



MIRANDA HOUSE

ENERGY AUDIT REPORT

2024-2025

Prepared By :
EHS ALLIANCE





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AUDIT CERTIFICATE



CERTIFICATE

PRESENTED TO

MIRANDA HOUSE

UNIVERSITY OF DELHI

GC Narang Road, New Delhi, Delhi 110007

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

ENERGY AUDIT

ACADEMIC YEAR 2024-25

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 appreciable and noteworthy.

SIGNATURE

09.09.2025
DATE OF AUDIT

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ACKNOWLEDGEMENT

EHS Alliance Services extends its sincere gratitude to **Miranda House**, University of Delhi for entrusting us with the important responsibility of conducting the **Energy Audit**. We deeply appreciate the cooperation and support extended by all involved, which greatly contributed to the successful completion of the assessment.

We would like to express our heartfelt thanks to **Prof. Bijayalaxmi Nanda**, Principal, MH, for providing us with the opportunity to assess and evaluate the environmental performance of the campus.

Our special appreciation goes to **Prof. Namrata Singh**, audit coordinator and faculty member in the Department of Political Science, MH, for her unwavering support, guidance, and coordination throughout the audit process. Her efforts were instrumental in facilitating the timely and effective completion of this project.

We are also grateful to the following faculty members for their active participation and assistance in data collection and field measurements:

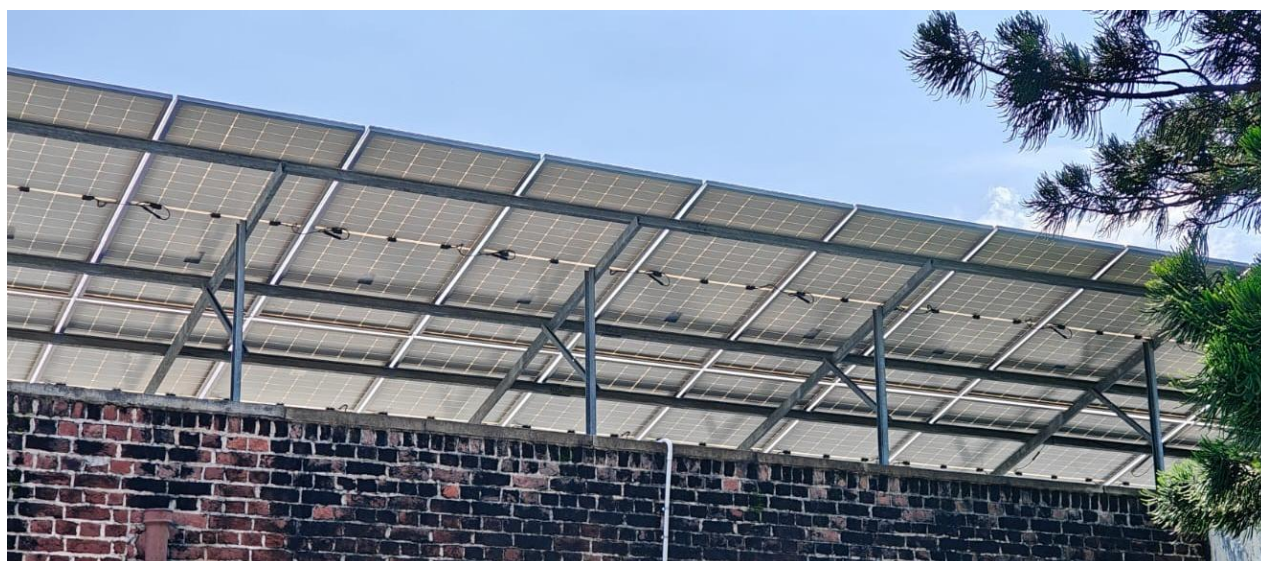
Prof. Nisha Vashistha *Coordinator, UBA*

Prof. Rekha Kumari *Convenor, MH Vatavaran*

Dr. E. Geetanjali *Convenor, Garden Committee*

Dr. Deepak Yadav *Member, IQAC*

Their valuable contributions and commitment were vital to the smooth execution of the audit.





DISCLAIMER

This Energy Audit Report has been prepared by the Energy Audit Team of **EHS Alliance** for **Miranda House, University of Delhi** based on the input data provided by representatives of the college, supplemented by the professional expertise and informed judgment of the audit team.

While every reasonable effort has been made to ensure the accuracy and reliability of the information presented herein, the contents of this report have been compiled in good faith using the data and observations collected during the audit process. The conclusions and recommendations are based on the best estimates available at the time of preparation.

It is expressly stated that no representation, warranty, or undertaking—whether express or implied—is made by EHS Alliance Services or its audit team regarding the completeness, accuracy, or fitness for any particular purpose of the information contained in this report. The team assumes no responsibility or liability for any direct, indirect, or consequential loss or damage arising from the use or reliance upon any part of this report.

Should this report be circulated externally, it must be shared in its entirety, with no pages omitted or altered.

All information provided by Miranda House and reviewed during the course of the audit shall remain confidential. EHS Alliance Services, along with its staff and appointed agents, is committed to maintaining strict confidentiality and shall not disclose any proprietary or sensitive information to any third party, except as required by applicable law or accreditation bodies. All personnel involved have signed individual confidentiality agreements and shall only access such information on a strict 'need-to-know' basis.

Vijay Singh
Lead Auditor EMS & Energy

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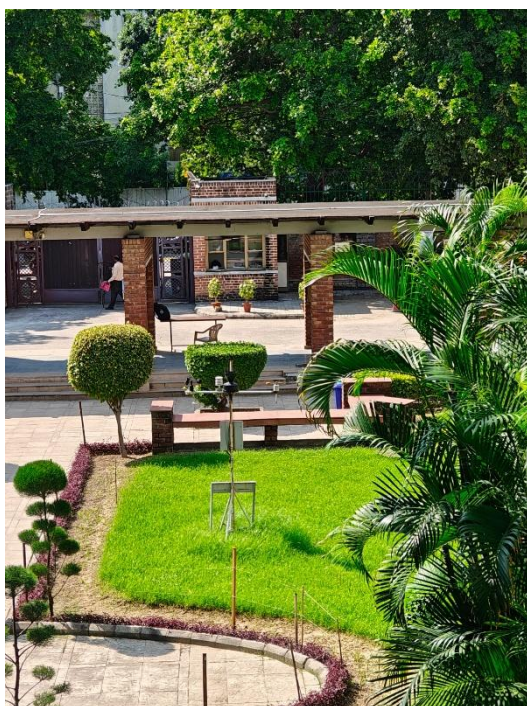


ABBREVIATION

A	Amps
AC	Air Conditioner
AC	Alternating Current
AMET	Academy of Maritime Education and Training
CFL	Compact Fluorescent Lamp
CIP	Comprehensive Inspection Program
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 Meter

OVERVIEW OF THE COLLEGE

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



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

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



The Legacy... traditions and institutional values

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

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



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

MISSION & VISION

The stated mission of the college is to provide

- a stimulating active learning environment attracting young women with exceptional desire to make a difference to the world
- highest quality liberal arts and basic science education through distinctive academic programmes that instill rigour in the pursuit of knowledge
- culturally sensitive inclusive environment upholding core values of respect for diversity
- enriching co-curricular activities linking education to the world of work and communities
- dedicated and responsive faculty of scholars to assist each student fulfill aspirations and reach milestones
- competencies for new domains of knowledge and the future of work in a globally connected world
- early mentoring for leadership instilling capacity to explore new ideas, take intellectual risk, and usher paradigm change



