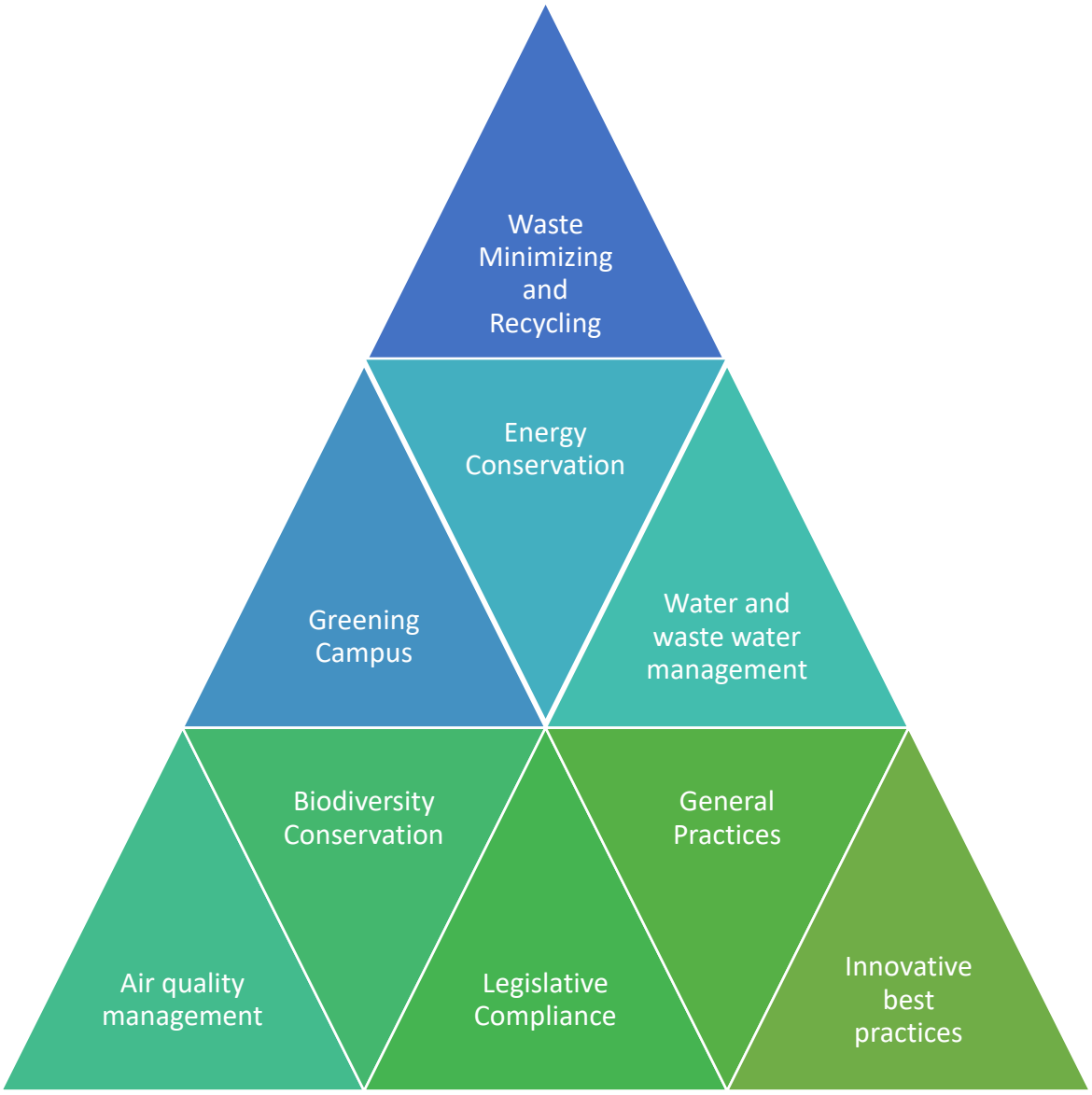
Name	Position	Qualifications
Dr. Uday Pratap	Lead Auditor	*Ph.D., PDIS, QCI – WASH, Lead Auditor ISO 14001:2015*
Ms. Pooja Kaushik	Co-Auditor	*M.Sc., Field Expert, QCI – WASH*

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 the first 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

TYPE OF WASTE ON COLLEGE CAMPUS

To create effective waste management plans, college first need to know the type of waste being generated at the campus. 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 generate approximately 5 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 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. 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.

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 campus's waste stream as well.

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. Management Education & Research Institute (MERI) has installed number of furnace to manage lab's waste at different labs.

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 institutions 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 Management Education & Research Institute (MERI) donates their text books and notes to junior students, or else are auctioned to reseller.

10. **C & D WASTE -** Expansion of 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 via composting and bio gas plant.

12. **HORTICULTURE WASTE –** College campus has lavished 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.**

A. Electricity

- *Lights, Fans, Air conditioners*
- *Lab equipment*
- *Computers in labs, faculty rooms & offices*
- *Electrical Appliances in Pantry*

B. LPG

- *Cafeteria and hostel mess*

Ways to use less energy

- *Replacing the conventional bulbs to LEDs*
- *Use of natural light when possible*
- *Use large appliances together to reduce energy use.*
- *Cleaning of Filters on regular basis and replace them whenever needed.*
- *Turn off the switch on the socket after use.*

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

- *Electricity is saved by use of LED bulbs for illumination.*
- *In Canteen, LPG is saved by use of pressure cookers for cooking food but in pandemic time, canteen was non-operational.*
- *Switch off fans and lights when not in use*
- *Various energy conservation awareness programs for students and staff*
- *Keep the computers and ACs on power saving mode.*

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

Approx 95 % of Total Conventional bulbs and tube lights are replaced by LED Lights.

4. **Do you run "switch off" drills at institute?**

Yes

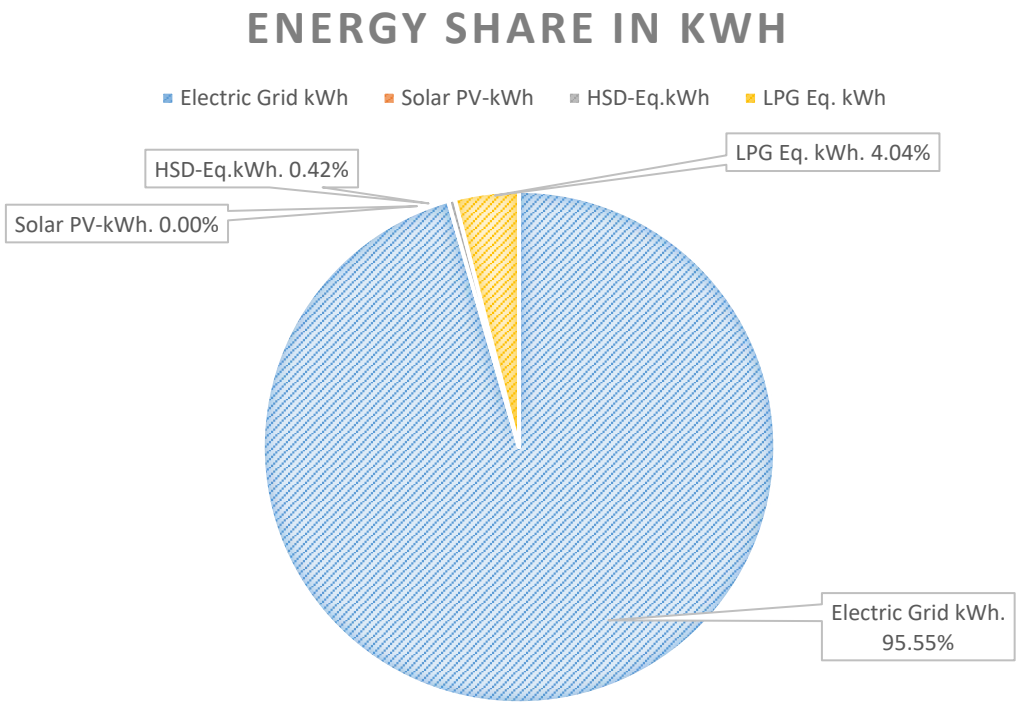
5. **Are your computers and other equipment's put on power-saving mode?**

Yes

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, In office hours

Energy Share	kWh	Percentage
Electric Grid kWh	150657.21	95.55%
Solar PV-kWh	0.00	0.00%
HSD-Eq. kWh	657.60	0.42%
LPG Eq. kWh	6365.76	4.04%
Total -kWh	**157680.57**	**100%**



WATER AND WASTEWATER MANAGEMENT

1. List uses of water in your institute

Basic use of water in campus:

***Drinking** – 40.49 KL/month*

***Gardening** – 182.11 Kl/month*

***Kitchen and Toilets** – 312.20 KL/month*

***Others** – 105.04 KL/month*

***Hostel** – 108.0 KL/Month*

Total = 642.73 KL/Month

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

Available total water storage of the college is 5,000 x 7 = 35,000 liters and 2 underground tanks of 20,000 liters.

