JANKI DEVI MEMORIAL COLLEGE

GREEN AUDIT REPORT

2024-2025

Prepared by

EHS ALLIANCE

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CERTIFICATE

EHS alliance

CERTIFICATE

PRESENTED TO

JANKI DEVI MEMORIAL COLLEGE

Sir Ganga Ram Hospital Marg, New Delhi - 110060

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 2024-25

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

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

EHS ALLIANCE SERVICES GURGAON

SIGNATURE

22.05.2025
DATE OF AUDIT

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ACKNOWLEDGEMENT

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

We would like to express our special thanks to **Professor Swati Pal**, Principal of JDMC, for granting us the opportunity to evaluate the environmental performance of the campus and for her continued encouragement throughout the audit process.

Our sincere gratitude also goes to **Dr. Deepak Rawat**, Department of Environmental Studies and Audit Coordinator, for his invaluable guidance, coordination, and unwavering support—without which the successful completion of this audit would not have been possible.

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

- **Ms. Vandana Madan**, Convener, AVANI – The Environment Club, JDMC
- **Dr. Sana Rehman**, Department of Environmental Studies, JDMC
- **Dr. Kaushal Kishore**, Administrative Officer, JDMC
- **Mr. Surendra Kumar**, Administrative Officer, JDMC
- **Mr. Avinash**, Assistant – Administration, JDMC
- **Mr. Vijay Pratap**, Assistant – Administration, JDMC

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

DISCLAIMER

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

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

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Signature

LEAD AUDITOR

CONCEPT AND CONTEXT

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

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

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

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

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

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

INTRODUCTION

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

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

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

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

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

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

OVERVIEW OF THE COLLEGE

Janki Devi Memorial College, a premier women's college of University of Delhi was founded in 1959 by the famous Gandhian Shri Brij Krishan Chandiwala in memory of his mother Smt. Janki Devi. JDMC aims to provide quality education to young women and empower them to become economically self-reliant, have the confidence to face the vicissitudes of a challenging society, contribute meaningfully to the society at large and acquire the capability to think, lead and change the world.

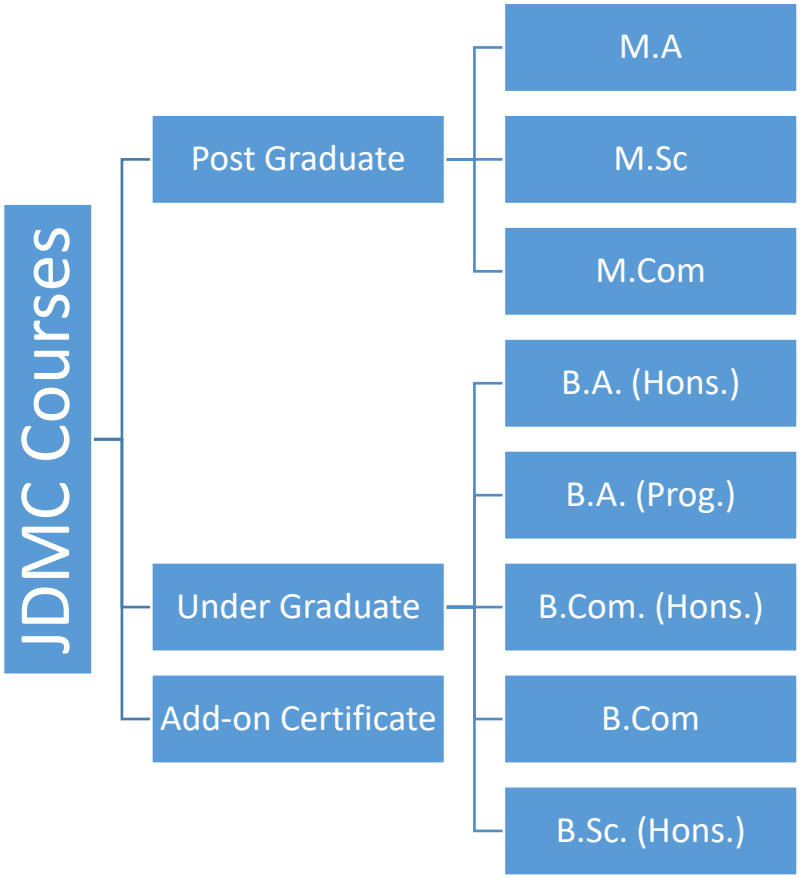
Situated in New Delhi Ridge in idyllic surroundings with its lush green lawns and imposing building, the college offers twelve under-graduate courses in Liberal Arts, Social Sciences, Mathematics and Commerce and eight post graduate courses. JDMC is the Centre for Non-Collegiate Women's Education Board (NCWEB) as well as School of Open Learning (SOL), University of Delhi. The college runs several Add-on courses/Certificate courses for students to enhance their skills. JDMC has MOUs with national and international agencies to provide the much-needed real world exposure to its students. It has more than thirty Societies/Clubs/Cells to give its students sufficient platforms to excel in various domains. The college has an extremely dedicated, committed and motivated faculty and staff.