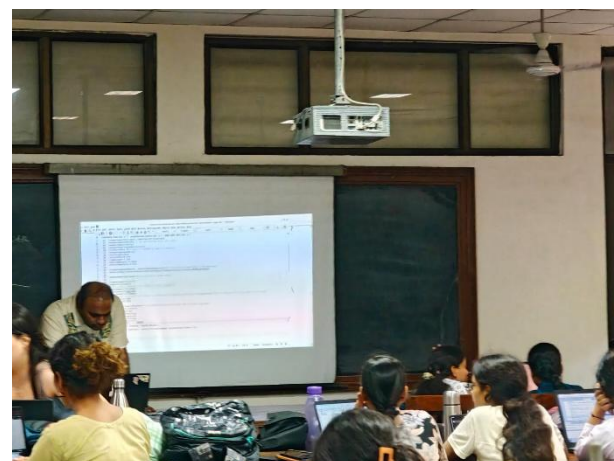



VISION

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

FACILITIES IN THE CAMPUS

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

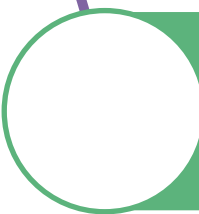





LIBRARY: The Miranda House Library was established on 7th March 1948 and the first book was accessioned on 22nd July 1948. The foundation stone of the present building was laid by Smt. Indira Gandhi, then Prime Minister of India on 7th March 1973. The Miranda House Library preserves and provides access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



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



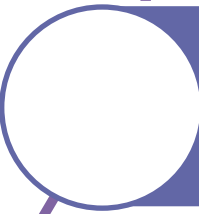
AUDITORIUM: Miranda House has an Auditorium with seating capacity of 450 in the Main Hall. As one of the oldest constructions in the college, it is part of the college building that was designed by Walter George. The architecture is unique. The Miranda House Auditorium and its stage bring alive nostalgic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




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



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



SPORTS FACILITY: Miranda House has a Sports Ground. Facilities exist for a wide range of indoor as well as outdoor sports. The college has 14 Sport Teams and competitively participates in Archery, Athletics, Ball Badminton, Basketball, Chess, Cross-country, Netball, Power Lifting, Table Tennis, Taekwondo, Tennis, Weight Lifting, Volleyball and Yoga.



FITNESS CENTRE: MH has an active Physical Education Department that inspires the college community to work on a fitness regime and organizes several intra-college sports events, morning sessions on aerobics, yoga, recreational games, an annual sports festival, and freshers' cross-country race. The college has an air-conditioned multigym with free weight and cardio training equipment like treadmills, cross-training gears, and bicycles. It also has 2 open gyms.



AUDIT PARTICIPANTS

On behalf of the college

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

On behalf of EHS Alliance Services

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

EXECUTIVE SUMMARY

The primary objective of this **Energy Audit** was to identify opportunities to enhance the energy efficiency of **Miranda House, University of Delhi** with a focus on reducing energy consumption while maintaining optimal levels of human comfort, health, and safety.

In addition to mapping the institution's energy usage patterns, the audit aimed to evaluate and categorize energy-efficient appliances currently in use. Furthermore, practical recommendations regarding the daily operation of commonly used electrical equipment have been provided to assist in minimizing energy consumption.

The data for this audit was systematically collected by the **EHS Alliance Team**, through on-site surveys and direct analysis of the institution's infrastructure and operations. The report



reflects actual energy consumption patterns across various zones within the campus, as determined using appropriate monitoring tools and equipment.

This assessment was conducted with the active cooperation and support of the college staff, and the findings offer a comprehensive overview of energy usage by area. Based on the analysis, a range of actionable measures has been recommended to support the conservation and optimized use of energy resources. The report also identifies potential areas for energy savings.

It is our sincere hope that the college administration, faculty, and students will implement these recommendations to ensure continued progress in sustainable and energy-conscious operations.

Please note that certain observations and conclusions in this report are based on estimations and generalizations where exact measurements were not feasible. These findings reflect the professional judgment of the audit team, informed by on-site interviews and field interactions with institutional representatives.

We are pleased to submit this Energy Audit Report to Miranda House and appreciate the opportunity to contribute to its sustainability initiatives.

ENERGY AUDIT - ANALYSIS

1. ENERGY CONSUMPTION

To understand the Energy Consumption trends and to analyze the average monthly consumption we have collected electricity energy bills from July 2024 to June 2025.

The details of “**Meter Connection**” at “**Miranda House**” are as follows-

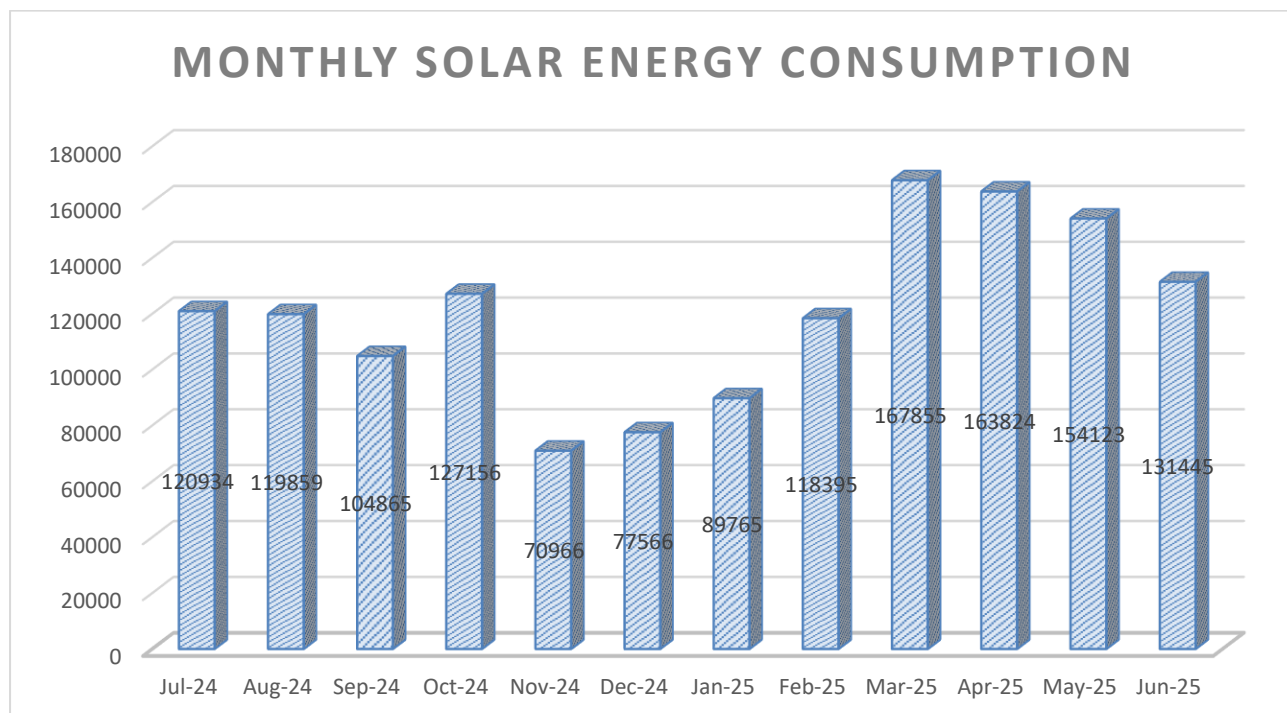
Name	-	The Principal
CA No.	-	60000002711



