ENERGY AUDIT REPORT
FOR
JAIPUR ENGINEERING COLLEGE AND RESEARCH CENTRE

Elion Technologies & Consulting Private Limited

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Acknowledgement

Elion Technologies and Consulting Pvt Ltd places on record it's thanks to Jaipur Engineering College and Research Centre, Rajasthan for entrusting the task of conducting energy audit study.

We acknowledge with gratitude the whole hearted support and cooperation extended by all team members while carrying out the study.

Site Information

Name of College	Jaipur Engineering College And Research Centre
College Address	Opp. Epip Gate, Near Sanganer Sadar Thana Tonk Road Jaipur, Rajasthan, 302022
Execution Partner	ELION Technologies & Consulting Pvt Ltd
Communication Address	307, 3rd Floor DDA Lal Market H-Block Vikas Puri, New Delhi-110018
Date of Audit	15th March 2024
Year of Audit	2023-2024
Site Team who participated in the Study	Mr. Mukesh Kumar Agrawal Mr. Yogendra Sharma Mr. Neeraj Prakash Shrivastava Mr. Sumit Saini Mr. Rajesh Mr. Ramsevak
Main Energy Consuming Machines/Equipment's considered for Energy Audit	• Lighting & Fans • Air Conditioners • Motors & Pumps • Desktops & Printers

Executive Summary

A journey of Two decades for JECRC, having more than 4000 students on campus under 7 UG programs, has earned laurels to their students, faculty members and for the institute in many ways. More than 10000 alumni's spread over the globe has climbed the ladder to leadership positions and providing mentorship to their juniors by way of skill development, incubation, startup, research and angel funding. Faith by government agencies for providing grant of more than 2 crores for setting up centre of excellence, state of art facilities for startup & incubation and providing platform to the students to develop their technical and managerial skills that is helping students to get placement in a reputed organization. Contribution towards International publications, technical activities, co-curricular activities by faculty members, students and delivery of Outcome based education is recognized by National Board of Accreditation and AICTE.

Socially rich atmosphere at the campus enabling fourfold grooming of students that is recognized at National and International level and enabling students to work as interns with personalities recognized in their field of expertise. JECRC has become synonymous to placements and JECRCians have made their presence felt at every reputed company / government organization. To improve the quality of teaching learning, the institute on regular basis is getting the appreciations from Government and Non Government Organizations viz., NITTTR Chandigarh, National Board of Accreditation, Rajasthan Technical University, AICTE, ASSOCHAM, Computer Society of India, The Week, Outlook, India Today etc. and two programs Mechanical Engineering and Electronics & Communication Engineering are accredited by the National Board of Accreditation for providing outcome based education.

Our Vision

Vision To become a renowned centre of outcome based learning, and work towards academic, professional, cultural and social enrichment of the lives of individuals and communities.

Our Mission

- Focus on evaluation of learning outcomes and motivate students to inculcate research aptitude by project based learning.
- Identify, based on informed perception of Indian, regional and global needs, areas of focus and provide platform to gain knowledge and solutions.
- Offer opportunities for interaction between academia and industry.
- Develop human potential to its fullest extent so that intellectually capable and imaginatively gifted leaders can emerge in a range of professions.

List of courses offered by the institute:

- B.Tech In Computer Science & Engineering
- B.Tech In AI &DS
- B.Tech In CSE(AI)
- B.Tech In Information Technology

- B.Tech In Mechanical Engineering
- B.Tech In Civil Engineering
- B.Tech In Electronics Engineering
- B.Tech In Electrical Engineering

Chapter 01: Introduction

M/S Jaipur Engineering College and Research Centre evinced interest in availing the services of Elion Technologies and Consulting Pvt Ltd for conducting energy audit of their premises.

Elion Technologies and Consulting Pvt Ltd team conducted the Detail Energy audit on 15th March 2024.

This report is on the energy audit carried out in Jaipur Engineering College and Research Centre. The detailed energy audit comprised of the following activities:

- Data collection of power consuming equipment's.
- A brief session on energy management was conducted to seek more inputs from the personnel engaged in operation and maintenance of electro mechanical services.
- Analysis of collected data.
- Discussion with the officials on the identified proposals.
- Discussion and reporting of the findings of energy audit with the Engineers and management staff.

All the identified energy savings proposals have been discussed with the executives concerned before finalizing the projects.

The contents of the report are based solely on the data provided by Jaipur Engineering College and Research Centre officials during the energy audit.