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

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 Municipal Corporation (Delhi Jal Board).

Exit- From Canteen, Toilets, Hostel, Bathrooms and Labs through covered drainage which is connected to the sewage system

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

Basic ways:

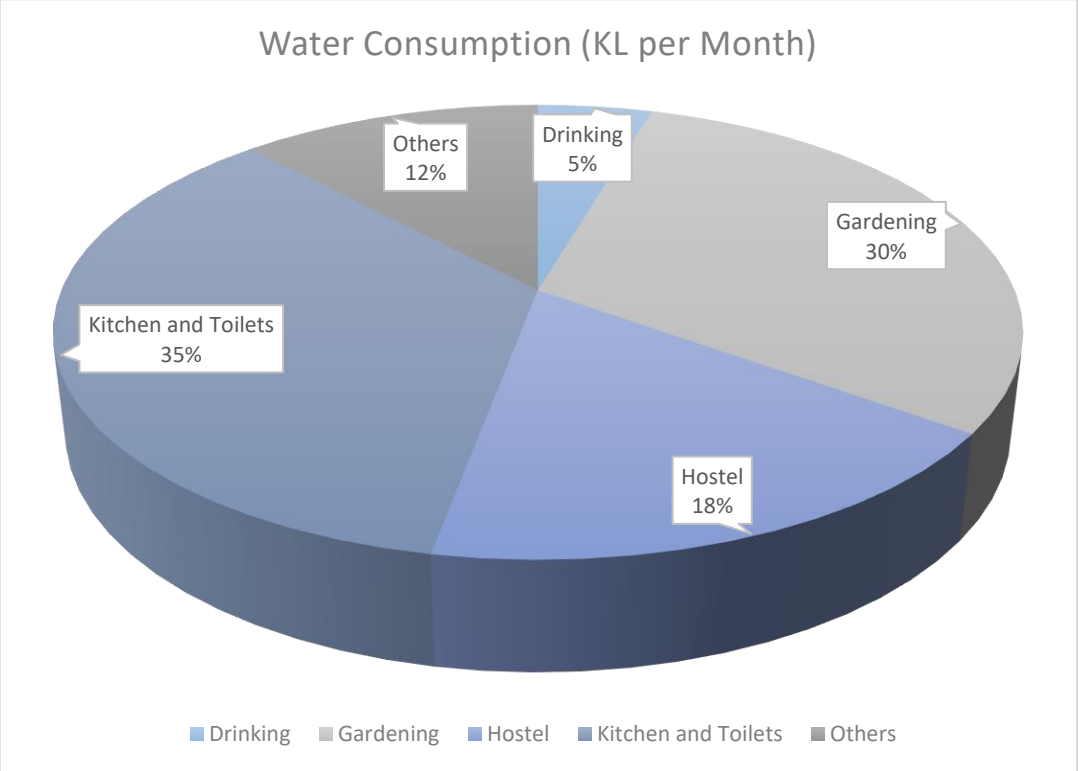
- *Close the taps after usage*
- *Water Conservation awareness for new students*
- *Maintenance and monitoring of valves in supply system to avoid overflow, leakage and spillage*
- *Sensor based taps and push tap are installed to save water*

5. Does your institute harvest rainwater?

No

6. Is there any water recycling System?

No



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 is one car in college for transport.

4. Provide details of Institute-owned vehicles?

1 Car – Petrol & CNG

5. PUC done?

Yes

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

1 Car – petrol & CNG

8. Air Quality Monitoring Program (If, Any)

Yes

ENVIRONMENT LEGISLATIVE COMPLAIANCE

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

Yes

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

Yes, Management Education & Research Institute (MERI)'s- Eco club 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?

Yes

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. Is 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.

- *Periodic Plantation drive*
- *Ban on single use plastic*
- *Water and energy conservation through posters*

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

Yes. Management Education & Research Institute (MERI) creates awareness through ECO Club activities, Webinars, cleanliness drives in the community.

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,

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

Certificates are attached in Annexure I

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

This is the first external audit carried out by the college.

INITIATIVES CARRIED OUT BY COLLEGE

- **Solid Waste Management**
  - Systematically engage with the 3Rs of environment friendliness (Reduce, Reuse and Recycle).
  - Collect paper waste produced on campus and collaborate with scrap dealers for recycling.
  - Reduce use of paper by supporting digitization of attendance and internal assessment records.
  - Reduce requirement of printed books by updating the e-books and e-journals collection of the college library.
  - Organizing workshops for students on solid waste management.
  - There is ban on single use plastic and plastic crockery in the campus.

- **Liquid Waste Management**
  - Maintain leak proof water fixtures.
  - Reuse of wastewater generated by the Reverse Osmosis (RO) system in washrooms.

- **E-waste Management**
  - College has a separate storeroom for the safe storage of electronic waste. After a certain interval of time college disposes of the E-waste to concerned agencies through the auction process.

- **Air Pollution Reduction**
  - Personal Vehicles (Students) are not allowed in the campus

RECOMMENDATIONS

- Eco-friendly parameters should be included in the purchase of articles and goods for the campus.
- The college should initiate rainwater harvesting/ storage pits for better groundwater recharge.
- College should install incinerator as per CPCB guidelines for the management of sanitary waste -As per Solid Waste Management Rules, 2016.
- Environmental Monitoring i.e. Stack Monitoring of DG sets, Water monitoring, air quality monitoring need to be conducted periodically (as per SPCB).
- Reduce carbon emissions by reducing the LPG and diesel consumption
- Solar PV installation is recommended to reduce carbon footprints.
- Water metering records should be in practice for water auditing and balancing.