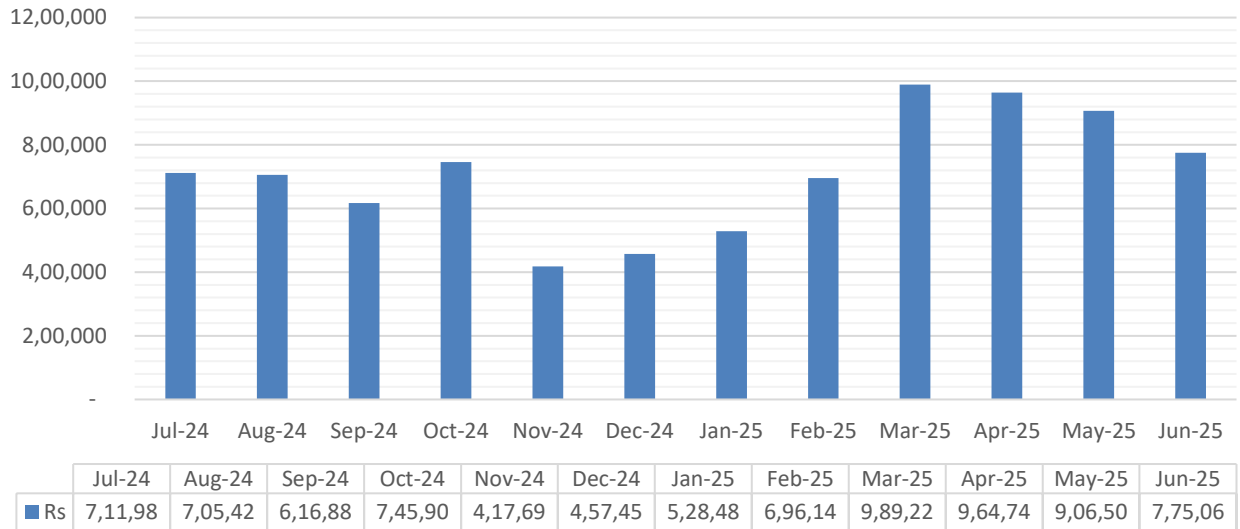
1.1 SUMMARY OF MONTHLY ELECTRICITY CONSUMPTION AND TOTAL BILL AMOUNT

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 2024 to June 2025

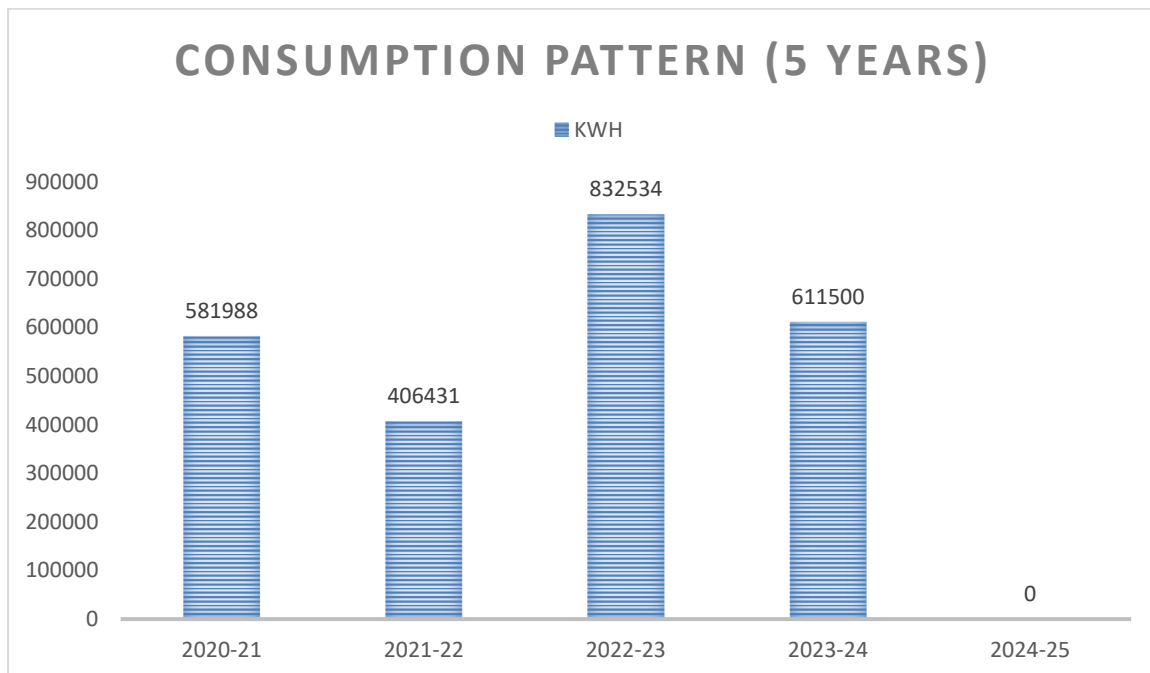
Month	Grid Billing	Solar-1 PV (1000)	Solar-2 PV (150)	Total	Electricity @INR	Amount in INR
Jul-24	0	105,800	15,134	120,934	5.89	711,983
Aug-24	0	104,603	15,256	119,859	5.89	705,422
Sep-24	0	91,191	13,674	104,865	5.88	616,884
Oct-24	0	108,234	18,922	127,156	5.87	745,907
Nov-24	0	61,960	9,006	70,966	5.89	417,690
Dec-24	0	68,740	8,826	77,566	5.90	457,451
Jan-25	0	78,533	11,232	89,765	5.89	528,480
Feb-25	0	102,585	15,810	118,395	5.88	696,141
Mar-25	0	147,959	19,896	167,855	5.89	989,221
Apr-25	0	143,600	20,224	163,824	5.89	964,743
May-25	0	133,860	20,263	154,123	5.88	906,501
Jun-25	0	116,333	15,112	131,445	5.90	775,069
SUM	-	1,263,397	183,355	1,446,752		8,515,492



Monthly Energy Consumption - from July 2024 to June 2025



Analysis of electricity consumption for the last 5 years is shown below



Note: College is using electricity from solar PV, so there is no energy consumption from Grid.

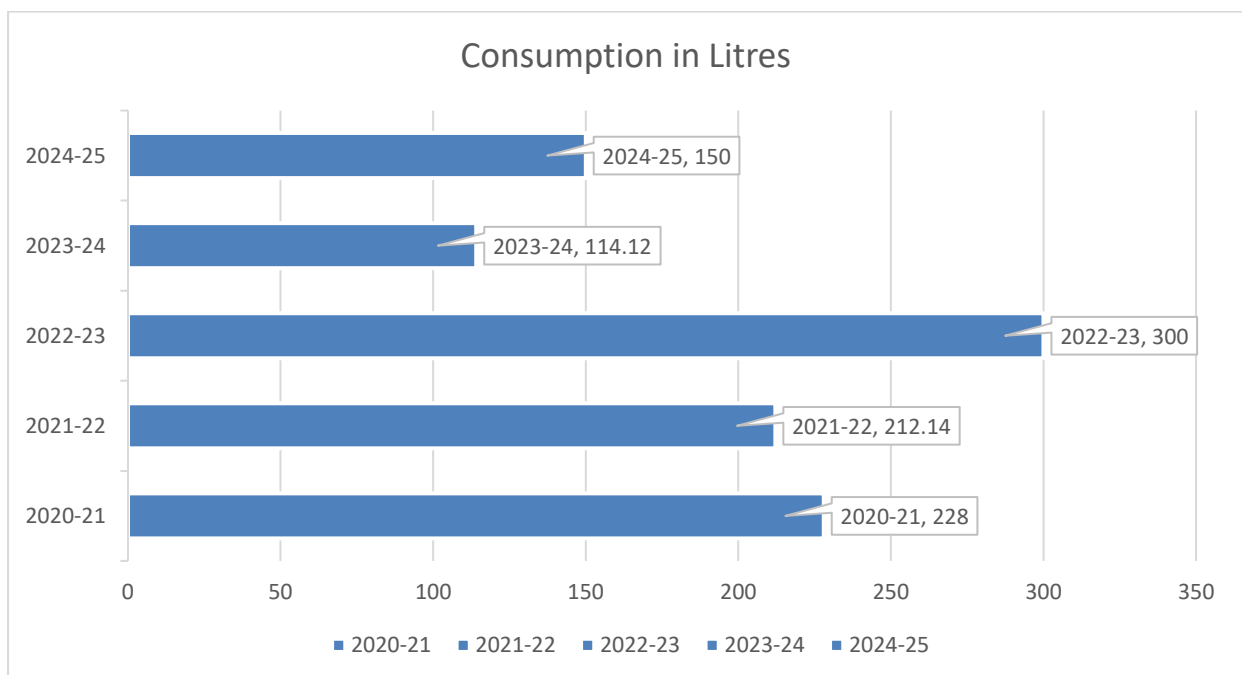


2. DIESEL CONSUMPTION

From July 2024 to June 2025, Miranda House has consumed 150 litres of fuel.