The management should implement the suggestions made in the report after verifying requisite safety aspects.

Methodology for Energy Audit:

The following is a list of general procedure and information undertaken during the energy audit:

- General information of the site.
- Baseline energy description.
- On site data collection
- Energy analysis of different sectors.

- Recommendation of energy conservation measures.

The primary goal of the energy audit was to identify sources and areas of potential energy savings and cost saving throughout the Plant by measures of optimization, replacement, retrofitting, and on the other hand, to also provide recommendations on operational and maintenance practices improvements.

Chapter 02: Energy Consumption Details

List of equipment present in the campus:

Rating of Transformer (in KVA)	630KVA+315KVA
Year of installation of the Transformer	2009
Rating of DG Set (in KVA)	200KVA+125KVA
Rating of Capacitor Bank (if present)	NA
Capacity of Solar Power Plant (if installed)	400KW

The main areas of energy consumption as observed during the audit are as follows:

- Air Conditioners
- Lighting & Fans
- Motors & Pumps
- Desktops & Printers

The main sources of energy to meet the required consumptions are as follows:

- Electricity supply from Distribution Company.
- DG sets of rating 200KVA & 125KVA.
- Solar power plant of capacity 400KW.


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Latitude: 26.781787
Longitude: 75.822253
Elevation: 365.96±2 m
Accuracy: 11.4 m
Time: 23-02-2023 13:23
Note: JECRC JAIPUR
Powered by NoteCam

DG Set

Chapter 03: Lighting System

The lighting inventory of the colleges present in the university were collected and following is the summary:

Block	Room	Types of Light	Rating	Quantity	Number of Hours being turn on
A	Auditorium-1	LED	20W	60	6 Hr.
	Auditorium-1	Tubelight	40W	25	6 Hr.
	LT-1,LT-2, LT-3, LT-4	Tubelight	40W	36	6 Hr.
	CP-1, CP-2, CP-3, CP-4	Tubelight	40W	18	6 Hr.
	CP-1, CP-2, CP-3, CP-4	Tubelight	40W	18	6 Hr.
	Computer Center	LED	20W	64	6 Hr.
	Library	LED	20W	36	6 Hr.
	Registrar Office	LED	20W	12	6 Hr.
	IQAC	LED	20W	8	6 Hr.
	Waiting Room	LED	20W	11	6 Hr.
	Board Room	LED	20W	13	6 Hr.
	PA Room	LED	20W	4	6 Hr.
	Kitchen	LED	20W	1	6 Hr.
	OP Sir	LED	20W	10	6 Hr.
	Amit Sir	LED	20W	10	6 Hr.
	Arpit Sir	LED	20W	10	6 Hr.
	Staff Room 1, FF	Tubelight	40W	3	6 Hr.
	Staff Room 2, FF	Tubelight	40W	3	6 Hr.
	Staff Room 3, SF	LED	20W	25	6 Hr.
	HR Room	LED	20W	10	6 Hr.
	Accounts Office	LED	20W	15	6 Hr.
	CP-6	Tubelight	40W	6	6 Hr.
	IBM Lab	LED	20W	25	6 Hr.
	Gallery	Tubelight	40W	15	6 Hr.
	Bathroom-5	Tubelight	40W	10	6 Hr.
	OS Office	LED	20W	2	6 Hr.
B Block Basement	BLG-01, LT	Tubelight	40W	20	6 Hr.
	BLG-02, HOD	Tubelight	40W	2	6 Hr.
	BLG-03, Staff Room	Tubelight	40W	1	6 Hr.
	BLG-05, Lab	Tubelight	40W	8	6 Hr.
	BLG-06, LT	Tubelight	40W	14	6 Hr.
	BLG-08, CP Lab	Tubelight	40W	8	6 Hr.
	BLG-10, Staff Room	Tubelight	40W	2	6 Hr.