CONCLUSION

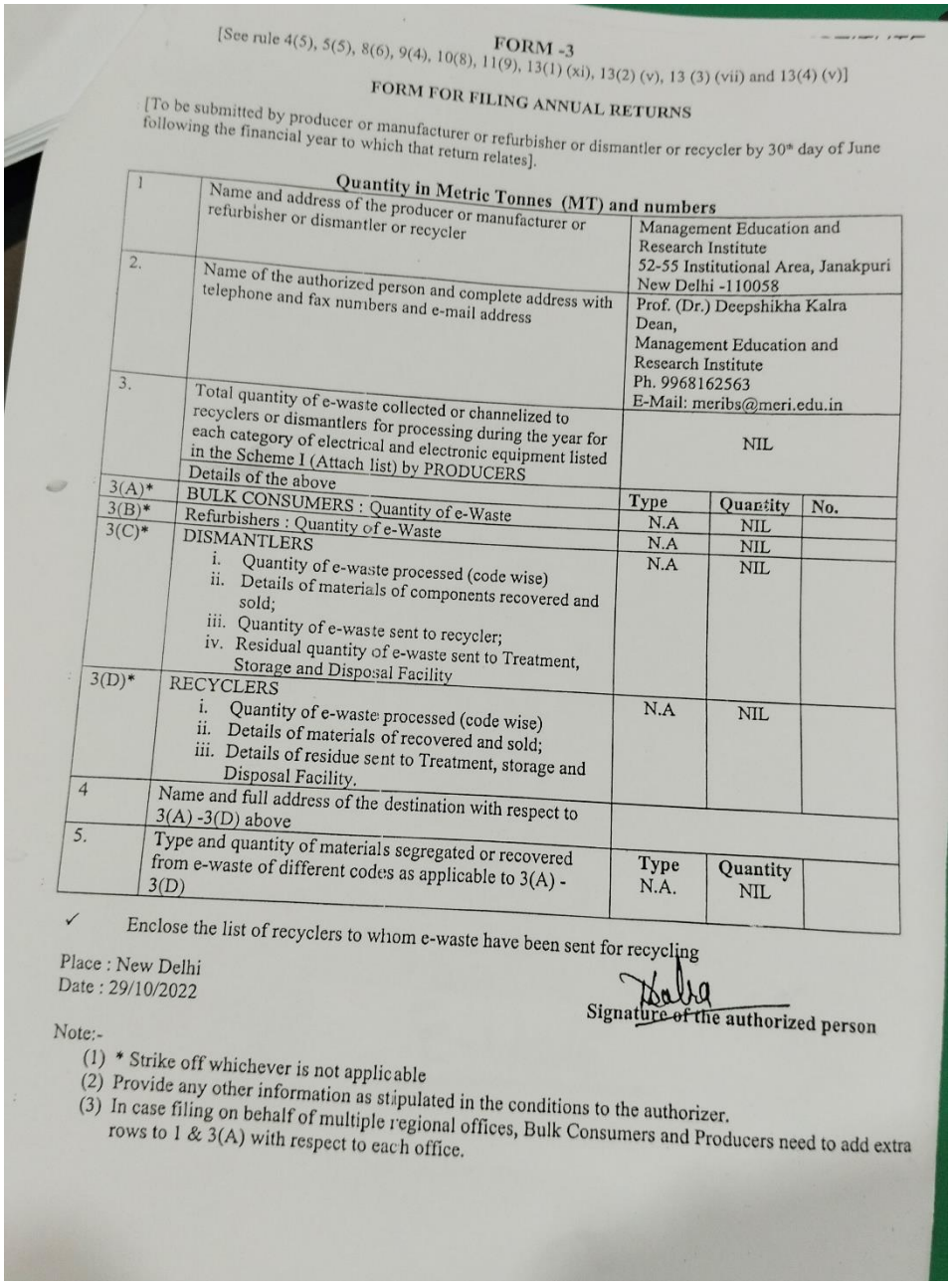
This audit involved extensive consultation with all the campus team, and interactions with key personnel on a wide range of issues related to environmental aspects. Overall, 20% of college campus is for landscaping. Management Education & Research Institute (MERI) is dedicated to promoting environmental management and conservation in the campus and community. The audit has identified some suggestions for making the campus premises more environmentally friendly. The recommendations and suggestions are mentioned for the campus to initiate actions.

The audit team opines that the overall site is well-maintained from an environmental perspective. 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)**
- **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



[See rule 4(5), 5(5), 8(6), 9(4), 10(8), 11(9), 13(1) (xi), 13(2) (v), 13 (3) (vii) and 13(4) (v)]

FORM -3

FORM FOR FILING ANNUAL RETURNS

[To be submitted by producer or manufacturer or refurbisher or dismantler or recycler by 30* day of June following the financial year to which that return relates].

Quantity in Metric Tonnes (MT) and numbers

1	Name and address of the producer or manufacturer or refurbisher or dismantler or recycler	Management Education and Research Institute 52-55 Institutional Area, Janakpuri New Delhi -110058		
2.	Name of the authorized person and complete address with telephone and fax numbers and e-mail address	Prof. (Dr.) Deepshikha Kalra Dean, Management Education and Research Institute Ph. 9968162563 E-Mail: meribs@meri.edu.in		
3.	Total quantity of e-waste collected or channelized to recyclers or dismantlers for processing during the year for each category of electrical and electronic equipment listed in the Scheme I (Attach list) by PRODUCERS	NIL		
	Details of the above	**Type**	**Quantity**	**No.**
3(A)*	BULK CONSUMERS : Quantity of e-Waste	N.A	NIL	
3(B)*	Refurbishers : Quantity of e-Waste	N.A	NIL	
3(C)*	DISMANTLERS i. Quantity of e-waste processed (code wise) ii. Details of materials of components recovered and sold; iii. Quantity of e-waste sent to recycler; iv. Residual quantity of e-waste sent to Treatment, Storage and Disposal Facility	N.A	NIL	
3(D)*	RECYCLERS i. Quantity of e-waste processed (code wise) ii. Details of materials of recovered and sold; iii. Details of residue sent to Treatment, storage and Disposal Facility.	N.A	NIL	
4	Name and full address of the destination with respect to 3(A) -3(D) above			
5.	Type and quantity of materials segregated or recovered from e-waste of different codes as applicable to 3(A) - 3(D)	**Type** N.A.	**Quantity** NIL	

✓ Enclose the list of recyclers to whom e-waste have been sent for recycling

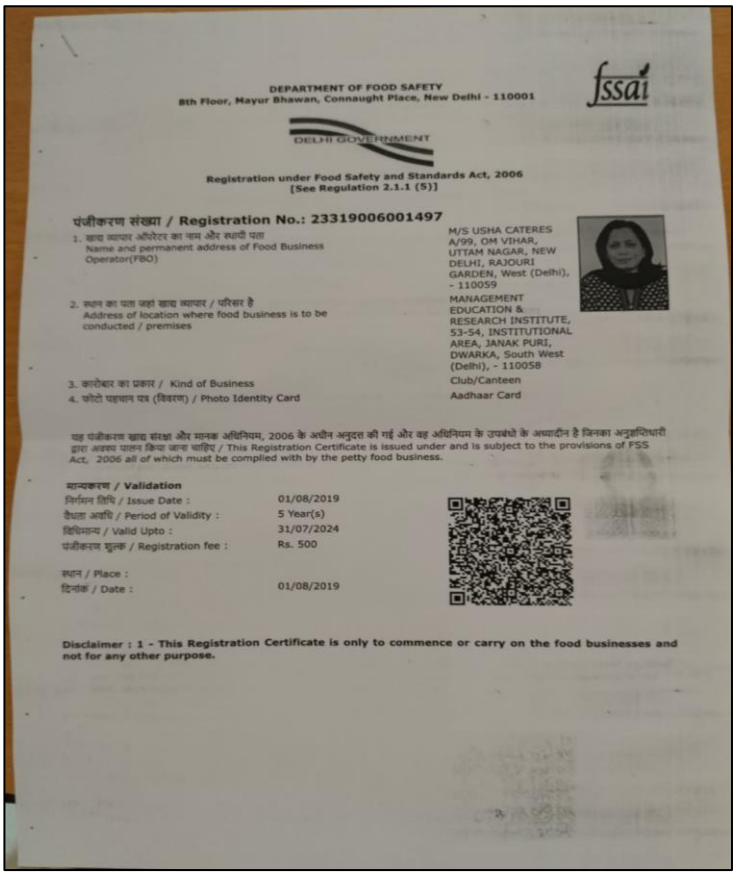
Place : New Delhi
Date : 29/10/2022

Signature of the authorized person

Note:-

(1) * Strike off whichever is not applicable
(2) Provide any other information as stipulated in the conditions to the authorizer.
(3) In case filing on behalf of multiple regional offices, Bulk Consumers and Producers need to add extra rows to 1 & 3(A) with respect to each office.