Month	Diesel (Liters)
Jul-24	0
Aug-24	0
Sep-24	0
Oct-24	0
Nov-24	0
Dec-24	0
Jan-25	0
Feb-25	0
Mar-25	0
Apr-25	0
May-25	0
Jun-25	150
Total	150

Four-year usage pattern is shown below



3. ANALYSIS OF DG SETS

In the campus, there is one Diesel Generator (DG) set for its electrical power needs in case of Grid power failure. DG sets capacity is 320 kVA.

DG Set Design Details		
<i>Description</i>	<i>Unit</i>	<i>DG at Station 1</i>
Rated capacity	kVA	320
Hz		50
Sl No.		N09F07515
Make		Stamford
Volts	Volts	415
PF		0.8
Phase		3
RPM		1500
Amps	Amps	445
Mfg.		2011

DG Set Operation details		
Operating hours during testing	Hours	0.5
% Loading	%	62.35
Energy Generation	kWh	35.57
Load	kVA	86.75
Fuel consumption during testing	Litre	9
Specific energy generation	kWh/litre	3.04





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 62.35% which is ok and specific energy consumption (SEC) of DG Sets 3.04 kWh/Liter which is satisfactory because as per manufacturer recommendation, best practices for SEC in DG sets range from 3.0 to 3.5 kWh/Liter and above.

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

4. AC SYSTEM

Energy Efficiency Ratio (EER): The 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 146 ACs installed in Miranda House in various areas of various type and capacity, details are given below: -

SI No.	Location/Identification	Type (Window/ Split)	Qty.	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	Principal Room	s	2	1.5	23	11	21	53	0.03	2.50	24	40	0.42	0.74	1.77	1.99
2	P.A. ROOM	s	1	1.5	22	12	20	52	0.03	2.60	25	38	0.35	0.71	2.02	1.74
3	Committee Room	s	2	1.5	24	11	20	52	0.03	2.20	22	38	0.39	0.63	1.61	2.18
4	Lobby	s	1	1.5	24	12	20	52	0.03	2.20	25	38	0.32	0.55	1.72	2.04
5	Bursar Room	s	1	1.5	24	11	19	52	0.03	2.60	24	37	0.38	0.57	1.52	2.31
6	Vice Principal Room	s	1	1.5	24	12	21	52	0.03	2.20	24	39	0.34	0.66	1.92	1.83
7	Administration Office	w	4	1.5	23	12	20	52	0.03	2.30	25	38	0.33	0.55	1.67	2.11
8	Administration Office	w	2	2	23	11	19	52	0.03	2.00	22	37	0.33	0.58	1.74	2.02
9	Accounts Branch	s	4	1.5	23	13	20	52	0.03	2.30	26	38	0.31	0.53	1.74	2.02
10	Web Lab.	s	1	1.5	23	12	20	52	0.03	2.20	25	38	0.32	0.55	1.74	2.03
11	Near Web Lab.	s	1	1.5	23	11	21	53	0.03	2.50	24	40	0.42	0.74	1.77	1.99



12	Room No. 116	s	1	1.5	22	12	20	52	0.03	2.60	25	38	0.35	0.71	2.02	1.74
13	Room No. 117	s	1	1.5	24	11	20	52	0.03	2.20	22	38	0.39	0.63	1.61	2.18
14	Room No. 118	s	1	1.5	24	12	20	52	0.03	2.20	25	38	0.32	0.55	1.72	2.04
15	Seminar Hall R.No. 102	s	6	2	24	11	19	52	0.03	2.60	24	37	0.38	0.57	1.52	2.31
16	Room No. 108 DRC Lab.	s	2	1.5	24	12	21	52	0.03	2.20	24	39	0.34	0.66	1.92	1.83
17	Room No. 107 DRC Lab.	s	3	1.5	23	12	20	52	0.03	2.30	25	38	0.33	0.55	1.67	2.11
18	Room No. 109 DRC Lab. Server Room	s	4	1.5	23	11	21	53	0.03	2.50	24	40	0.42	0.74	1.77	1.99
19	Library Ground Floor	s	3	1.5	22	12	20	52	0.03	2.60	25	38	0.35	0.71	2.02	1.74
20	Amba Dalmia Resource Centre	s	2	1.5	24	11	20	52	0.03	2.20	22	38	0.39	0.63	1.61	2.18
21	Digital Resources Centre	s	5	1.5	24	12	20	52	0.03	2.20	25	38	0.32	0.55	1.72	2.04
22	Teaching Study Room (Library)	s	4	1.5	24	11	19	52	0.03	2.60	24	37	0.38	0.57	1.52	2.31
23	Porta Cabin-I	s	2	1.5	24	12	21	52	0.03	2.20	24	39	0.34	0.66	1.92	1.83
24	Porta Cabin-II	s	2	1.5	23	12	20	52	0.03	2.30	25	38	0.33	0.55	1.67	2.11
25	Porta Cabin-III	s	2	1.5	23	11	19	52	0.03	2.00	22	37	0.33	0.58	1.74	2.02
26	Porta Cabin-IV	s	2	1.5	23	11	21	53	0.03	2.50	24	40	0.42	0.74	1.77	1.99
27	Room No. 215 (Phil)	s	1	1.5	22	12	20	52	0.03	2.60	25	38	0.35	0.71	2.02	1.74
28	Room No. 214 Staff Lounge	s	6	1.5	24	11	20	52	0.03	2.20	22	38	0.39	0.63	1.61	2.18
29	Room No. 213 History	s	1	1.5	24	12	20	52	0.03	2.20	25	38	0.32	0.55	1.72	2.04
30	Room No. 212, Hindi	s	1	1.5	24	11	19	52	0.03	2.60	24	37	0.38	0.57	1.52	2.31
31	Room No. 211, Economics	s	1	1.5	24	12	21	52	0.03	2.20	24	39	0.34	0.66	1.92	1.83
32	English Department	s	1	1.5	23	11	21	53	0.03	2.50	24	40	0.42	0.74	1.77	1.99
33	Zoology Department	s	5	2	22	12	20	52	0.03	2.60	25	38	0.35	0.71	2.02	1.74
34	Room No. 203, Geography	s	1	1.5	24	11	20	52	0.03	2.20	22	38	0.39	0.63	1.61	2.18
35	Room No. 204, Political Science	s	1	1.5	24	12	20	52	0.03	2.20	25	38	0.32	0.55	1.72	2.04
36	Room No. 205, Sociology	s	1	1.5	24	11	19	52	0.03	2.60	24	37	0.38	0.57	1.52	2.31
37	Room No. 206, Bengali	s	1	1.5	24	12	21	52	0.03	2.20	24	39	0.34	0.66	1.92	1.83
38	Room No. 220, Sanskrit	s	1	1.5	23	12	20	52	0.03	2.30	25	38	0.33	0.55	1.67	2.11
39	Room No. 222, Mathematics	s	1	1.5	23	11	21	53	0.03	2.50	24	40	0.42	0.74	1.77	1.99
40	Room No.235, Biotechnology Lab.	w	3	1.5	22	12	20	52	0.03	2.60	25	38	0.35	0.71	2.02	1.74
41	Room No. 250, Project Lab. DSKC	s	2	1.5	24	11	20	52	0.03	2.20	22	38	0.39	0.63	1.61	2.18
42	Physics Computer Lab.	s	2	1.5	24	12	20	52	0.03	2.20	25	38	0.32	0.55	1.72	2.04
43	Physics Teacher's Room	w	7	1.5	24	11	19	52	0.03	2.60	24	37	0.38	0.57	1.52	2.31
44	DSKC Physics II Floor	s	2	1.5	24	12	21	52	0.03	2.20	24	39	0.34	0.66	1.92	1.83