	BLG-11, Staff Room	Tubelight	40W	2	6 Hr.
	BLG-12, Staff Room	Tubelight	40W	2	6 Hr.
	BLG-13, LT	Tubelight	40W	16	6 Hr.
	BLG-14, Lab	Tubelight	40W	8	6 Hr.
	BLG-16, Lab	Tubelight	40W	8	6 Hr.
	BLG-17, Staff Room	Tubelight	40W	2	6 Hr.
	BLG-18, Staff Room	Tubelight	40W	2	6 Hr.
	BLG-19, Lab	Tubelight	40W	10	6 Hr.
	Gallery	Tubelight	40W	8	6 Hr.
B Block Ground Floor	BG-01, Lab	Tubelight	40W	8	6 Hr.
	BG-02, Staff Room	Tubelight	40W	2	6 Hr.
	BG-03, Staff Room	Tubelight	40W	2	6 Hr.
	BG-04, Lab	Tubelight	40W	2	6 Hr.
	BG-05, Staff Room	Tubelight	40W	1	6 Hr.
	BG-06, Lab	Tubelight	40W	2	6 Hr.
	BG-07, LT	Tubelight	40W	10	6 Hr.
	BG-09, CP Lab	LED	20W	4	6 Hr.
	BG-11, Staff Room	Tubelight	40W	2	6 Hr.
	BG-12, Staff Room	Tubelight	40W	1	6 Hr.
	BG-13, Staff Room	Tubelight	40W	2	6 Hr.
	BG-14, LT	Tubelight	40W	6	6 Hr.
	BG-15, Lab	Tubelight	40W	2	6 Hr.
	BG-16, Lab	Tubelight	40W	2	6 Hr.
	BG-17, Staff Room	Tubelight	40W	2	6 Hr.
	BG-18, HoD Room	Tubelight	40W	2	6 Hr.
	BG-19, LT	Tubelight	40W	3	6 Hr.
	BG-20, Dispensary	Tubelight	40W	2	6 Hr.
	Gallery	Tubelight	40W	8	6 Hr.
B Block First Floor	BF-01, LT	Tubelight	40W	3	6 Hr.
	BF-02, Control Room	Tubelight	40W	4	6 Hr.
	BF-03, Lab	Tubelight	40W	4	6 Hr.
	BF-04, LT	Tubelight	40W	2	6 Hr.
	BF-05, Lab	Tubelight	40W	2	6 Hr.
	BF-06, LT	Tubelight	40W	8	6 Hr.
	BF-07, LT	Tubelight	40W	1	6 Hr.
	BF-08, CP Lab	LED	20W	16	6 Hr.
	BF-09, Toilet	Tubelight	40W	1	6 Hr.
	BF-10, Staff Room	Tubelight	40W	1	6 Hr.
	BF-11, Staff Room	Tubelight	40W	1	6 Hr.
	BF-12, Staff Room	Tubelight	40W	1	6 Hr.
	BF-13, LT	Tubelight	40W	12	6 Hr.

	BF-14, Lab	Tubelight	40W	4	6 Hr.
	BF-15, Staff Room	Tubelight	40W	3	6 Hr.
	BF-16, Staff Room	Tubelight	40W	1	6 Hr.
	BF-17, Staff Room	Tubelight	40W	1	6 Hr.
	BF-18, LT	Tubelight	40W	3	6 Hr.
	BF-19, Staff Room	Tubelight	40W	2	6 Hr.
	Gallery	Tubelight	40W	8	6 Hr.
B Block Second Floor	BS-01, LT	Tubelight	40W	3	6 Hr.
	BS-02, Staff Room	Tubelight	40W	2	6 Hr.
	BS-03, Staff Room	Tubelight	40W	2	6 Hr.
	BS-04, Lab	Tubelight	40W	4	6 Hr.
	BS-05, Lab	Tubelight	40W	4	6 Hr.
	BS-06, LT	Tubelight	40W	10	6 Hr.
	BS-07, Exam Room	Tubelight	40W	4	6 Hr.
	BS-08, LT	Tubelight	40W	6	6 Hr.
	BS-09, Staff Room	Tubelight	40W	2	6 Hr.
	BS-10, Staff Room	Tubelight	40W	2	6 Hr.
	BS-11, Staff Room	Tubelight	40W	2	6 Hr.
	BS-12, LT	Tubelight	40W	13	6 Hr.
	BS-13, CP Lab	Tubelight	40W	8	6 Hr.
	BS-14, CP Lab	Tubelight	40W	8	6 Hr.
	BS-15, Lab	Tubelight	40W	6	6 Hr.
	BS-16, Staff Room	Tubelight	40W	2	6 Hr.
	Gallery	Tubelight	40W	8	6 Hr.
B Block Third Floor	BT-01, LT	Tubelight	40W	4	6 Hr.
	BT-02, Staff Room	Tubelight	40W	1	6 Hr.
	BT-03, Staff Room	Tubelight	40W	1	6 Hr.
	BT-04, LT	Tubelight	40W	2	6 Hr.
	BT-06, LT	Tubelight	40W	2	6 Hr.
	BT-07, LT	Tubelight	40W	6	6 Hr.
	BT-08, HoD Room	Tubelight	40W	2	6 Hr.
	BT-09, LT	Tubelight	40W	5	6 Hr.
	BT-10, Washroom	Tubelight	40W	1	6 Hr.
	BT-11, Staff Room	Tubelight	40W	1	6 Hr.
	BT-12, Staff Room	Tubelight	40W	1	6 Hr.
	BT-13, Staff Room	Tubelight	40W	1	6 Hr.
	BT-14, LT	Tubelight	40W	7	6 Hr.
	BT-15, Lab	Tubelight	40W	2	6 Hr.
	BT-16, LT	Tubelight	40W	2	6 Hr.
	BT-17, Staff Room	Tubelight	40W	1	6 Hr.
	BT-18, Staff Room	Tubelight	40W	1	6 Hr.