The college offers facilities and infrastructure to create a holistic atmosphere for the pursuit of academic and extracurricular activities. JDMC has recently completed its 60-year journey in pursuit of excellence. The college has provided a nurturing environment to students from all parts

of India. It has the distinction of having a disabled-friendly infrastructure along with a strong assistance system in place for the students and faculty with visual disability.

The JDMC-IQAC works in its mandated direction of internalizing and institutionalizing the quality enhancement initiatives. These initiatives encompass various stakeholders, namely students (with the aim of their integrated development), teaching staff and non-teaching staff (enhancing their capabilities and empowering them) and students' parents and Alumnae (strengthening mutually beneficial relationships).

JDMC offers wide range of under graduate, post graduate and Add-on certificate courses.



MISSION & VISION

The college is committed to providing an educational journey for young women undergraduates which culminates in their ability to be self-reliant and to appreciate as well as negotiate with the complex socio-economic-political-cultural world that they inhabit. It is envisioned that the college will hone leadership qualities and a spirit of selfless service in its students through its academic programmes, the pedagogical methods employed by faculty members as well as through a vast spectrum of extra/co-curricular and outreach activities. The achievement and maintenance of excellence in all domains is embedded in the policies that frame the governance and the teaching-learning processes of the institution.

The Gandhian principles of simplicity, tolerance, dignity of labour, harmony and inclusivity, compassion and service to the marginalized sections of society as propounded by the founding father of the college, Shri Brij Krishan Chandiwala, are an integral part of the vision of the college. To that end, the college is dedicated to creating an educational atmosphere that includes students from diverse economic, social and ethnic backgrounds. It pledges to be empathetic to young women from deprived sections of society and provide them the same opportunities as those who are privileged. Furthermore, the college is devoted to the task of facilitating cultural understanding as also the implications of change in society, politics, economy and technology through opportunities to study literatures, languages, commerce, cultures and the arts in a modern and conducive educational environment. It is also committed to encourage research and provide job and service opportunities to its students on and off campus. The college recognizes that education can transform individuals and communities and aspires to furnish students with all the elements that can use their full potential. Thus, the motto of the college, Vidya hi parmam jyoti or Knowledge is eternal light reflects in totality the vision of the college.

MISSION STATEMENT AND CORE VALUES

The egalitarian approach of the institution promotes the inclusion of all sections of the society. The institution is equally inclusive of all its constituencies, with their respective duties, responsibilities and achievements. The students and staff, belonging to diverse classes, castes, ethnic and religious groups cooperate in a democratic environment to take the college to newer heights of excellence. The institution besides providing education, also serves as a platform for cultural expression and excellence, constantly reminding students of the primary importance of cultural diversity, national integration and tolerance, along with the need to be in harmony with the environment

Janki Devi Memorial College is committed to the following core values:

- The foundational ideal is enshrined in the upanishadic motto of the college itself, ‘Vidyahi paramam Jyoti’- Knowledge is Eternal Light

- Gandhian philosophy of responsible citizenship and empowerment of women through education
- Imparting knowledge based on traditional values, yet with modern and global significance in an evolving academic world
- Education, in combination with technological skills, empowers the students both academically and economically, and proactively contributes to their brighter future.

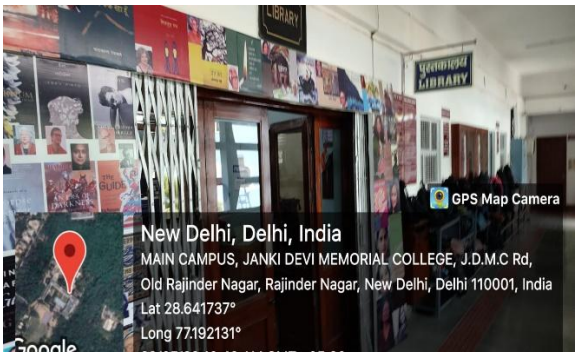
Therefore, the college creates a motivational environment to provide holistic education and personality development of the students, resulting in a synthesis of their career growth and ethical and responsible citizenship

Facilities in the campus

The college has an impressive building with lush green lawns, an eco-friendly campus with solar lighting and a rain-water harvesting system. The classrooms are clean, comfortable and well ventilated; the premises contain a common room and a medical room with a sanitary napkin vending machine, an open air auditorium; a bank, a multi-cuisine and attractive cafeteria, computer laboratories; an audio-visual room; a photocopying centre as well as Nescafe and Mother Dairy booth.

LIBRARY: JDMC library is a repository of over 1 lakh books and over 100 journals, both academic and general. It is among the first fully automated libraries in Delhi University and provides photocopying and free internet access facilities.

WELL EQUIPPED LABS: JDMC has 4 computer labs, 2 Research Rooms, and an A/V room. With 200+ systems and ICT facilities, these rooms provide a state-of-the-art teaching/learning environment to the students and faculty.



Library

Computer Lab

CANTEEN: The college has a spacious cafeteria that offers a wide variety of snacks to students and staff at reasonable rates.

Canteen

Sports ground

Lush green campus

GARDEN: The college Gardens are a source of pride for JDMC. The gardens have won many awards in different categories in the university flower show.