45	Physics Porta Cabin	s	2	1.5	23	12	20	52	0.03	2.30	25	38	0.33	0.55	1.67	2.11
46	Room No. 245	s	2	1.5	23	11	19	52	0.03	2.00	22	37	0.33	0.58	1.74	2.02
47	Room No. 236, Computer Science	s	3	1.5	23	13	20	52	0.03	2.30	26	38	0.31	0.53	1.74	2.02
48	Room No. 145, CLT	s	3	1.5	23	11	21	53	0.03	2.50	24	40	0.42	0.74	1.77	1.99
49	Room No. 150 (DSKC Lab.	s	2	1.5	22	12	20	52	0.03	2.60	25	38	0.35	0.71	2.02	1.74
50	Room No.146	w	2	1.5	24	11	20	52	0.03	2.20	22	38	0.39	0.63	1.61	2.18
51	Room No.146	s	1	1.5	24	12	20	52	0.03	2.20	25	38	0.32	0.55	1.72	2.04
52	Room No. 265	s	1	1.5	24	11	19	52	0.03	2.60	24	37	0.38	0.57	1.52	2.31
53	Room No. 308	s	3	1.5	24	12	21	52	0.03	2.20	24	39	0.34	0.66	1.92	1.83
54	Room No. 310	s	1	1.5	23	12	20	52	0.03	2.30	25	38	0.33	0.55	1.67	2.11
55	Room No. 311	s	1	1.5	23	11	19	52	0.03	2.00	22	37	0.33	0.58	1.74	2.02
56	Room No. 312	s	1	1.5	23	13	20	52	0.03	2.30	26	38	0.31	0.53	1.74	2.02
57	Room No. 315	s	2	1.5	24	11	20	52	0.03	2.20	22	38	0.39	0.63	1.61	2.18
58	Room No. 401	s	2	2	24	12	20	52	0.03	2.20	25	38	0.32	0.55	1.72	2.04
59	Room No. 402	s	2	2	24	11	20	52	0.03	2.20	22	38	0.39	0.63	1.61	2.18
60	Room No. 119	s	2	1.5	24	12	20	52	0.03	2.20	25	38	0.32	0.55	1.72	2.04
61	Room No. 120	s	2	1.5	24	11	19	52	0.03	2.60	24	37	0.38	0.57	1.52	2.31
62	Room No. 116	s	1	2	24	11	20	52	0.03	2.20	22	38	0.39	0.63	1.61	2.18
63	Room No. 201	s	2	2	24	12	20	52	0.03	2.20	25	38	0.32	0.55	1.72	2.04
64	Room No. 202	s	2	2	24	11	19	52	0.03	2.60	24	37	0.38	0.57	1.52	2.31
65	Room No. 101	s	2	2	24	12	21	52	0.03	2.20	24	39	0.34	0.66	1.92	1.83
66	Room No. 315	s	3	2	24	11	20	52	0.03	2.20	22	38	0.39	0.63	1.61	2.18
67	Room No. 139	s	1	1.5	24	11	20	52	0.03	2.20	22	38	0.39	0.63	1.61	2.18
68	Room No. 245	s	1	1.5	24	12	20	52	0.03	2.20	25	38	0.32	0.55	1.72	2.04
69	Room No. 308c	s	2	1.5	24	11	19	52	0.03	2.60	24	37	0.38	0.57	1.52	2.31
70	Room No. creche	s	2	1.5	24	12	21	52	0.03	2.20	24	39	0.34	0.66	1.92	1.83





Remarks:

The Energy Efficiency Ratio (EER) of the air conditioning units currently in use has been reviewed and is found to be satisfactory. However, for future procurement, it is strongly recommended that the college opts for BEE 5-Star rated inverter-based split air conditioners, as they consume significantly less energy compared to non-rated or lower-rated models.

5. FANS ANALYSIS

In the Miranda House, there are 975 Fans installed, out of which 58 fans are of 120W, and 917 fans are 70W. The observations and suggestions are given below.

Sl No.	Location/Identification	Ceiling Fan-70W	Ceiling Fan-120W
1	Room no. 120	6	-
2	Room No.119	6	-
3	Room No.118	6	-
4	Room No.117	4	-
5	Room No.116	4	-
6	Room NO.115	2	-
7	Room No.114	4	-
8	Room No. 113	1	-
9	Room No. 112	1	-
10	Room No. 101	3	-
11	Room No. 102	10	-
12	Bank Area	5	-
13	Room No. 104	3	-
14	Auditorium	22	-
15	Wash Room Auditorium	2	-
16	Room No. 105	3	-
17	Room No.111	1	-
18	Room No. 106	2	-
19	Room No. 107	4	-
20	Rom No. 108	8	-
21	Rom No. 109	2	-
22	Room No. 110	2	-
23	Server Room	1	-
24	Principal Office Area	14	-
25	Adm Office	16	-
26	Room No. 128	-	5



27	Room no. 129	4	-
28	Room No. 130	-	5
29	Room No. 131	1	1
30	Room No. 132	1	1
31	Room No. 133	1	-
32	Room No. 134	1	-
33	Room No. 135	1	-
34	Room No. 136	8	-
35	Room No. 137	3	-
36	Room No. 138	2	2
37	Room No. 139	2	2
38	Room No. 140	6	-
39	Room No. 141	2	-
40	Room No. 142	2	-
41	Room No. 143	10	-
42	Room No. 144	2	-
43	Room No. 145	-	7
44	Room NO. 146	3	-
45	Room No. 148	2	-
46	Room No. 149	4	-
47	Room No. 150	-	9
48	Room No. 151	4	-
49	Room No. 152	18	-
50	Room No. 153	2	-
51	Room No. 154	2	-
52	Room No. 155	4	-
53	Room No. 156	18	-
54	Room No. 157	16	-
55	Room No. 158	6	-
56	Room No. 201	1	-
57	Room No. 202	6	-
58	Room No. 203	1	-
59	Room No. 204	1	-
60	Room No. 205	1	-
61	Room No. 206	1	-
62	Room No. 207	6	-
63	Room NO. 208	6	-
64	Room No. 209	6	-
65	Room No. 210	6	-
66	Room NO. 211	4	-



67	Room No. 212	4	-
68	Room No. 213	2	-
69	Room No. 214	5	-
70	Room No. 215	2	-
71	Room No. 216	4	-
72	Room No. 217	3	-
73	Room No.218	3	-
74	Room No.219	6	-
75	Room No. 220	2	-
76	Room No. 221	10	-
77	Room No. 222	2	-
78	Room No.223	2	-
79	Room No. 224	2	-
80	Room No. 225	4	-
81	Room No. 226	4	-
82	Room No. 227	4	-
83	Room No.228	6	-
84	Room No. 229	6	-
85	Room No. 230	6	-
86	Room No. 231	4	-
87	Room No. 232	1	-
88	Room No. 233	2	-
89	Room No. 234	3	-
90	Room No. 235	8	-
91	Room No. 236	9	-
92	Room no.237	2	-
93	Room No. 238	4	-
94	Room No.239	8	-
95	Room No. 240	1	-
96	Room No.241	8	-
97	Room No.242	1	1
98	Room No. 243	1	1
99	Room No. 244	1	1
100	Room No. 245	1	-
101	Room No. 246	4	-
102	Room No. 247	8	-
103	Room No. 248	6	-
104	Room No. 249	3	-
105	Room No. 250	6	-
106	Room no.251	14	2