	BT-19, LT	Tubelight	40W	4	6 Hr.
	BT-20, HOD Room	Tubelight	40W	1	6 Hr.
	Gallery	Tubelight	40W	8	6 Hr.
C-Level-1 Basement	CLG-09 Lab	Tubelight	40W	10	6 Hr.
	CLG-10 Lab	Tubelight	40W	4	6 Hr.
	CLG-11 Lab	Tubelight	40W	2	6 Hr.
	CLG-12 Lab	Tubelight	40W	12	6 Hr.
	CLG-13 Lab	Tubelight	40W	6	6 Hr.
	CLG-17 Lab	Tubelight	40W	7	6 Hr.
	CLG-18 Lab	Tubelight	40W	6	6 Hr.
	CLG-19 Lab	Tubelight	40W	4	6 Hr.
	CG-01 CR	Tubelight	40W	2	6 Hr.
	Gallery	Tubelight	40W	15	6 Hr.
C-Level-2 Ground Floor	CG-02 VC Sir	LED	20W	7	6 Hr.
	CG-03 Sr. Advisor	LED	20W	7	6 Hr.
	CG-04 Pantry	Tubelight	40W	2	6 Hr.
	CG-05 Board Room	LED	20W	9	6 Hr.
	CG-06 CR	Tubelight	40W	8	6 Hr.
	CG-07 Staff Room	Tubelight	40W	8	6 Hr.
	CG-08 CR	Tubelight	40W	9	6 Hr.
	CG-09 CR	Tubelight	40W	12	6 Hr.
	CG-10 Placement	LED	20W	26	6 Hr.
	CG-12 CP Lab	Tubelight	40W	8	6 Hr.
	CG-13 Staff Room	Tubelight	40W	12	6 Hr.
	CG-14 Chemistry Lab	Tubelight	40W	6	6 Hr.
	CG-15 Staff Room	Tubelight	40W	4	6 Hr.
	CG-16 Toilet	Tubelight	40W	2	6 Hr.
	CG-19 Staff Room	Tubelight	40W	9	6 Hr.
	CG-20 Chemistry lab	Tubelight	40W	10	6 Hr.
	CG-21 Stationary Room	Tubelight	40W	2	6 Hr.
	Gallery	Tubelight	40W	15	6 Hr.
C-Level-3 First Floor	CF-01 Drawing Hall	Tubelight	40W	12	6 Hr.
	CF-02 Drawing Hall	Tubelight	40W	12	6 Hr.
	CF-03 CR	Tubelight	40W	10	6 Hr.
	CF-06 CR	Tubelight	40W	12	6 Hr.
	CF-07 CR	Tubelight	40W	12	6 Hr.
	CF-08 TR	Tubelight	40W	4	6 Hr.
	CF-09 Staff Room	Tubelight	40W	3	6 Hr.
	CF-10 Physics Lab	Tubelight	40W	12	6 Hr.
	CF-11 Physics Lab	Tubelight	40W	10	6 Hr.
	CF-12 CR	Tubelight	40W	6	6 Hr.