E-waste management



DEPARTMENT OF FOOD SAFETY
8th Floor, Mayur Bhawan, Connaught Place, New Delhi - 110001

fssai

DELHI GOVERNMENT

Registration under Food Safety and Standards Act, 2006
[See Regulation 2.1.1 (5)]

पंजीकरण संख्या / Registration No.: 23319006001497

1. खाद्य व्यापार ऑपरेटर का नाम और स्थायी पता
Name and permanent address of Food Business Operator(FBO)
M/S USHA CATERES A/99, OM VIHAR, UTTAM NAGAR, NEW DELHI, RAJOURI GARDEN, West (Delhi), - 110059

2. स्थान का पता जहां खाद्य व्यापार / परिसर है
Address of location where food business is to be conducted / premises
MANAGEMENT EDUCATION & RESEARCH INSTITUTE, 53-54, INSTITUTIONAL AREA, JANAK PURI, DWARKA, South West (Delhi), - 110058

3. कारोबार का प्रकार / Kind of Business
Club/Canteen

4. फोटो पहचान पत्र (विवरण) / Photo Identity Card
Aadhaar Card

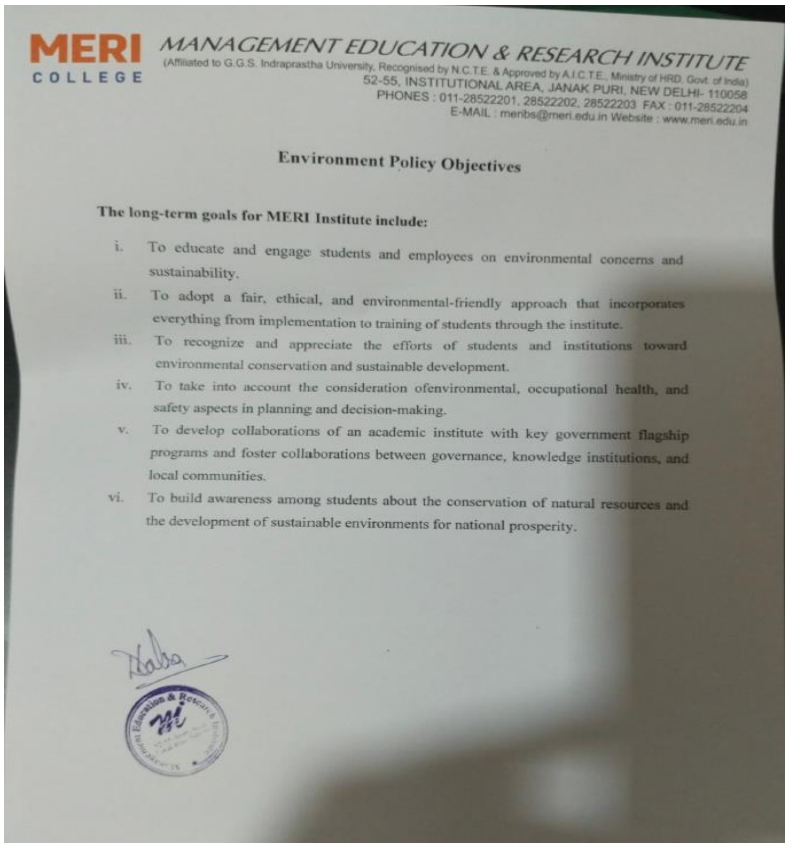
यह पंजीकरण खाद्य संरक्षा और मानक अधिनियम, 2006 के अधीन अनुदत्त की गई और वह अधिनियम के उपबंधो के अध्यधीन है जिनका अनुज्ञप्तिधारी द्वारा अवश्य पालन किया जाना चाहिए / This Registration Certificate is issued under and is subject to the provisions of FSS Act, 2006 all of which must be complied with by the petty food business.

मान्यकरण / Validation

निर्गमन तिथि / Issue Date :	01/08/2019
वैधता अवधि / Period of Validity :	5 Year(s)
विधिमान्य / Valid Upto :	31/07/2024
पंजीकरण शुल्क / Registration fee :	Rs. 500
स्थान / Place :	
दिनांक / Date :	01/08/2019

Disclaimer : 1 - This Registration Certificate is only to commence or carry on the food businesses and not for any other purpose.

FSSAI License



MERI COLLEGE
MANAGEMENT EDUCATION & RESEARCH INSTITUTE
(Affiliated to G.G.S. Indraprastha University, Recognised by N.C.T.E. & Approved by A.I.C.T.E., Ministry of HRD, Govt. of India)
52-55, INSTITUTIONAL AREA, JANAK PURI, NEW DELHI- 110058
PHONES : 011-28522201, 28522202, 28522203 FAX : 011-28522204
E-MAIL : meribs@meri.edu.in Website : www.meri.edu.in

Environment Policy Objectives

The long-term goals for MERI Institute include:

i. To educate and engage students and employees on environmental concerns and sustainability.
ii. To adopt a fair, ethical, and environmental-friendly approach that incorporates everything from implementation to training of students through the institute.
iii. To recognize and appreciate the efforts of students and institutions toward environmental conservation and sustainable development.
iv. To take into account the consideration ofenvironmental, occupational health, and safety aspects in planning and decision-making.
v. To develop collaborations of an academic institute with key government flagship programs and foster collaborations between governance, knowledge institutions, and local communities.
vi. To build awareness among students about the conservation of natural resources and the development of sustainable environments for national prosperity.

Environment Policy

JAAGRUTI Waste Paper Recycling Services

CERTIFICATE OF RECYCLING

This certificate is issued to

Management Education & Research Institute (MERI)
52-55, Sewa Marg, Janakpuri Institutional Area,
Janakpuri, New Delhi, Delhi 110058

in recognition of their association and commitment towards environmental sustainability
in getting 750.30 kgs of waste paper recycled*
in September 2023.

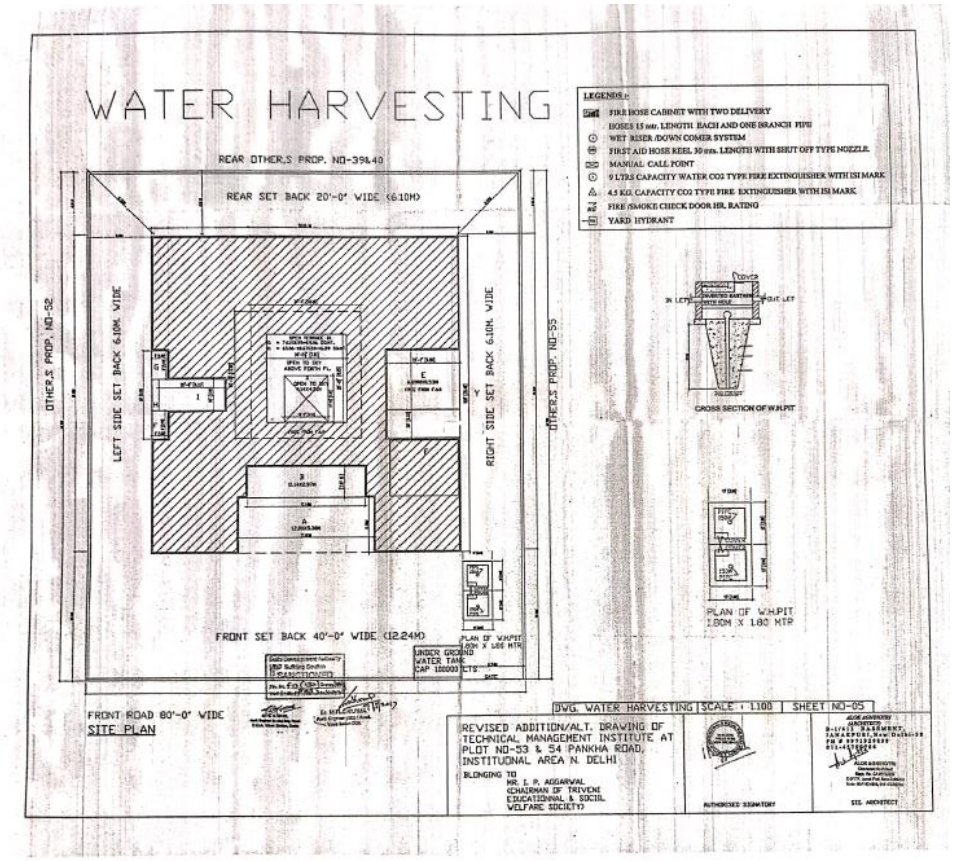
1000 kgs of recycled paper saves:
- 17 Trees
- 26,281 litres of water
- 264 kgs of air pollution
- 1,752 litres of oil
- 4077 KW hours of Energy
- 82.62 cubic feet of landfill space