107	Room No. 252	2	-
108	Room No. 253	10	-
109	Room No. 254	4	-
110	Room No. 255	2	-
111	Room No. 256	1	-
112	Room No. 257	1	1
113	Room No. 258	1	1
114	Room No. 259	1	1
115	Room No. 260	-	9
116	Room No. 261	22	-
117	Room No. 262	3	-
118	Room No. 263	4	-
119	Room No. 264	8	-
120	Room No. 265	21	-
121	Room No. 266	4	-
122	Room No. 267	6	-
123	Room No. 268	6	-
124	Room No. 301	8	-
125	Room No. 302	6	-
126	Room No. 303	4	-
127	Room No. 304	10	-
128	Room No. 305	10	-
129	Room No. 306	3	-
130	Room No. 307	-	9
131	Room No. 308	20	-
132	Room No. 309	1	-
133	Room No. 310	1	-
134	Room No. 311	1	-
135	Room No. 312	-	-
136	Room No. 313	8	-
137	Room No. 314	8	-
138	Room No. 315	4	-
139	Room No. 316	4	-
140	Room No. 317	2	-
141	Room No. 318	9	-
142	Room No. 319	5	-
143	Room No. 320	6	-
144	Room No. 321	4	-
145	Room No. 322	6	-
146	Room No. 323	6	-



147	College Library Building	164	-
148	College Canteen	20	-
149	Student Activity Room	10	-
150	Nescafe Kiosk	1	-
151	Pizza AND More	1	-
152	DRC Server Room	1	-
153	Room No. 401	10	
154	Room No. 402	10	
155	Room No. 315	10	
	TOTAL	917	58

<i>Total no of Ceiling Fans (120W)</i>	<i>Nos.</i>	<i>58</i>
<i>Total wattage of 120W Ceiling Fans</i>	<i>Watt</i>	<i>6960</i>
<i>Total wattage of BEE 5 Star rated Fans (30W)</i>	<i>Watt</i>	<i>1740</i>
<i>Total saving in Wattage after replacement</i>	<i>Watt</i>	<i>5220</i>
<i>Operating hours per day</i>	<i>Hours</i>	<i>8</i>
<i>Operating days per annum</i>	<i>Days</i>	<i>180</i>
<i>Energy charges per unit in Rs.</i>	<i>INR</i>	<i>6</i>
<i>Saving in Rs./annum</i>	<i>INR</i>	<i>45101</i>
<i>Investment INR</i>	<i>INR</i>	<i>116000</i>
<i>Payback period:-</i>	<i>YEARS</i>	<i>2.57</i>

Observation and Suggestions: -

The college currently utilizes ceiling fans with a power rating of approximately 120 watts. However, BEE 5-Star rated ceiling fans with a significantly lower power consumption of 30 watts are readily available in the market. **We strongly recommend replacing the existing 120W fans with these energy-efficient 5-Star rated 30W models. This replacement offers substantial energy savings, and the estimated payback period is less than 3 years, making it a cost-effective upgrade.**

Note: The actual energy savings achieved may vary depending on the operating hours of the equipment. Similarly, the payback period is subject to change based on the actual cost of investment, which includes the cost of the fan and any associated accessories. The investment cost considered in this report is tentative, and variations in pricing may affect the final return on investment.



6. ANALYSIS OF LIGHTING SYSTEM

6.1 BRIEF DESCRIPTION OF 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	36W Normal Light	36 W 2X2 LED	32W LED	150W LED	20W LED	20W LED-FOB Aly Side	10W LED Glow Shine	SENSOR BULB 10 W
1	Room no. 120	14		-	-	-	-	-	-
2	Room No. 119	14	-	-	-	-	-	-	-
3	Room No. 118	14	-	-	-	-	-	-	-
4	Room No. 117	8	-	-	-	-	-	-	-
5	Room No. 116	8	-	-	-	-	-	-	-
6	Room No. 115	6	-	-	-	-	-	-	-
7	Room No. 114	8	-	-	-	-	-	-	-
8	Rom No. 113	1	-	-	-	-	-	-	-
9	Room No. 112	1	-	-	-	-	-	-	-
10	Room No. 101	3	-	-	-	-	14	-	-
11	Room No. 102	-	-	-	-	28	-	-	-
12	Bank Area	-	-	-	-	23	-	-	-
13	Room No. 104	-	-	-	-	-	-	12	-
14	Auditorium	-	-	-	-	-	26	-	-
15	Wash Room Auditorium	8	-	-	-	-	-	-	10
16	Room No. 105	8	-	-	-	-	-	-	-
17	Room No. 111	2	-	-	-	-	-	-	-
18	Room No. 106	8	-	-	-	-	-	-	-
19	Room No. 107	-	-	-	-	32	-	-	-
20	Room No. 108	44	-	-	-	-	-	-	-
21	Room No. 109	8	-	-	-	-	-	-	-
22	Room No. 110	6	-	-	-	-	-	-	-
23	Server Room	4	-	-	-	-	-	-	-
24	Principal Office Area	-	-	-	-	-	-	32	-
25	Admin. Office	-	-	-	-	-	26	-	-



26	Room No. 128	-	-	-	-	-	12	-	-
27	Accounts Branch Area	-	-	-	-	-	24	-	-
28	Room No. 129	12	-	-	-	-	-	-	-
29	Room No. 130	4	-	-	-	-	-	-	-
30	Room No. 131	4	-	-	-	-	-	-	-
31	Room No. 132	4	-	-	-	-	-	-	-
32	Room No. 133	4	-	-	-	-	-	-	-
33	Room No. 134	4	-	-	-	-	-	-	-
34	Room No. 135	4	-	-	-	-	-	-	-
35	Room No. 136	36	-	-	-	-	-	-	-
36	Room No. 137	12	-	-	-	-	-	-	-
37	Room No. 138	8	-	-	-	-	-	-	-
38	Room No. 139	8	-	-	-	-	-	-	-
39	Room No. 140	12	-	-	-	-	-	-	-
40	Room No. 141	10	-	-	-	-	-	-	-
41	Room No. 142	6	-	-	-	-	-	-	-
42	Room No. 143	18	-	-	-	-	-	-	-
43	Room No. 144	-	-	-	-	10	-	-	-
44	Room No. 145	24	-	-	-	-	-	-	-
45	Room NO. 146	10	-	-	-	-	-	-	-
46	Room No. 148	4	-	-	-	-	-	-	-
47	Room No. 149	16	-	-	-	-	-	-	-
48	Room No. 150	22	-	-	-	-	-	-	-
49	Room No. 151	12	-	-	-	-	-	-	-
50	Room No. 152	108	-	-	-	-	-	-	-
51	Room No. 153	9	-	-	-	-	-	-	-
52	Room No. 154	8	-	-	-	-	-	-	-
53	Room No. 155	-	-	6	-	-	-	-	-
54	Room No. 156	-	-	37	-	-	-	-	-
55	Room No. 157	-	-	34	-	-	-	-	-
56	Room No. 158	-	-	8	-	-	-	-	-
57	Room No. 201	-	-	-	-	4	-	-	-
58	Room No. 202	-	-	-	-	4	-	-	-
59	Room No. 203	-	-	-	-	4	-	-	-
60	Room No. 204	-	-	-	-	4	-	-	-
61	Room No. 205	-	-	-	-	4	-	-	-
62	Room No. 206	-	-	-	-	4	-	-	-
63	Room No. 207	12	-	-	-	-	-	-	-