	CF-13 CR	Tubelight	40W	5	6 Hr.
	CF-14 Lab	Tubelight	40W	2	6 Hr.
	CF-16 CE Lab	Tubelight	40W	7	6 Hr.
	CF-17 Lab	Tubelight	40W	4	6 Hr.
	CF-18 Lab	Tubelight	40W	4	6 Hr.
	CF-19 TR	Tubelight	40W	2	6 Hr.
	Gallery	Tubelight	40W	15	6 Hr.
C-Level-4 Second Floor	CS-01 Seminar Hall	LED	20W	20	4 Hr.
	CS-02 TR	Tubelight	40W	4	6 Hr.
	CS-03 CR	Tubelight	40W	8	6 Hr.
	CS-04 CR	Tubelight	40W	12	6 Hr.
	CS-05 CR	Tubelight	40W	11	6 Hr.
	CS-08 CR	Tubelight	40W	12	6 Hr.
	CS-09 CR	Tubelight	40W	12	6 Hr.
	CS-10 TR	Tubelight	40W	4	6 Hr.
	CS-11 TR	Tubelight	40W	2	6 Hr.
	CS-12 CP Lab	Tubelight	40W	16	6 Hr.
	CS-13 TR	Tubelight	40W	4	6 Hr.
	CS-14 TR	Tubelight	40W	4	6 Hr.
	CS-15 Staff Room	Tubelight	40W	4	6 Hr.
	CS-16 Staff Room	Tubelight	40W	4	6 Hr.
	CS-17 Drawing Hall	Tubelight	40W	12	6 Hr.
	CS-18 CR	Tubelight	40W	12	6 Hr.
	CS-21 CP Lab	LED	20W	20	6 Hr.
	CS-22 CP Lab	Tubelight	40W	16	6 Hr.
	CS-23 CP Lab	Tubelight	40W	16	6 Hr.
	CS-24 TR	Tubelight	40W	4	6 Hr.
	Gallery	Tubelight	40W	15	6 Hr.
C-Level-5 Third Floor	CT-01 Seminar Hall	LED	20W	20	4 Hr.
	CT-02 Adjoing Room	Tubelight	40W	4	4 Hr.
	CT-03 CP Lab	Tubelight	40W	6	6 Hr.
	CT-04 CR	Tubelight	40W	6	6 Hr.
	CT-05 CR	Tubelight	40W	4	6 Hr.
	CT-07 CR	Tubelight	40W	6	6 Hr.
	CT-08 CR	Tubelight	40W	5	6 Hr.
	CT-09 CP Lab	Tubelight	40W	6	6 Hr.
	CT-10 HoD IT	Tubelight	40W	2	6 Hr.
	CT-11 CR	Tubelight	40W	8	6 Hr.
	CT-12 CR	Tubelight	40W	10	6 Hr.
	CT-13 CR	Tubelight	40W	10	6 Hr.
	CT-15 CR Staff Room IT	Tubelight	40W	11	6 Hr.

	CT-18 CR CP Lab	LED	20W	24	6 Hr.
	CT-19 Staff Room	Tubelight	40W	9	6 Hr.
	CT-20 Chemistry Lab	Tubelight	40W	10	6 Hr.
	CT-21 Stationary Store	Tubelight	40W	2	6 Hr.
	Gallery	Tubelight	40W	15	6 Hr.
Central Library	Central Library	Tubelight	40W	4	6 Hr.
		LED	20W	258	6 Hr.
D Block Ground Floor	Admission Room DG-02	LED	20W	15	6 Hr.
	Lab DG-04	LED	20W	34	6 Hr.
	Lab DG-03	LED	20W	34	6 Hr.
	Open Ground Lobby	LED	20W	32	6 Hr.
	Lab DG-06	LED	20W	33	6 Hr.
	Auditorium	LED Tubelight Hallogen	20W 40W 1000W	58 16 27	3 Hr.
	Guard Room DG-01	Tubelight	40W	1	6 Hr.
D Block First Floor	Open Lobby first Floor	LED	20W	22	6 Hr.
	Confrence Room DF-04	LED	20W	24	3 Hr.
	DF-03 LT	LED	20W	12	6 Hr.
	DF-08 CP LAB	LED	20W	16	6 Hr.
	JIC	LED	20W	30	6 Hr.
	Washroom	LED	20W	8	6 Hr.
	DF-06, Lab	LED	20W	24	6 Hr.
	DF-05, Lab	LED	20W	24	6 Hr.
	DF-07, Seminar Room	LED	20W	6	4 Hr.
D Block Second Floor	Lobby Second Floor	LED	20W	24	6 Hr.
	DS-06, Lab	LED	20W	9	6 Hr.
	DS-10, Library	LED	20W	4	6 Hr.
	DS-09, Lab	LED	20W	6	6 Hr.
	DS-08, Lab	LED	20W	24	6 Hr.
	DS-05, LT	LED	20W	12	6 Hr.
	DS-03, LT	LED	20W	12	6 Hr.
	DS-01, LT	LED	20W	12	6 Hr.
	DS-12, Staff Room	LED	20W	19	6 Hr.
	DS-11, CP Lab	LED	20W	16	6 Hr.
D Block Third Floor	Lobby Third Floor	LED	20W	25	6 Hr.
	DT-05, LT	LED	20W	12	6 Hr.
	DT-03, LT	LED	20W	12	6 Hr.
	DT-01, LT	LED	20W	12	6 Hr.
	Common Room Boys-1	LED	20W	15	6 Hr.
	DT-09, CP Lab	LED	20W	16	6 Hr.