Authorised Signatories

For JAAGRUTI Waste Paper Recycling Services
Inform. Share. Inspire

Works Address: F-3, Shopping Centre-1, Mansarover Garden, Delhi -110015
www.we-recycle.org; T: +91- 98101 91625, +91-99589 80909; e-mail: paper@we-recycle.org

Recycling Certificate



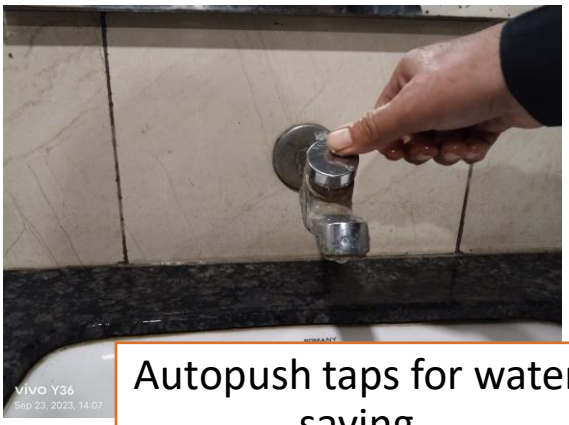
Rainwater Harvesting Design/ Drawing

ANNEXURE II – PHOTOGRAPHS OF ENVIRONMENTAL INITIATIVES

Water Conservation Message Display

Energy Conservation Message Display

RO waste water collection

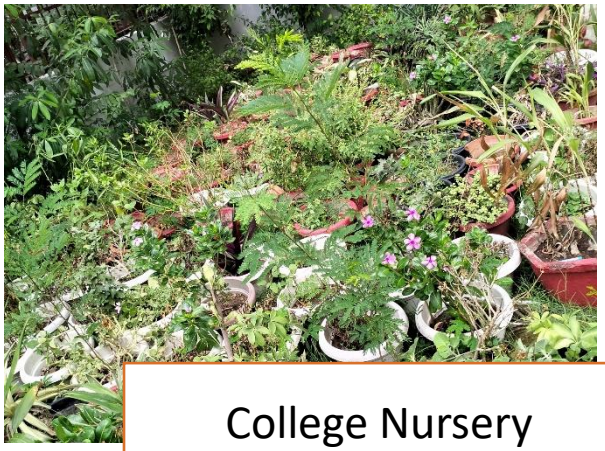


Autopush taps for water saving

Soundproof silent generators

Color-coded dustbins

Indoor plants



College Nursery

Underground water storage tank

Plantation Drive

Awareness campaign to school kids

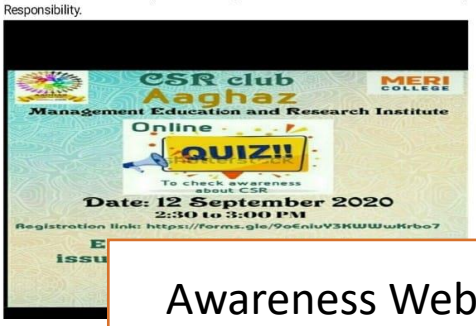
Air purifying plants

AC waste water to plants

Date: 12/09/2020

Report on Online Quiz competition organized by CSR club Aaghaz

MERI organized an Online Quiz Competition on September 2020. The event was organized by MERI CSR club Aaghaz. This competition was organized to check the awareness about Corporate Social Responsibility.



Awareness Webinar

Plant Ownership

Sensor based lights

Awareness posters

Plastic free message

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

MANAGEMENT EDUCATION & RESEARCH INSTITUTE (MERI)

GREEN AUDIT REPORT

2022-2023

PREPARED BY
EHS ALLIANCE SERVICES

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CERTIFICATE

EHS alliance

CERTIFICATE

PRESENTED TO

MANAGEMENT EDUCATION & RESEARCH INSTITUTE (MERI)

52-55, Sewa Marg, Janakpuri Institutional Area, Janakpuri, New Delhi, Delhi 110058

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

GREEN AUDIT

ACADEMIC YEAR 2022 - 2023

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 SERVICES GURGAON

SIGNATURE

08.09.2023
DATE OF AUDIT

EHS ALLIANCE SERVICES, PLOT A-72, SURYA VIHAR, GURUGRAM, 122001
WWW.EHSALL.IN | BUSINESS@EHSALL.IN | EHSALLIANCE@GMAIL.COM

ACKNOWLEDGEMENT

EHS Alliance Services would like to thank the management of Management Education & Research Institute (MERI) for assigning this important work of Green Audit. We appreciate the co-operation to the teams for completion of assessment.

We would also like to thank ***Dr. Simranjeet Kaur Bagga, Assistant Professor - Audit Coordinator***, for her continuous support and guidance, without which the completion of the project would not have been 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

Prof. (Dr.) Deepshikha Kalra - *Dean, Academics*

Prof. (Dr.) Ritu Aggarwal - *H.O. D., Computer Applications*

Last but not the least, we would like to thank ***Prof. Lalit Aggarwal - Vice President*** for giving us an opportunity to evaluate the environmental performance of the campus.

DISCLAIMER

EHS Alliance Services Audit Team has prepared this report for Management Education & Research Institute (MERI) based on input data submitted by the representatives of college 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 the 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 organization, 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.

Signature

LEAD AUDITOR

CONCEPT AND CONTEXT

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. 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 College management decided to conduct an external environment assessment study by a competent external professional auditor. 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. The concepts, structure, objectives, methodology, tools of analysis, objectives of the audit as below:

INTRODUCTION

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 is conducted to evaluate the actual scenario at the institution campus. 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.

OVERVIEW OF THE COLLEGE

Management Education Research Institute (Janakpuri Campus) is NAAC accredited, ISO 9001:2015 certified. MERI is A+ grade, premier institute with legacy of academic excellence for more than 28 years. MERI is affiliated to Guru Gobind Singh Indraprastha University, approved by AICTE, MHRD Government of India. The institute has created niche in the field of Management, Information Technology and Journalism. MBA, BBA, B. Com (H), BCA and BA(JMC) programmes are being offered in the institute. The institute has 28 international collaborations, with reputed Universities / Institutions covering international conferences, students exchange, research and related academic activities. Management Education & Research Institute (MERI), Janakpuri, West Delhi has been established since. More so, we at MERI ensure an all-round personality development of our students, be it for their cognitive skills or an overall value-set development.

MERI Janakpuri aims to create a learning atmosphere conducive for overall development of its students. Established in 1994, Management Education & Research Institute (MERI) ranks among the top institute for BBA, B.Com(H), BA(JMC) and MBA colleges in Delhi. In order to meet the ever growing challenges of competition in global economy, the Institute strives to groom market leaders in different areas of management & IT. MERI is not only into cognitive learning but also in value building, to ensure the development of Professional Specialists in both Management (MBA, BBA, B.Com(H)), Journalism(BA(JMC)) and IT streams .

With highly experienced faculty and world class infrastructure, MERI aims to create a learning atmosphere conducive for overall development of its students. The Institute offers MBA, BBA, B.Com(H) and BA(JMC) courses affiliated to Guru Gobind Singh Indraprastha University (GGSIPU). With its international collaborations with many universities/institutes across the world & industry interface, MERI ensures that its students are culturally aware about the world market place and have practical orientation for succeeding in the corporate world.

Management Education & Research Institute (MERI), Janakpuri New Delhi, spread over 1.0 acre plot is a NAAC accredited & an ISO 9001:2015 certified institute affiliated to GGSIPU. The Programs run by the institute include Master in Business Administration (MBA), with emphasis on 'Marketing', 'International Business', 'Finance', 'HR' etc., Bachelor of Business Administration (BBA) , Bachelor of Computer Applications BCA , Bachelor of Commerce B.COM(H) & Bachelor of Arts in Journalism and Mass Communication BA(JMC).

MISSION & VISION

MISSION

- ✓ To create conducive environment where innovative ideas and research flourish
- ✓ To optimize use of latest pedagogy for knowledge transfer
- ✓ To transfer understanding of theoretical concepts into real life scenarios
- ✓ To impart training to student to become professionally committed, ethical professionals and entrepreneurs.