64	Room NO. 208	12	-	-	-	-	-	-	-
65	Room No. 209	12	-	-	-	-	-	-	-
66	Room No. 210	12	-	-	-	-	-	-	-
67	Room NO. 211	-	-	-	-	12	-	-	-
68	Room No. 212	-	-	-	-	12	-	-	-
69	Room No. 213	2	-	-	-	-	-	-	-
70	Room No. 214	-	-	-	-	8	-	-	-
71	Room No. 215	-	-	-	-	9	-	-	-
72	Room No. 216	-	-	-	-	8	-	-	-
73	Room No. 217	-	-	9	-	-	-	-	-
74	Room No.218	6	-	-	-	-	-	-	-
75	Room No.219	12	-	-	-	-	-	-	-
76	Room No. 220	8	-	-	-	-	-	-	-
77	Room No. 221	8	-	-	-	-	-	-	-
78	Room No. 222	8	-	-	-	-	-	-	-
79	Room No.223	8	-	-	-	-	-	-	-
80	Room No. 224	8	-	-	-	-	-	-	-
81	Room No. 225	12	-	-	-	-	-	-	-
82	Room No. 226	8	-	-	-	-	-	-	-
83	Room No. 227	8	-	-	-	-	-	-	-
84	Room No.228	14	-	-	-	-	-	-	-
85	Room No. 229	14	-	-	-	-	-	-	-
86	Room No. 230	14	-	-	-	-	-	-	-
87	Room No. 231	8	-	-	-	-	-	-	-
88	Room No. 232	-	-	-	-	4	-	-	-
89	Room No. 233	-	-	-	-	8	-	-	-
90	Room No. 234	-	-	-	-	4	-	-	-
91	Room No. 235	-	-	-	-	14	-	-	-
92	Room No. 236	4	-	-	-	20	-	-	-
93	Room no.237	4	-	-	-	-	-	-	-
94	Room No. 238	12	-	-	-	-	-	-	-
95	Room No.239	18	-	-	-	-	-	-	-
96	Room No. 240	6	-	-	-	-	-	-	-
97	Room No.241	18	-	-	-	-	-	-	-
98	Room No.242	4	-	-	-	-	-	-	-
99	Room No. 243	4	-	-	-	-	-	-	-
100	Room No. 244	4	-	-	-	-	-	-	-
101	Room No. 245	4	-	-	-	-	-	-	-
102	Room No. 246	12	-	-	-	-	-	-	-



103	Room No. 247	45	-	-	-	-	-	-	-
104	Room No. 248	36	-	-	-	-	-	-	-
105	Room No. 249	18	-	-	-	-	-	-	-
106	Room No. 250	12	-	-	-	-	-	-	-
107	Room no.251	22	-	-	-	-	-	-	-
108	Room No. 252	6	-	-	-	-	-	-	-
109	Room No. 253	42	-	-	-	-	-	-	-
110	Room No. 254	10	-	-	-	-	-	-	-
111	Room No. 255	40		-	-	4	-	-	
112	Room No. 256	-	-	2	-	-	-	-	-
113	Room No. 257	-	-	-	-	2	-	-	
114	Room No. 258	-	-	-	-	2	-	-	
115	Room No. 259	-	-	-	-	2	-	-	
116	Room No. 260	22		-	-	-	-	-	
117	Room No. 261	123	6	-	-	-	-	-	
118	Room No. 262	16		-	-	-	-	-	
119	Room No. 263	-		6	-	-	-	-	
120	Room No. 264	-		20	-	-	-	-	
121	Room No. 265	-		45	-	4	-	-	
122	Room No. 266	-		6	-	6	-	-	
123	Room No. 267	-		11	-	8	-	-	
124	Room No. 268	-		11	-	8	-	-	
125	Room No. 301	36		-	-	-	-	-	
126	Room No. 302	24		-	-	-	-	-	
127	Room No. 303	10		-	-	-	-	-	
128	Room No. 304	45		-	-	-	-	-	
129	Room No. 305	42		-	-	-	-	-	
130	Room No. 306	12		-	-	-	-	-	
131	Room No. 307	18		-	-	-	-	-	
132	Room No. 308		12	-	-	-	-	-	
133	Room No. 308 C		8						
134	Room No. 309	-	2	-	-	4	-	-	
135	Room No. 310		2	-	-	-	-	-	
136	Room No. 311	-	3	-	-	2	-	-	
137	Room No. 312		8	-	-	-	-	-	
138	Room No. 313	12		-	-	-	-	-	
139	Room No. 314	12		-	-	5	-	-	
140	Room No. 315	-		6	-	-	-	-	
141	Room No. 316	-		9	-	-	-	-	



142	Room No. 317	-		6	-	-	-	-	
143	Room No. 318	-		11	-	-	-	-	
144	Room No. 319	-		11	-	-	-	-	
145	Room No. 320	-		12	-	-	-	-	
146	Room No. 321	-		6	-	6	-	-	
147	Room No. 322	-		11	-	8	-	-	
148	Room No. 323	-		11	-	8	-	-	
149	College Library Building	-		-	-	495	-	-	
150	College Canteen	18		-	-	20	-	-	
151	Student Activity Room	-		-	-	14	-	-	
152	Nescafe Kiosk	4		-	-	-	-	-	
153	Pizza AND More	4		-	-	-	-	-	
154	DRC Server Room	4		-	-	-	-	-	
155	New Building Terrace	-		-	8	-	-	-	
156	Robotic lab		5						
157	Room No. 401		12						
158	Room No. 402		12						
159	Room No. 315		15						
	TOTAL	1,433	85	278	8	814	102	44	10

Particulars	Unit	Amount (INR)
Total no of Tube light (36W)	Nos.	2247
Total wattage of 36W Tube Lights	Watt	1433
Total wattage of Led Tube Lights (20W)	Watt	28660
Total saving in Wattage after replacement	Watt	22928
Operating hours per day	Hours	8
Operating days per annum	Days	180
Energy charges per unit in Rs.	INR	10
Saving in Rs. /Annum	INR	286600
Investment INR	INR	330163
Payback period: - Years	YEARS	1.15

Observation & Suggestion: The college has adopted an LED-based lighting system, which is a significant step toward energy efficiency. LED lights are known for their low energy consumption, extended lifespan, and minimal heat emission, making them an ideal choice for sustainable campus lighting.

It is recommended that the remaining 36-watt conventional tube lights be replaced with LED alternatives. This transition has the potential to yield an additional energy savings of



approximately 22928 watts per year. The payback period for this investment is estimated to be 15 months, making it both an economically and environmentally beneficial decision.

Furthermore, we advise the college to expand the installation of motion sensor-based lighting systems in commonly used areas such as corridors, washrooms, and the library. This would further reduce unnecessary energy consumption by ensuring that lights are only activated when the space is in use.

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

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, and car parking. floodlighting	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 warehouses, 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, spotlighting, floodlighting, 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

Sl No.	Location/ Identification	Desktop	Laptop	Printers	Scanners	Servers	Other
1	Mathematics Dept (New Academic Block): Room 318 & 319	29	35	2	0	0	2 Projectors
2	Computer Science Lab (New Academic Block): Room 320	20	10	0	0	0	1 Touch Panel 75 inch
3	Computer Science Lab (Old Academic Block): Room 237	38	3	2	0	0	1 Touch Panel 75 inch
4	Administration Branch Area (Old Academic Block) : Room 127	15	-	13	0	1	
5	Accounts Branch Area	8	1	6	0	1	
6	Room 119	-	-	-	-	-	1 Touch Panel 85 inch
7	Room 120	-	-	-	-	-	1 Touch Panel 85 inch
8	Mini auditorium -Room 158	-	-	-	-	-	1 Touch Panel 85 inch
9	Auditorium - Room	-	-	-	-	-	1 Projector & Screen
12	Chemistry Lab (new Academic Block)	1	-	1	-	-	
13	Botany Lab : Room 128	2	-	2	-	-	1 Projector
14	Botany Lab : Room 130						1 Projector
15	Botany Museum Room 136						1 Projector
16	Botany: Room 135	1	-	1	-	-	
17	Botany: Room 134	1	-	-	-	-	
18	Botany : Room 137						1 Projector
19	Zoology: Room 240	1	-	-	-	-	
20	Zoology : Room 247	5	-	-	-	-	1 Projector
21	Zoology : Room 249	2	-	-	-	-	
22	Zoology: Room 241	-	-	-	-	-	1 Projector