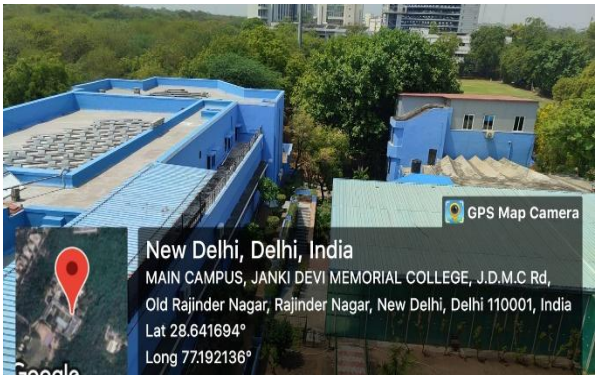
SMART CLASSES: The college has 20 smart Classrooms which are ICT enabled with interactive smart boards to facilitate the teaching-learning process.

SEMINAR ROOM: The Seminar Room has a seating capacity of more than 200 with a state-of-the-art audio-visual system which is updated on a regular basis. The Seminar Room functions as a multi-purpose space used to hold conferences, seminars, workshops, meetings etc.

Seminar room

Smart classrooms

Computer Lab



Solar PV

Geo Coordinates from Google maps: 28.640232, 77.188914

AUDIT PARTICIPANTS

On behalf of Janki Devi Memorial College

Name	Designation
Professor Swati Pal	*Principal, JDMC*
Ms. Vandana Madan	*Convener, AVANI- The Environment Club, JDMC*
Dr. Deepak Rawat	*Department of Environmental Studies, JDMC*
Dr. Sana Rehman	*Department of Environmental Studies, JDMC*
Dr. Kaushal Kishor	*Administrative Officer*
Mr. Surender Kumar	*Administrative Officer*
Mr. Avinash Kumar	*Assistant cum Caretaker*
Mr. Vijay Pratap	*Assistant cum Caretaker*

On behalf of EHS Alliance Services

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

EXECUTIVE SUMMARY

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

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

In the context of growing environmental concerns, such as climate change and the depletion of natural resources, a shift toward sustainable processes is no longer optional—it is essential. A Green Audit supports this transition by offering a systematic approach to identify environmental inefficiencies and areas for improvement. Furthermore, it enhances environmental consciousness among faculty, staff, and students, encouraging collective responsibility for maintaining an eco-friendly campus.

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

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

GREEN AUDIT - ANALYSIS

1.1 GENERAL INFORMATION

Does any Green Audit conducted earlier?	*Yes, this is the fourth external audit organized by the College*
What is the total strength (people	***Students*** *Male: 0 Female: 4460 Total: 4460* ***Teachers (including guest faculty)*** *Male: 35 Female: 115 Total: 150*

count) of the Institute?	***Non-Teaching Staff*** *Male: 29 Female: 8 Total: 37* ***Total Strength*** *Male: 64 Female: 4583 Total: 4647*
What is the total number of working days of your campus in a year?	*There are two hundred working days in a year.*
Where is the campus located?	*The campus is located at Sir Ganga Ram Hospital Marg, Old Rajinder Nagar, Rajinder Nagar, New Delhi 110060*
Which of the following are available in your institute?	***Garden Area:*** *Available* ***Playground:*** *Available* ***Kitchen:*** *Available* ***Toilets:*** *Available* ***Garbage/Waste Storage Yard:*** *Available* ***Laboratory:*** *Available* ***Canteen:*** *Available* ***Hostel Facility:*** *Available* ***Guest House:*** *Available*
Which of the following are found near your institute?	***Municipal Dump Yard:*** *Not located in the vicinity of the institute* ***Garbage Heaps:*** *None observed* ***Public Convenience:*** *Available* ***Sewer Line:*** *Approximately 1.5 km of sewer line exists within the campus* ***Stagnant Water:*** *Not present* ***Open Drainage:*** *Not present* ***Nearby Industry (Type):*** *None* ***Nearest Bus/Railway Station:*** *Walking distance from metro station and bus stop* ***Market / Shopping Complex:*** *Available nearby*

1.2 WASTE MINIMIZATION AND RECYCLING

Does your institute generate any waste? If so, what are they?	*The college generates solid waste, which includes: food and vegetable peel, paper, plastic, horticulture, electronic waste, etc. The college takes measures to manage the solid waste on campus by segregating it at the source, composting biodegradable waste using three types of composting: pit, thermal and aerobin, recycling electronic, paper, plastic waste, and restricting single-use plastics.* *The campus has colour-coded waste bins for the segregation of biodegradable (green) and non-biodegradable (blue) waste. Waste paper collection bins are strategically placed on campus to collect and recycle paper.*