VISION

To excel in professional education and research to industry and society

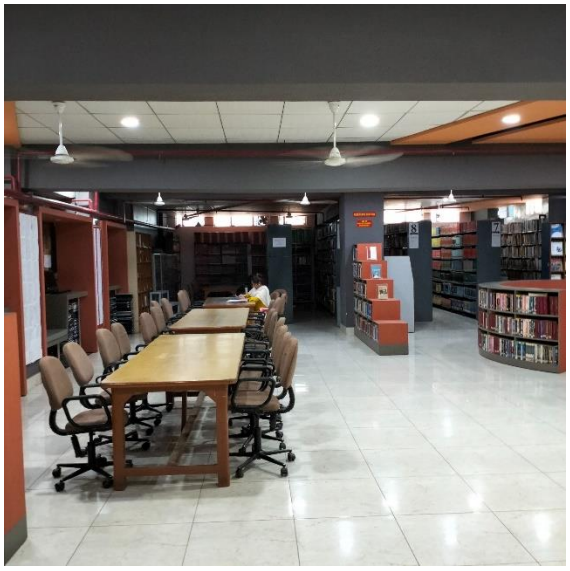
Facilities in the campus

MERI, belief that the environment plays a very crucial role in enhancing concentration on studies or any other work. The institute is centrally air-conditioned consisting of lecture halls, conference hall, seminar halls, auditorium with LCD projectors and public address systems facilitating course delivery using audiovisual inputs from slide presentations to video clips and video lessons. The Wi-Fi campus also has state of art library, computer lab along with separate girls' & boys' hostels.

MERI STARTUP HUB: The institute has also planned to boost the entrepreneurship culture among the students. Keeping this in view, the college launched its start-up hub named, MERI Start-up Hub headed by Dr. Anjali Nigam. The overall objective of the MERI StartupHub at MERI College is to establish the practical application of knowledge to facilitate entrepreneurship. By allowing potential students to get the chance to submit their creative ideas through competitions and brainstorming, and also examining original and creative ideas or concepts put forth by students, researchers, and faculty members from a range of societal and commercial sectors. Students are supplied with resources to design prototypes beneficial for promoting agriculture and rural development, which is also the one of goals of the incubation centre. It also serves as a platform for students to transform their ideas into technological innovations. A beginning was made to develop our students and convert inventions into a crucial driver for economic progress, and ideas and innovations, which flow gradually with the start-ups. The major startups started by the students are Carpool, **De Zaina** (e-aggregator for Budding Fashion), **baniyababa.com**, and **Yourstartup9** etc. Students are encouraged to gain hands-on experience and better Industrial Exposure.

CLASS ROOMS: MERI has fully equipped, modern, and spacious classrooms. In order to enhance the quality of education, the teaching-learning pedagogy is IT-enabled and all the classrooms are equipped with an array of presentation and multi-media tools. The college has a comprehensive audio-visual set up including LCD projectors, mics, etc. to facilitate and promote highly conducive and organized learning for the students.

LIBRARY: MERI has well-planned digital library that is equipped with latest books, journals, periodicals and an array of reading materials including annual reports of industries and project reports. The state of art facilities, the library is well stocked with more than 28000 books apart from the reference material and 15000 electronic databases. Besides the books, the library also accesses to over 1500 journals and business magazines of national and international standards.




LABS: MERI has best-in-class laboratories to enhance practical skills of the students. The institute has state-of-the-art Computer Lab, Networking Lab, Media Lab and Audio-Visual Lab. All the labs are equipped with highly sophisticated and advanced technologies.

AUDITORIUM & CONFERENCE ROOM: MERI has aesthetically designed and spacious auditorium with latest audio-visual aids, high-quality sound system, innovative lightings and other latest equipment, making it ideal for academic and extra-curricular activities. The auditorium every year hosts a variety of events such as workshops, club activities, seminars, developmental programmes, meetings, etc.


SEMINAR HALLS: MERI has well-furnished and magnificent seminar hall equipped with all facilities such as audio-visual aids, projectors, high-quality sound system, and other latest equipments. The hall has a seating capacity of more than 100 and is available for academic and cultural events.

AMPHITHEATRE: A beautiful open-air amphitheatre offers a wonderful ambience for entertainment of students and open-air functions. The venue is used for entertainment, performances and different kinds of activities like music, concerts, talks, poetry, reading sessions, open stage plays etc.

GYMNASIUM: MERI provides Gym facility for all the students with an objective of all round development and to ensure both physical and mental well-being of the students. The Gym is equipped with world-class machines such as joggers, treadmills, strength machines, steppers,

dumbbells and weight plates. Institute provides indoor sports facility like Table Tennis, Chess, Carrom, and Pool.