23	Zoology: Room 239	-	-	-	-	-	1 Projector
24	Zoology: Room 248	-	-	-	-	-	1 Projector
25	Zoology: Room 246	-	-	-	-	-	1 Projector
26	Chemistry Lab (old Academic Block)153	1	-	-	-	-	
27	Chemistry Class Room (old Academic Block):151	6	-	-	-	-	
28	Chemistry Lab: Room 157	1	-	1	-	-	1 Projector
29	Physics Lab: Room 264	-	55	1	-	-	
30	Physic Lab 263	25	-	1	-	-	
31	Pol. Sc. Deptt	1	-	1	-	-	
32	Sanskrit	1	-	1	-	-	
33	Philosophy	1	-	1	-	-	
34	History	1	-	1	-	-	
35	Hindi	1	-	1	-	-	
36	English	1	-	1	-	-	
37	Geography	23	-	2	-	-	4 Projectors
38	Sociology	1	-	1	-	-	
39	Bengali	1	-	1	-	-	
40	IQAC Lab	1	-	1	-	-	1 Touch Panel 75 inch
41	Sudhir Sir	1	-	1	-	-	
42	Room 238	1	-	1	-	-	
43	Physics: Class Room 260			-	-		1 Projector
44	Principal Office Area	5	-	4	-	-	1 Touch Panel 75 inch
45	College Library Building	70		5	-		1 Projector
46	Student Activity Room	-	-	-	-	-	1 Projector
47	DRC Room 107 & Room 108	80	900	2	-	-	2 Projectors
48	DRC Server Room	1		1	-	1	2 Online 10 KVA UPS
49	Language Lab	1	-	-	-	-	1 Touch Panel 75 inch + Philips Speakers
50	Robotic lab	2	-	-	-	-	
51	Room 102	-	-	-	-	-	1 Projector & Sound system
52	Room 321	-	-	-	-	-	1 Touch Panel 75 inch + Ahuja Speakers, Mikes & Amplifier
53	Room 261	1	-	2	-	-	
54	Room 259	1	-	-	-	-	
55	Room 262	14	-	-	-	-	
56	Room 254	3	-	-	-	-	
57	Room 308	1	-	-	-	-	
58	Room 309	1	-	-	-	-	
59	Room 109	-	-	-	-	-	1 Projector



60	Room 105	-	-	-	-	-	1 Projector
61	Room 102	-	-	-	-	-	1 Projector
62	Room 101	-	-	-	-	-	1 Projector
63	Room 117	-	-	-	-	-	1 Projector
64	Room 118	-	-	-	-	-	1 Projector
65	Room 128	-	-	-	-	-	1 Projector
66	Room 130	-	-	-	-	-	1 Projector
67	Room 145	-	-	-	-	-	1 Projector
68	Room 251	-	-	-	-	-	1 Projector
69	Room 314	-	-	-	-	-	1 Projector
70	Room 250	-	-	-	-	-	1 Projector
71	Room 241	-	-	-	-	-	1 Projector
72	Room 231	-	-	-	-	-	1 Projector
73	Room 236	-	-	-	-	-	1 Projector
74	Room 230	-	-	-	-	-	1 Projector
75	Room 229	-	-	-	-	-	1 Projector
76	Room 228	-	-	-	-	-	1 Projector
77	Room 227	-	-	-	-	-	1 Projector
78	Room 226	-	-	-	-	-	1 Projector
79	Room 218	-	-	-	-	-	1 Projector
80	Room 216	-	-	-	-	-	1 Projector
81	Room 209	-	-	-	-	-	1 Projector
82	Room 202	-	-	-	-	-	1 Projector
83	Room 301	-	-	-	-	-	1 Projector
84	Room 304	-	-	-	-	-	1 Projector
85	Room 305	-	-	-	-	-	1 Projector
86	Room 219	-	-	-	-	-	1 Projector
87	Room 220	-	-	-	-	-	1 Projector
88	Room 313	-	-	-	-	-	1 Projector
89	Room 150	-	-	-	-	-	1 Projector
90	Room 262	-	-	-	-	-	1 Projector
91	Room 246	-	-	-	-	-	1 Projector
92	Room 253	-	-	-	-	-	1 Projector
93	Room 156	-	-	-	-	-	1 Projector
94	Room 265	-	-	-	-	-	1 Projector
95	Room 266	-	-	-	-	-	1 Projector
96	Room 268	-	-	-	-	-	1 Projector
97	Room 267	-	-	-	-	-	1 Projector
98	Room 323	-	-	-	-	-	1 Projector
99	Room 320	-	-	-	-	-	1 Projector
100	Room 322	-	-	-	-	-	1 Projector
101	Room 323	-	-	-	-	-	1 Projector

7.2 WATER PUMP DETAILS

Water Pump Location	Pump Power HP	Type of Pump
Main Gate	7.5	Submersible Pump
Main Gate	1.0	Monoblock Pump
New Building Mono Booster Pump	5.0	Submersible Pump
Teacher's Flats	7.5	Submersible Pump
Teacher's Flats	5.0	Submersible Pump
Teacher's Flats	1.0	Monoblock Pump
Non-Teaching Flats	7.5	Submersible Pump
Non-Teaching Flats	7.5	Submersible Pump
Non-Teaching Flats	1.0	Monoblock Pump
College RO Plant	5.0	Submersible Pump
College RO Plant	5.0	Submersible Pump
College RO Plant	1.0	Monoblock Pump
College RO Plant	1.0	Monoblock Pump
Hostel R.O.Plant	5.0	Submersible Pump
Hostel R.O.Plant	5.0	Submersible Pump
Hostel R.O.Plant	3.0	Monoblock Pump
Hostel R.O.Plant	1.0	Monoblock Pump
Hostel R.O.Plant	1.0	Monoblock Pump

8. CAPACITOR BANK

Sl. No.	Identification	Capacity in KVAR
1	Sub Station- I	500 KVA
2	Sub Station - II	500 KVA

9. OTHER LOADS

Sl No.	Location/ Identification	160W Exhaust Fan	Water Cooler- 200W	Laptops	Desktops	Notebook	Tablets	Printers/ Scanners	UPS
1	Botany Lab. 129	2	-	-	-	-	-	-	-
2	Botany Lab. 130	2	-	-	-	-	-	-	-
3	Room No. 141	1	-	-	-	-	-	-	-
4	Room No. 142	1	-	-	-	-	-	-	-
5	Room No. 143	1	-	-	-	-	-	-	-
6	Room No. 152	4	-	-	-	-	-	-	-
7	Room No. 153	1	-	-	-	-	-	-	-
8	Room No. 240	1	-	-	-	-	-	-	-
9	Room No. 251	4	-	-	-	-	-	-	-



10	Ground Floor Main Gate	-	1	-	-	-	-	-	-
11	Ground Floor New Building	-	1	-	-	-	-	-	-
12	College Library	-	1	-	-	-	-	-	-
13	Auditorium	-	1	-	-	-	-	-	-
14	Canteen	-	1	-	-	-	-	-	-
15	First Floor New Building Physics Lab.	-	1	1040	386	116	3	47	15
16	First Floor Old Building Physics Lab.	-	1	-	-	-	-	-	-
17	First Floor Accounts Branch	-	1	-	-	-	-	-	-
18	Common water cooler	-	2	-	-	-	-	-	-
19	First Floor Geography Deptt.		1	-	-	-	-	-	-
	TOTAL	17	11	1040	386	116	3	47	15

ANALYSIS

It is recommended that the institution establish a regular maintenance schedule for all essential equipment, including pumps, exhaust fans, and IT infrastructure.

Electronic devices such as computers, printers, scanners, and similar equipment that have exceeded their typical operational lifespan (generally 3 to 5 years, depending on the device) should be replaced with newer, energy-efficient models, such as upgraded computers or laptops.

Additionally, maintaining the recommended ambient temperature for all electronic appliances is essential to ensure optimal performance, energy efficiency, and extended equipment lifespan.

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