	The biodegradable waste is converted into compost using the composting facility in the college. The compost is used in the college nursery and the college garden. We also have a bin for plastic waste *Water waste is also generated.* *Janki Devi Memorial College has implemented several unique and unconventional approaches to sustainability that have yielded positive results. One example is implementing a campus-wide water conservation program with RO-reject water recycling.*
What is the approximate amount of waste generated per day? (in Kg approx.)	*Biodegradable waste - 25 Kg* *Non-biodegradable waste -10 Kg* *Hazardous Waste < 1 Kg* *Others < 1 Kg*
How is the waste managed in the institute? By Composting, Recycling, Reusing, Others (specify)	***Composting**: Biodegradable waste is managed by composting using three types of composting methods: pit, thermal and aerobin.* ***Recycling**: The college has paper and e-waste collection areas, which help students and staff to discard waste. The waste is then sent to a certified recycler.* ***Reusing**: The college reuses paper. RO-reject water is recycled and used in the toilets. The college also has a method of reusing display shandies* *Others: The college emphasizes on reduction in waste generation by using less plastic, using less paper wherever possible. Board markers are refilled, and the refilling liquid is provided to the teachers. College has a digital display board for information* ***Color coded Dustbins:** Four separate boxes of green, blue, brown color and cartons for waste segregation in corridors, staffroom, and office.* *Green: Biodegradable* *Blue: Non-biodegradable* *Brown: Recyclable paper* *Cartons: To collect e-waste* *Lab Waste Management: The college only has computer labs. The outdated computer or computer parts are stored and then recycled with the help of a CPCB-designated recycler.* *Canteen Waste Management: The canteen disposes of its biodegradable waste through the Aerobin. There is a constant effort to make the Canteen single-use plastic-free. Any consumable food that is left over at the end of the day is distributed*
Do you use recycled paper in the institute?	*AVANI has organized a handmade paper-making workshop to reuse waste paper.*

How would you spread the message of recycling to others in the community?	*The college engages in activities such as "Create from waste" to encourage students to understand waste and be aware.* *The Environment Club display board and social media handles are used constantly to share messages about recycling and its benefits* *College emphasizes the importance of segregation, recycling and minimizing to create a zero-waste lifestyle*
Can you achieve zero garbage in your institute? If yes, how?	*A constant effort is made to reduce waste by engaging in recycling practices, but at present, zero waste has not been achieved*

1.3 GREENING THE CAMPUS

Is there a garden in your institute?	*Yes, about 273672 Sq ft areas are developed as Gardens.*
Do students spend time in the garden?	*Yes, students spend around 2-4 Hours during winter.*
Total number of Plants in Campus?	*Plant type with approx. count* *Full-grown Trees 95* *Small Trees 187* *Hedge Plants 22043* *Grass Cover sqm 273672 Sq ft*
Is the College campus having a Horticulture Department? (If yes, give details)	*The college has a garden committee and a society named Upvan, which coordinates with the garden committee., Total 10 staff (maali) were deployed in the horticulture department*
How many Tree Plantation Drives are organized by	*A total of 6 plantation drives were conducted. Approximately 850 trees and hedge plants were planted by the garden committee in this Financial Year with more than an 80% survival rate.*

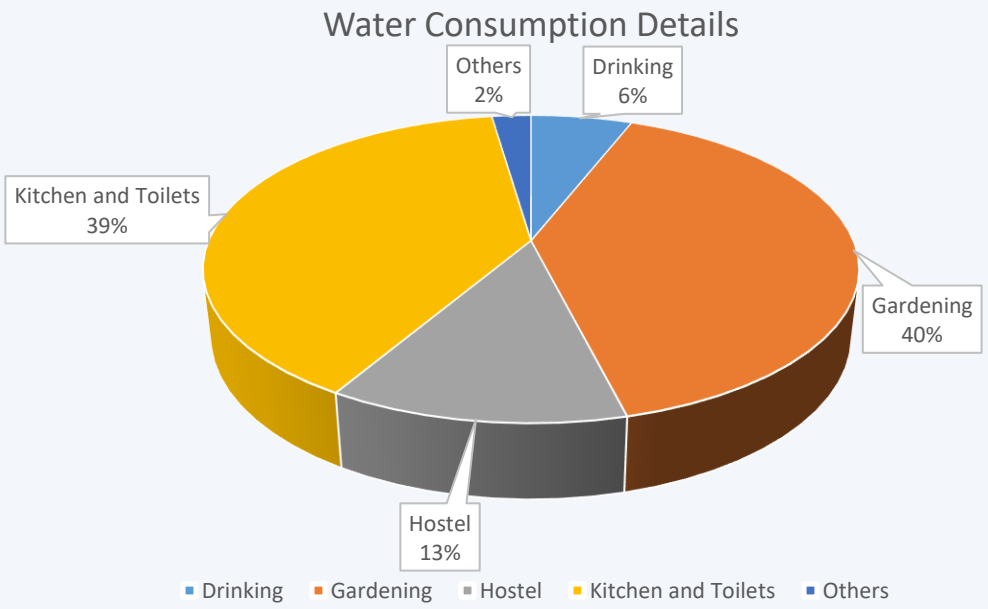
campus per annum?	
Is there any Plant Distribution Program for Students and Community?	*Yes, Plantation distribution drives are conducted in the college campus and nearby Villages under Unnat Bharat. Moreover, the college has a practice where all guests are given a planter as a gift rather than a bouquet of flowers*
Is there any Plant Ownership Program?	*JDMC had a designated Kitchen Garden where college students grew and sold vegetables. The college has entered into an MoU with the Edible Routes organisation to create a biodiversity trail to grow native plant species on campus. The college is also planning a rewilding project on campus. The students participated in a QR code-based geotagging exercise. More than 50 plants were geotagged.*