	Common Room Boys-2	LED	20W	12	6 Hr.
	Washroom	LED	20W	8	6 Hr.
	Mechanical Staff Room	LED	20W	4	6 Hr.
	Room	LED	20W	9	6 Hr.
	DT-07, CP Lab	LED	20W	24	6 Hr.
E Block	SDO office	LED	20W	16	6 Hr.
	Meeting Room	LED	20W	3	6 Hr.
	Pranshu Sharma	LED	20W	10	6 Hr.
	Priyanka Shukla	LED	20W	6	6 Hr.
	Jatin and Vipul	LED	20W	8	6 Hr.
	Meeting Room	LED	20W	6	6 Hr.
	Sonia Madam	LED	20W	6	6 Hr.
	Student Meeting Room-1	LED	20W	8	6 Hr.
	Student Meeting Room-2	LED	20W	6	6 Hr.
	Gallery-1	LED	20W	13	6 Hr.
	Gallery-2	LED	20W	13	6 Hr.
	Dance Room	LED	20W	10	6 Hr.
	Music Room	LED	20W	10	6 Hr.
	Kitchen	LED	20W	2	6 Hr.
	Canteen Kitchen	Tubelight	40W	3	6 Hr.
	Canteen Area	LED	20W	13	6 Hr.
Boys Hostel-1	Students Room-76	Tubelight	40W	76	6 Hr.
	Office	Tubelight	40W	1	6 Hr.
	Rasoi	Tubelight	40W	9	6 Hr.
	Bathroom	Tubelight	40W	48	6 Hr.
	Gallery-6	Tubelight	40W	36	6 Hr.
Boys Hostel-2	Room-72	Tubelight	40W	144	6 Hr.
	Bathroom-68	Tubelight	40W	68	6 Hr.
	Office	Tubelight	40W	1	6 Hr.
	Gallery-4	Tubelight	40W	32	6 Hr.
	Dinning Hall	Tubelight	40W	12	6 Hr.
Girls Hostel	Student Rooms-55	Tubelight	40W	110	6 Hr.
	Bathroom-55	LED	20W	55	6 Hr.
	Guest Room	Tubelight	40W	2	6 Hr.
	Warden Room	Tubelight	40W	2	6 Hr.
	Dinning Hall	LED	20W	35	6 Hr.
	Common Room	LED	20W	24	6 Hr.
	Visitor Room	LED	20W	8	6 Hr.
	Gallery	Tubelight	40W	45	6 Hr.
	Room-3	Tubelight	40W	3	6 Hr.
	Kitchen	Tubelight	40W	6	6 Hr.

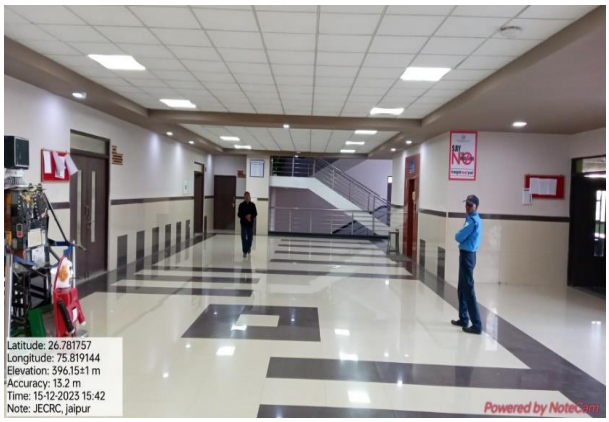
	Washing Room	Tubelight	40W	1	6 Hr.
	Store	Tubelight	40W	1	6 Hr.
	Store	Tubelight	40W	1	6 Hr.