CAFETERIA

AMPHITHEATURE

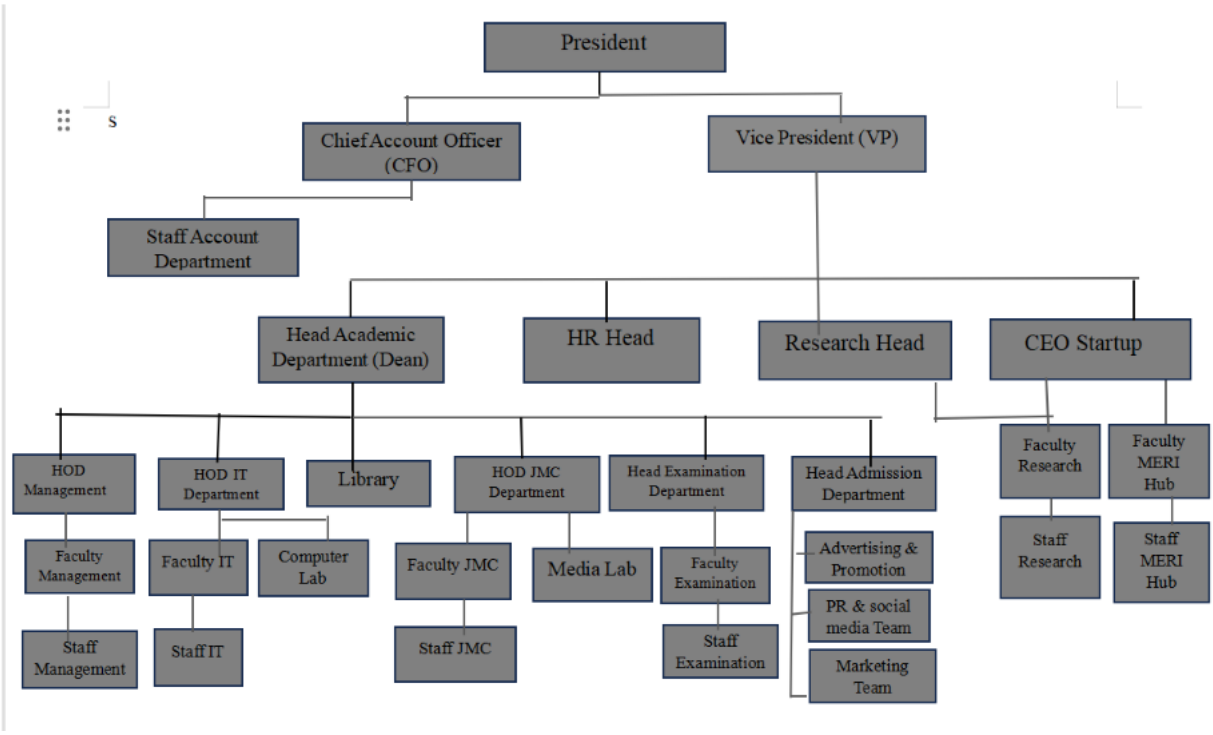
WELL EQUIPED GYMS

StartupHub

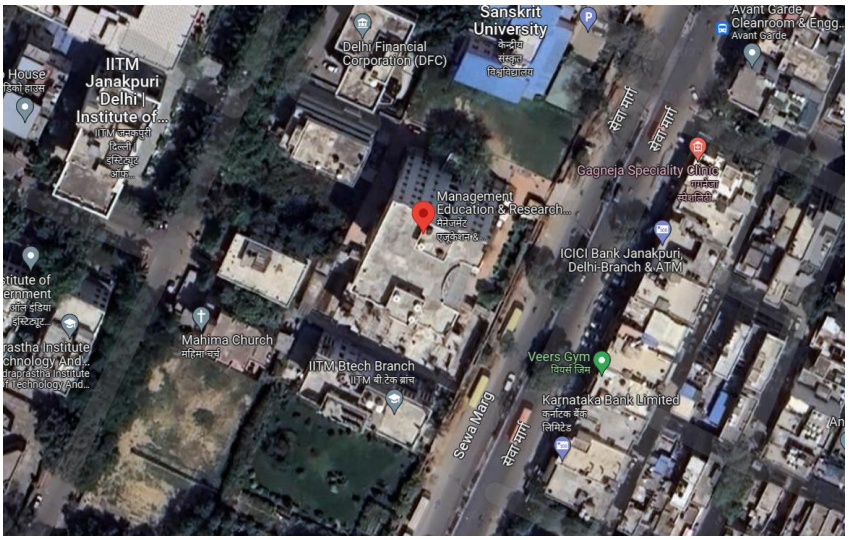
CAFETERIA: MERI provides cafeteria facility for the students in the college campus. The college cafeteria is fairly new and can accommodate about 40-50 students at one time. It provides healthy, nutritious and delicious food at reasonable rates. The food quality and hygiene conditions are periodically monitored by concerned authorities.

FIRE SAFETY: The college has vast number of fire extinguishers installed in the entire campus area for safety of the students and staff. The fire extinguishers are periodically inspected by concerned authorities.

Below is the organisation Chart



Geo Location
Geo Coordinates from Google maps:
28.6099234, 77.1026792



AUDIT PARTICIPANTS

On behalf of Management Education & Research Institute (MERI)

Name	Designation
Prof. Lalit Aggarwal	*Vice President*
Prof. (Dr.) Deepshikha Kalra	*Dean, Academics*
Prof. (Dr.) Ritu Aggrawal	*H.O.D., Computer Applications*
Dr. Simranjeet Kaur Bagga	*Assistant Professor and Audit Coordinator*
Mr. Pawan Kishore Jha	*Assistant Professor*
Ms. Sarita Yadav	*Assistant Professor*
Ms. Shweta Ahuja	*Assistant Professor*
Ms. Preeti Verma	*Assistant Professor*

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*

EXECUTIVE SUMMARY

Green auditing is an essential step to identify and determine whether the institutional practices are sustainable and ecological. Traditionally, we were upright and efficient users of natural resources. But over the period of time, excessive usage of resources like water, electricity, petrol, etc. have become habitual for everyone especially, in urban and semi-urban areas. It is actually the right time to check if we (our process) are consuming more than required resources? Whether we are using resources sensibly?

Green audit standardizes all such practices and provides an efficient way to use natural resources. In the time of climate change and resource exhaustion it is necessary to re-check the processes and convert then in to green and sustainable. Green audit provides an approach for the same. It also increases overall awareness among the folks working in institution towards the eco-friendly environment.

This is the first attempt to conduct green audit of this campus for fulfilment of NAAC criteria. This audit was mainly focused on greening indicators like consumption of energy in terms of electricity and fossil fuel, quality of soil, water usage, vegetation, waste management practices and carbon footprint of the campus. Initially, a questionnaire was shared to know about the existing resources of the campus and resource consumption patterns of the students and staff in the campus.

GREEN AUDIT - ANALYSIS

1.1 GENERAL INFORMATION

1. Does any Green Audit conducted earlier?

Yes, this is first external audit organized by the College

2. What is the total strength (people count) of the Institute?

Students
Male: 962 Female: 619 Total: 1581

Teachers (including guest faculty)
Male: 30 Female: 49 Total: 79

Non-Teaching Staff
Male: 10 Female: 13 Total: 23

Total Strength
Male: 1002 Female: 681 Total: 1683

3. What is the total number of working days of your campus in a year?

There are one hundred eighty-two working days in a year.

4. Where is the campus located?

The campus is located at 52-55, Sewa Marg, Janakpuri Institutional Area, Janakpuri, New Delhi, Delhi 110058

5. Which of the following are available in your institute?

Garden area	*Available*
Playground	*Available*
Kitchen	*Available*
Toilets	*Available*
Garbage Or Waste Store Yard	*Available*
Laboratory	*Available*
Canteen	*Available*
Hostel Facility	*Available*
Guest House	*Available*

6. Which of the following are found near your institute?

Municipal dump yard	*Not in vicinity of institute*
Garbage heap	*No Garbage heaps*
Public convenience	*Public convenience is available*
Sewer line	*Approximately 0.5 KM sewer line within campus*

Stagnant water	*No stagnant water*
Open drainage	*No*
Industry – (Mention the type)	*No*
Bus / Railway Station	*Janakpuri metro station, Janakpuri bus stop*
Market / Shopping complex	*Available*

1.2 WASTE MINIMIZATION AND RECYCLING

1. Does your institute generate any waste? If so, what are they?

Yes, Solid waste, Canteen waste, paper, plastic, horticulture, laboratories waste, e-waste, etc.

2. What is the approximate amount of waste generated per day? (in Kg approx.)

Biodegradable waste - 10 Kg
Non-biodegradable waste -2 Kg
Hazardous Waste - 1 Kg
Others < 1 Kg

3. How is the waste managed in the institute? By Composting, Recycling, Reusing, Others (specify)

- *Food waste is collected into bins and given to municipal corporation*

RO wastewater collection in separate tank for reusage

- *E-waste collection and management through recycled – authorized vendor*

4. Do you use recycled paper in institute?

Yes, college uses single sided used paper for rough work, assessment work and prints

5. How would you spread the message of recycling to others in the community?

Following are the ways through which 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.*

6. Can you achieve zero garbage in your institute? If yes, how?

Not yet achieved. Possible through waste management policy and planning.
1. Minimization of waste production
2. Awareness workshops & trainings for students and faculty on Waste management

1.3 GREENING THE CAMPUS

1. Is there a garden in your institute?

Yes, about 18421.46 Sq Ft. areas are developed as Gardens.

2. Do students spend time in the garden?

Yes, students spend around 2-4 Hours during winters.

3. Total number of Plants in Campus?

Plant type with approx. count	
Full grown Trees	*13*
Small Trees	*40*
Hedge Plants	*686*
Grass Cover sqm	*18421.46 ft*

4. Is the College campus having any Horticulture Department? (If yes, give details)

Yes, Total 2 staff (maali) deployed in horticulture department

5. How many Tree Plantation Drives organized by campus per annum?

Three Plantation Drives are Organized by campus in the last FY. 380 plants were planted in this FY. Survival rate is more than 80%.

6. Is there any Plant Distribution Program for Students and Community?

Yes, College gives planters to all guests instead of giving bouquet and plant distribution in Nasirpur village area.

8. Is there any Plant Ownership Program?

Yes

1.4 WATER AND WASTEWATER MANAGEMENT

1. List uses of water in your institute

Basic use of water in campus:

***Drinking** – 40.49 KL/month*

***Gardening** – 77.01 Kl/month*

***Kitchen and Toilets** – 312.20 KL/month*

***Others** – 105.04 KL/month*

***Hostel** – 108.00 KL/Month*

Total = 642.73 KL/Month

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

Available total water storage of the college is 5,000 x 7 = 35,000 liters and 2Underground storage tank of 20,000 liters.

Saving Techniques

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

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

***Entry** - Water comes from Municipal corporation supply*
***Exit**- From Canteen, Toilets, Hostel, bathrooms and Labs through covered drainage which is connected to sewer*

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

Basic ways:

- *Close the taps after usage*
- *Water Conservation awareness for new students*
- *Maintenance and monitoring of valves in the supply system to avoid overflow, leakage, and spillage*
- *Push taps are installed to save water*
- *Water recycling and use of sprinklers for gardening*

1.5 ANIMAL WELFARE

1. List the animals (wild and domestic) found on the campus (dogs, cats, squirrels, birds, insects, etc.)

10+ butterfly species, 20+ Squirrels and 20+ Birds are found in campus. A variety of bird's species and other flora and fauna are available, so institute is doing their bit for bio diversity conservation.