1.4 WATER AND WASTEWATER MANAGEMENT

List uses of water in your institute

Details of water usage in campus:

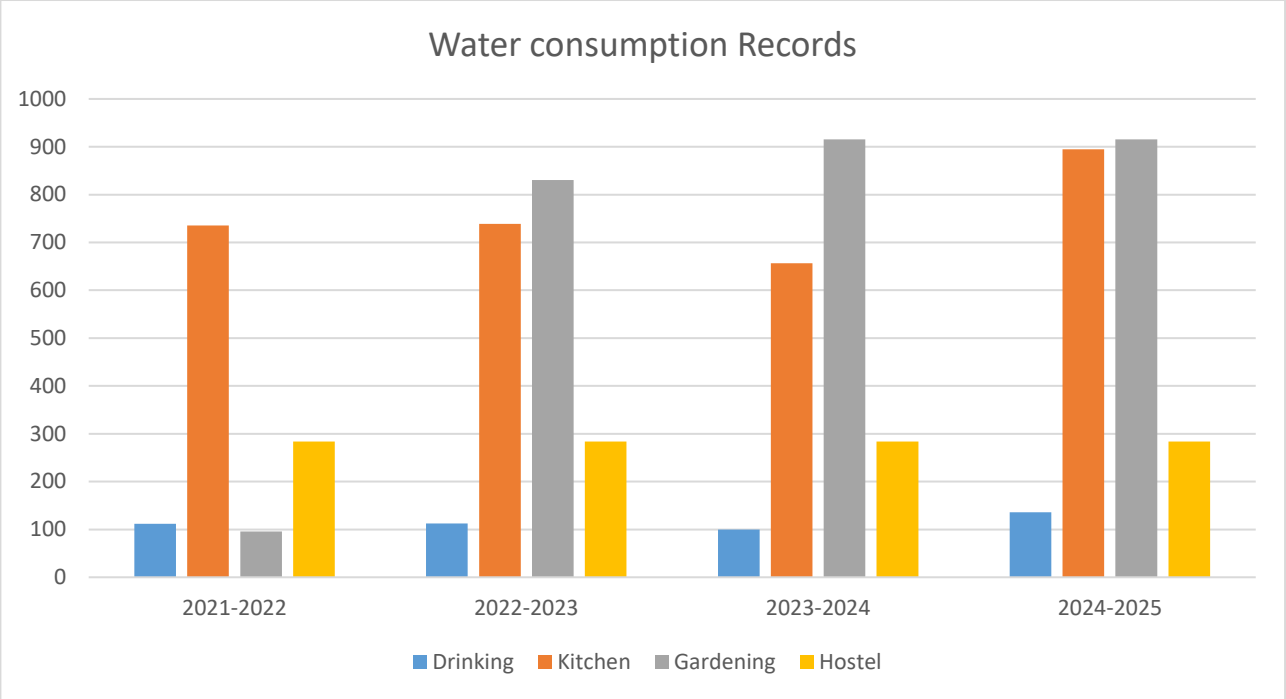
***Drinking** – 135.87 KL/month*
***Gardening** – 915.30 Kl/month*
***Kitchen and Toilets** – 894.62 KL/month*
***Others** – 52.48 KL/month*
***Hostel** – 283.50 KL/Month*
Total = 2281.77 KL/Month



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

How does your institute store water?	*The campus has one main tank filled twice daily from the municipal supply, distributing water to 15 small overhead tanks in the academic block. The average time required to fill the tanks is 45-60 minutes. The main tank can store up to 20,000 litres, and 15 overhead tanks of 500-1000 litres capacity.*
Locate the point of entry of water and point of exit of wastewater in your institute.	***Entry*** *- The primary source of water is the Delhi Jal Board (MCD). JDMC also has 3 bore wells which are used occasionally as secondary sources.* ***Exit****- From Canteen, Toilets, Hostel, bathrooms and Labs through covered drainage which is connected to municipal sewage*
Write down ways that could reduce the amount of water used in your institute	***Basic ways:*** • *The college ensures that the faucets in the washrooms and water filtration units are checked regularly and do not have any leakages. The college checks the water flow in the taps. The college has initiated the installation of auto-push taps to reduce water wastage.* • *The campus has 60+ double-level flush systems in the academic blocks to further reduce water usage.* • *Janki Devi Memorial College has implemented several unique and unconventional approaches to sustainability that have yielded positive results. One example is implementing a campus-wide water conservation program with RO-reject water recycling and drought-resistant landscaping. The college-planted adusa, scientifically known as Justicia adhatoda, is a versatile and medicinal plant often used in traditional remedies. Also, the college planted Sisymbrium, Chamrod, and Vajradanti, which require less water. Habitat restoration projects like the biodiversity trail are undertaken to preserve and enhance local biodiversity, creating green spaces that support native wildlife.* • *The RO reject water is used in the toilets. The college has initiated growing plants native to the semi-arid regions, requiring less water to survive. These initiatives have significantly reduced water usage on campus while promoting sustainable water management practices.*