2. Does your institute have a Biodiversity Program or a KARUNA CLUB?

*Yes, Management Education & Research Institute (MERI)'s **Eco club** "AAGHAZ" actively organizes awareness through various campaigns and activities including seminars, poster competition, etc.*

1.6 CARBON FOOTPRINT - EMISSION & ABSORPTION

1. Electricity used per year - CO2 emission from electricity

(Electricity used per year in kWh/1000) x 0.84
= 150657/1000x0.84
= 126.55 tons

2. LPG/PNG used per year - CO2 emission from LPG/PNG

(LPG/PNG used per year in KG) x 2.99
6365.76 x 2.99
= 6365.76 x 2.99
=2.73 tons

3. Diesel used per year CO2 emission from HDS (Diesel)

(Diesel used per year in litres) x 2.68
= 657.60x 2.68
= 657.60x 2.68
=0.16 tons

4. Transportation per year (car) CO2 emission from transportation (Bus and Car)

College owns a car
*=(0*2*2*180/100)*0.01 + (1*2*2*180/100)*0.02*
=0.14 tons

Total CO2 emission per year cumulative by electricity usage + LPG + Diesel + bus and car is 129.58 tons

CARBON ABSORPTION BY FLORA IN THE INSTITUTION

There are 13 full grown trees and 40 semi grown trees of different species, on the campus spread over 43560.04 sq ft.

Carbon absorption capacity of one full grown tree 22 kg CO_2Therefore Carbon absorption capacity of 13 full-grown trees 13 x 22 kg CO_2 = 0.29 tons of CO_2.

The carbon absorption capacity of 40 semi-grown trees is approx. 30% of that of full-grown trees. Hence the carbon absorption 40 x 6.8 kg of CO_2 = 0.27 tons of CO_2

There are approximately Hedge Plants 686 of various species being raised in the gardens and grown in the areas where no buildings are built Carbon absorption of bush plants varies widely with their species. Certain bushes absorb very high levels of CO_2 while some others absorb very low levels of CO_2. In the absence of a detailed scientific study, 200g of CO_2, absorption is taken per bush (in consultation with Environmental Science specialists). Based on this, total carbon absorption of bushes is 686 x 200 g = 0.14 tons of CO_2

The lawns on the campus have buffalo grass, Mexican grass and indigenous grass species and cover a total area of 18421.46 sq. ft. Carbon absorption capacity of a 10 sq. ft. area of lawn is 1 g per day Therefore, carbon absorption by lawn area 18421.46 x 365 x 0.1 g CO_2 = 0.67 tons CO_2 per year.

The total carbon absorption capacity of the campus is 1.37 tons.

GREEN INITIATIVES BY CAMPUS

- **Solid Waste Management**
  - Collect paper waste produced on campus and collaborate with scrap dealers for recycling.
  - Reduce use of paper by supporting digitization of attendance and internal assessment records.
  - Reduce requirement of printed books by updating the e-books and e-journals collection of the college library.
  - There is ban on single use plastic and plastic crockery in the campus.

- **Liquid Waste Management**
  - Maintain leak proof water fixtures.
  - Reuse of wastewater generated by the Reverse Osmosis (RO) system in washrooms.
  - Urinals are installed in boy's washroom to reduce water wastage

- **E-waste Management**
  - College has a separate storeroom for the safe storage of electronic waste. After a certain interval of time college disposes of the E-waste to concerned agencies through the auction process.

- **Air Pollution Reduction**
  - Personal Vehicles (Students) are not allowed in the campus

RECOMMENDATIONS

- Environmental parameters shall be included in purchase policy to achieve a cradle to grave approach for sustainability.

- Flow rate of taps should be checked on regular basis, it should not be more than 2.5 litres/minute.

- 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.

- Water Meter should be installed at every building of institute for monitoring of water consumption per capita.

- Green building guidelines for future expansion projects of the campus.

CONCLUSION

This audit involves considerable team discussions and meetings with key staff members on a variety of environmental-related topics. The eco club “Aaghaz” of Management Education & Research Institute (MERI) promotes conservation of resources.

Overall, 20% of the Management Education & Research Institute (MERI) 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 in this report suggest some more ways in which the college can work to improve its practices and develop into a more sustainable institution.

It's important to begin a few things, such as initiating drip irrigation, and increase plantation drives.

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)
- The Batteries (Management and Handling) rules, 2001 (Amended 2010)
- Relevant Indian Standard Code practices

ANNEXURE – PHOTOGRAPHS OF ENVIRONMENT CONSCIOUSNESS

Well maintained campus

New age building

Lush green campus

Board room

Paving stone installed in campus

Color coded dustbins

Ornamental plants in campus

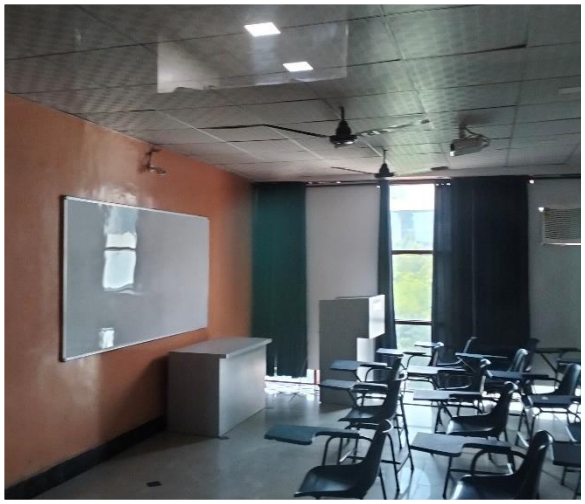
Indoor plants in campus

Classrooms as per NBC guidelines with more than 40% window ratio

Spacious and well equiped labs

Cafeteria

Spacious Auditorium



Smart Class rooms

Gym for students

Nursery

Plantation Drive

RO Wastewater collection tank

MERI COLLEGE Saturday, 4th June, 2022

Creating Best out of Waste

MERI College, New Delhi: Invent Kala the Art Club of MERI College organized a competition in which students created many vibrant and colorful Art Work by using Waste like NewsPapers, Cups, Ribbons, Ballons and Cardboards.

Best out of waste activity

Environment awareness by poster competition

Tap water flow rate monitoring

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

MERI COLLEGE
MANAGEMENT EDUCATION & RESEARCH INSTITUTE
(Affiliated to G.G.S. Indraprastha University, Recognised by N.C.T.E. & Approved by A.I.C.T.E., Ministry of HRD, Govt. of India)
52-55, INSTITUTIONAL AREA, JANAK PURI, NEW DELHI- 110058
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E-MAIL : meribs@meri.edu.in Website : www.meri.edu.in

Policy Objectives on Environment & Energy

The long-term goals for MERI Institute include:

i. To educate and engage students and employees on environmental concerns and sustainability.

ii. To adopt a fair, ethical, and environmental-friendly approach that incorporates everything from implementation to training of students through the institute.

iii. To recognize and appreciate the efforts of students and institutions toward environmental conservation and sustainable development.

iv. To take into account the consideration of environmental, occupational health, and safety aspects in planning and decision-making.

v. To develop collaborations of an academic institute with key government flagship programs and foster collaborations between governance, knowledge institutions, and local communities.

vi. To build awareness among students about the conservation of natural resources and the development of sustainable environments for national prosperity.

vii. To encourage projects and initiatives on afforestation, landscape, and ecosystem restoration, soil and water conservation, water quality maintenance, waste management, clean energy resources, and climate change mitigation.

viii. To promote a sustainable environment with clean air, fresh supply of clean water, removal and disposal of solid wastes and liquid effluents, and e-waste management.

Prof (Dr.) Deepshikha Kalra

Dean

Management Education & Research Institute
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