Water consumption Records for last four Years



1.5 ANIMAL WELFARE

List the animals (wild and domestic) found on the campus (dogs, cats, squirrels, birds, insects, etc.)	*2 Cats, 1 dogs, 25+ butterfly species, 60+ Squirrels and 100+ Birds are found in campus. Some snakes, mongoose and monkeys are also there. A variety of bird's species and other flora and fauna are available, so institute is putting efforts for biodiversity conservation and documentation.*
Does your institute have a Biodiversity Program or a KARUNA CLUB?	*Yes, Janki Devi Memorial College's eco club Avani actively organizes awareness through various campaigns and activities including seminars, poster competition, etc.*

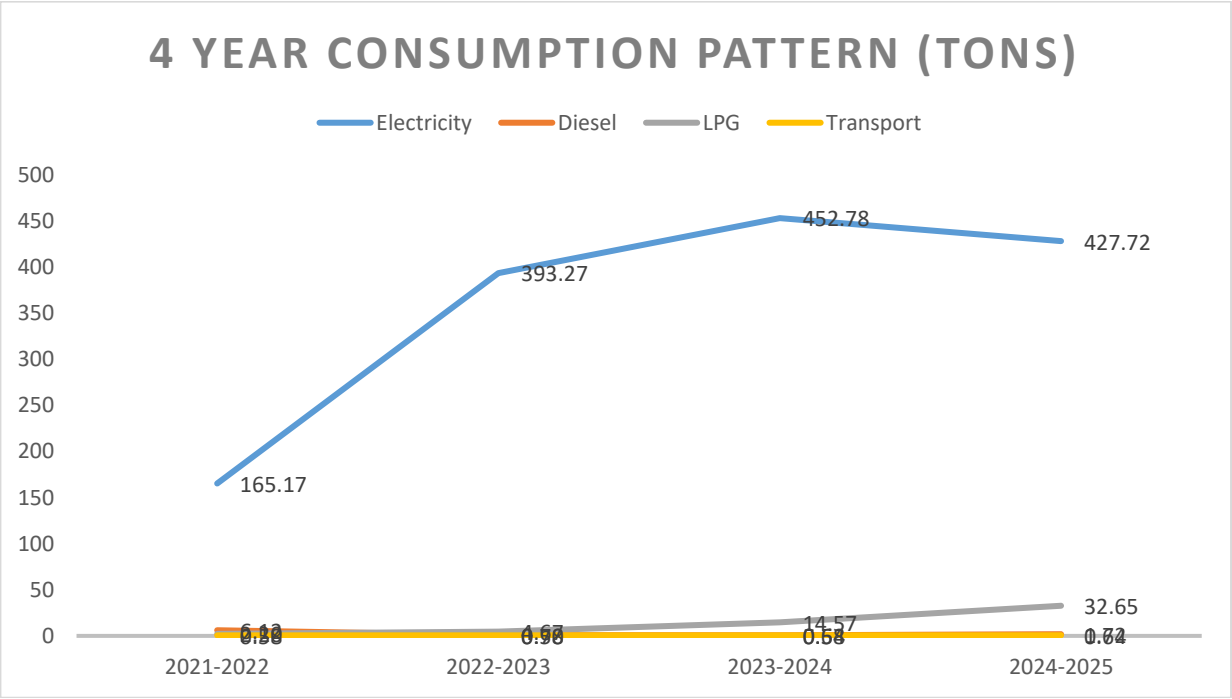
1.6 CARBON FOOTPRINT - EMISSION & ABSORPTION

Electricity used per year - CO2 emission from electricity	*(electricity used per year in kWh/1000) x 0.84* *= 427718.76/1000x0.84* *=427.72 tons*
LPG/PNG used per year - CO2 emission from LPG/PNG	*(LPG/PNG used per year in KG) x 2.68* *=6000 x 2.68* *=16.08 tons*
Diesel used per year CO2 emission from HDS (Diesel)	*(Diesel used per year in liters) x 2.99* *= 565 x 2.99* *=1.69 tons*
Transportation per year (car) CO2 emission from transportation (Bus and Car)	*There are 2 cars in college, one runs on petrol and other runs on CNG.* *= 2*4*2*200/100*0.02* *=0.64 tons*

Total CO2 emission per year is 446.13 tons

After considering the carbon absorption capacity of the campus, the total carbon emission is 428.35 tons

Four years consumption showcase:



CARBON ABSORPTION BY FLORA IN THE INSTITUTION

The campus, spread over **273,672 sq. ft.**, hosts a rich variety of greenery that significantly contributes to carbon absorption:

- **Trees:**
  - There are **95 full-grown trees** of various species. Each full-grown tree has a carbon absorption capacity of **22 kg of CO_2 per year**, resulting in a total absorption of **2.09 tons of CO_2**.
  - Additionally, the campus has **187 semi-grown trees**, each with an estimated carbon absorption capacity of **30%** that of a full-grown tree (i.e., **6.80 kg CO_2** per tree). Thus, the total absorption from semi-grown trees is approximately **1.27 tons of CO_2**
- **Hedge Plants:**
  - Approximately **22,127 hedge plants** of various species are maintained in garden spaces and non-built-up areas. While CO_2 absorption varies by species, in consultation with Environmental Science experts, an average absorption rate of **200 g CO_2 per plant per year** has been assumed. This results in a total estimated absorption of **4.43 tons of CO_2** annually.
- **Lawns:**
  - The entire **273,672 sq. ft.** of lawn area is covered with buffalo grass, Mexican grass, and indigenous grass species. Grass absorbs CO_2 at a rate of **1 gram per 10 sq. ft. per day**, which totals approximately **9.99 tons of CO_2 per year**

Total Annual Carbon Absorption Capacity of the Campus:

- From full-grown trees: **2.09 tons**
- From semi-grown trees: **1.27 tons**
- From hedge plants: **4.43 tons**
- From lawns: **9.99 tons**

Grand Total: Approximately 17.78 tons of CO_2 per year

GREEN INITIATIVES BY CAMPUS

1. Renewable Energy Initiatives

- A 58.22 kW rooftop Solar Photovoltaic (PV) system has been installed to support the institution's renewable energy goals.
- Solar-powered Street lighting is operational across the campus.
- Solar geysers have been installed on the rooftop of Krishna Hostel for energy-efficient water heating.

2. Rainwater Harvesting

- Three rainwater harvesting pits have been developed on campus to support groundwater recharge.
- The harvested rainwater is primarily used for landscaping and gardening purposes.

3. Liquid Waste Management

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

4. Solid Waste Management

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

5. E-Waste Management

- The college has allocated a secure storage facility specifically for the accumulation of electronic waste.
- E-waste is periodically disposed of through a certified auction process in collaboration with authorized waste management agencies.

6. Air Pollution Control

- To minimize vehicular emissions, student-owned personal vehicles are not permitted within the campus premises.

7. Green Committee & NSS Environmental Initiatives

- On June 5, 2024, JDMC NCC celebrated World Environment Day focusing on the theme of “Land Restoration,
- Desertification and Drought Resilience”.
- Cadets enthusiastically participated in the plantation drive conducted on this occasion encouraging awareness and action for the protection of the environment.
- Between July 4-10, 2024, the JDMC NCC celebrated Plastic Bag Free Week under Vasundhara- The Sustainability
- Campaign Series. Cadets participated in this event promoting a zero-tolerance approach to plastic waste through posts, infographics, and challenges encouraging people to switch to reusable bags.
- On October 1, 2024, the NCC team participated in the “SWABHAV SWACHHATA SANSKAR SWACHHATA” at India Gate. The event aimed at
- promoting cleanliness and environmental awareness among citizens. The NCC cadets, equipped with gloves, brooms, and garbage bags, worked diligently to clean the area
- In collaboration with Draupadi Dream Trust, students participated in "Humari Yamuna – Bring Alive Yamuna" at Purana Qila, highlighting the need for river cleanliness and rejuvenation.

8. Environmental Club – AVANI Initiatives

- The Environmental Club, AVANI, collaborates with community-based organizations such as Edible Roots on initiatives like urban greening and habitat restoration.
- Faculty from the Environmental Studies department actively support AVANI’s plantation drives and participate in related awareness activities.
- Aerobiology walks and specialized add-on courses on environmental allergies are offered to enhance student awareness of air quality and health.
- Under the “Aao Bag Banao” initiative, students repurpose old cloth into eco-friendly bags, which are sold during the annual Diwali Mela.
- The Environment Club of Janki Devi Memorial College (JDMC), under the aegis of IQAC, organised the inaugural of E(co)-Mart from October 23-25, 2024. This event, held at the JDMC Triangle, aimed to promote sustainable living by offering eco-friendly products that were produced
- or assembled on the college campus. The E(co)-Mart aligns with JDMC's commitment to environmental consciousness, encouraging students and faculty to adopt sustainable practices.
- Avani successfully organised a Handmade Paper Making Workshop on October 20, 2024. The workshop effectively combined education and artistry, guiding attendees through each step of the paper-making process, from sourcing materials to forming and drying their own sheets.
- Avani, the environment club of JDMC, organised a successful E-Waste Drive from 10th to 14th October 10-14, 2024 near the college reception. Open from 9 AM to 5 PM, the drive

accepted items like electronic devices, computer accessories, home appliances, and broken Diwali lights

- while batteries and bulbs were excluded.
- Avani successfully organised a Poster Making Competition on September 19, 2024 as part of Swachhta Pakhwada.The event was held in the college auditorium and attracted participation from
- students across various departments. The theme of the event was “Clean India, Green India”.
- Avani, The Environment Club organised Vriksh Raksha Bandhan on August 16-17, 2024. A meaningful event to honor trees and promote environmental conservation. Everyone tied rakhis to trees and pledged to protect them, fostering a sense of responsibility towards nature and its
- guardians.
- From July 10 to August 8, 2024 students took part in a daily Environmental Challenge, exploring simple yet impactful ways to reduce waste, conserve resources, and cultivate sustainable habits.
- Each day focused on a specific action or behavior aimed at reducing waste, conserving resources, and fostering eco-friendly habits.

RECOMMENDATIONS

- **Integrate Environmental Parameters into Procurement:**
  Environmental considerations shall be incorporated into the institute’s purchase policy to adopt a cradle-to-grave approach, ensuring sustainability throughout the lifecycle of products.
- **Expand Solar Power Capacity:**
  The capacity of the existing solar power plant should be enhanced to meet at least 75% **of the campus's total electricity demand**, promoting greater energy self-sufficiency and reducing carbon footprint.
- **Regulate Tap Flow Rates and Conduct Training:** Tap flow rates should be regularly monitored and maintained at **no more than 2.5 Liters per minute**. Additionally, **training programs on environmental management systems and nature conservation** should be organized for school students and the local community.
- **Install Water Meters Across Campus: Water meters** should be installed in all buildings to enable the **monitoring of per capita water consumption**, thereby promoting efficient water use and conservation.
- **Adopt Green Building Guidelines for Expansion:** All future infrastructure development and expansion projects should strictly adhere to **Green Building Guidelines**, ensuring energy-efficient, environmentally responsible construction.
- **Establish Sanitary Waste Disposal Facilities:** Sanitary waste management must comply with the **Central Pollution Control Board (CPCB) guidelines** under the **Solid Waste Management Rules, 2016**. It is recommended that an **incinerator** be installed on campus for the safe and hygienic disposal of sanitary waste.

CONCLUSION

This audit has involved extensive team discussions and meetings with key staff members, covering a wide range of environment-related topics. The **Eco Club of Janki Devi Memorial College** actively promotes the conservation and responsible use of natural resources.

Approximately **60% of the college campus** is dedicated to landscaping and green spaces, reflecting the institution's commitment to environmental stewardship. The college demonstrates a conscious effort to operate in an environmentally responsible manner, considering the ecological impact of most of its activities.
The recommendations outlined in this report present additional strategies for enhancing current practices and guiding the institution toward becoming a more sustainable and eco-conscious campus.

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

REFERENCE

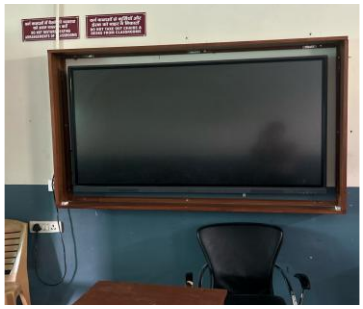
- The Environment [Protection] Act – 1986 (Amended 1991) & Rules-1986 (Amended 2010)
- The Petroleum Act: 1934 – The Petroleum Rules: 2002
- The Central Motor Vehicle Act: 1988 (Amended 2011) and The Central Motor Vehicle
- Rules:1989 (Amended in 2005)
- Energy Conservation Act 2010.
- The Water [Prevention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

ANNEXURE – PHOTOGRAPHS OF ENVIRONMENT CONSCIOUSNESS

Well Maintained Campus

Lush Green Campus

Well Ventilated Building



Smart Classrooms

Conference Room

Color Coded Dustbins

Sports Ground

Paving Stone Installed In Campus

Ornamental Plants In Campus

Indoor Plants In Campus

Kitchen Garden

Biodiversity Trail

Herbal Garden

Campus Nursery

Greenary & Nursery

Ornamental Plant List

Aerobin Compost

Composting Machine

Solar Panel Installed

Solar Lights Installed

Rainwater Harvesting Drainage

Rainwater Drainage

Silent DG Set

Butterfly List

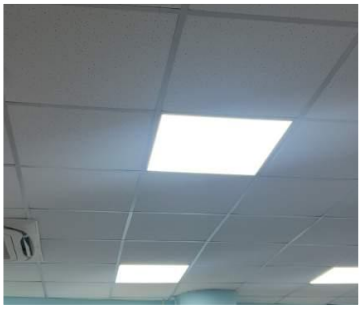
Push Taps For Water Conservation

Dishwasher Machine For Water Conservation

Paper Recycle Bin

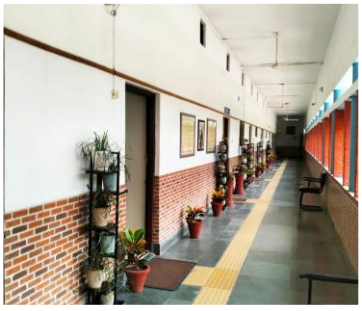
Plant Ownership Program

Tree Numbering Initiative



LED Lights For Energy Conservation

Water Conservation Message Display



Clean And Well Maintained Campus

Plastic Bottle Reuse As Bird Feeder

Auditorium

Energy Conservation Message Display

Air Cooling Pads For Natural Cooling

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