Observation:

- It was observed that energy efficient LED lights along with some conventional lights such as fluorescent lights are present in the campus.
- The campus management has started replacing old conventional lights with energy efficient lights in phased manner.

Recommendation:

- Occupancy sensors can be installed in cabins and spaces where continuous lighting is not required.
- Sticker to SWITCH OFF LIGHT and SAVE ENERGY to be displayed.
- Regular cleaning of light fixtures to be done to get maximum lux level.



LED Lights

Chapter 04: Air Conditioning

Split, Window and Tower ACs are used in facility for air conditioning. Following is the list of ACs present in the campus:

Block	Room	Types of AC	Qty.	Capacity in Ton	Whether any Star rating Available	Set Temperature	Running Hours	Whether AC performance is Satisfactory (Yes/No)
A	Auditorium-1	Split	2	8T	3 Star	24	4 Hours	Split
	Auditorium-1	Split	1	4T	3 Star	24	4 Hours	Split
	CP-1, CP-2, CP-3, CP-4	Window	4	1.5T	3 Star	24	4 Hours	Window
	CP-1, CP-2, CP-3, CP-4	Split	4	1.5T	3 Star	24	4 Hours	Split
	Computer Center	Tower	8	4.5T	3 Star	24	4 Hours	Tower
	Registrar Office	Split	3	1.5T	3 Star	24	4 Hours	Split
	IQAC	Split	2	1.5T	3 Star	24	4 Hours	Split
	Waiting Room	Tower	2	2T	3 Star	24	4 Hours	Tower
	Board Room	Tower	2	2T	3 Star	24	4 Hours	Tower
	PA Room	Tower	1	2T	3 Star	24	4 Hours	Tower
	OP Sir	Tower	1	2T	3 Star	24	4 Hours	Tower
	Amit Sir	Tower	1	2T	3 Star	24	4 Hours	Tower
	Arpit Sir	Tower	1	2T	3 Star	24	4 Hours	Tower
	Staff Room 1, FF	Split	1	1.5T	3 Star	24	4 Hours	Split
	Staff Room 2, FF	Split	1	1.5T	3 Star	24	4 Hours	Split
	Staff Room 3, SF	Split	3	2T	3 Star	24	4 Hours	Split
	HR Room	Split	3	1.5T	3 Star	24	4 Hours	Split
	Accounts Office	Split	3	1.5T	3 Star	24	4 Hours	Split
	IBM Lab	Split	4	1.5T	3 Star	24	4 Hours	Split
	Bathroom-5	Window	2	1.5T	3 Star	24	4 Hours	Window
	OS Office	Split	1	1.5T	3 Star	24	4 Hours	Split
B Block Basement	BLG-02, HOD	Split	1	1.5T	3 Star	24	4 Hours	Split
	BLG-08, CP Lab	Window	2	1.5T	3 Star	24	4 Hours	Window
B Block	BG-02, Staff Room	Split	1	1.5T	3 Star	24	4 Hours	Split
	BG-09, CP Lab	Split	2	1.5T	3 Star	24	4 Hours	Split

Ground Floor	BG-17, Staff Room	Split	1	1.5T	3 Star	24	4 Hours	Split
	BG-18, HoD Room	Split	1	1.5T	3 Star	24	4 Hours	Split
	BG-20, Dispensary	Split	1	1.5T	3 Star	24	4 Hours	Split
B Block First Floor	BF-03, Lab	Window	1	1.5T	3 Star	24	4 Hours	Window
	BF-08, CP Lab	Window	2	1.5T	3 Star	24	4 Hours	Window
	BF-15, Staff Room	Split	2	1.5T	3 Star	24	4 Hours	Split
	BF-19, Staff Room	Window	1	1.5T	3 Star	24	4 Hours	Window
B Block Second Floor	BS-02, Staff Room	Window	1	1.5T	3 Star	24	4 Hours	Window
	BS-03, Staff Room	Window	1	1.5T	3 Star	24	4 Hours	Window
	BS-07, Exam Room	1 Split 1 Window	2	1.5T	3 Star	24	4 Hours	1 Split 1 Window
	BS-13, CP Lab	Window	2	1.5T	3 Star	24	4 Hours	Window
	BS-14, CP Lab	Window	2	1.5T	3 Star	24	4 Hours	Window
B Block Third Floor	BT-08, HoD Room	Split	1	1.5T	3 Star	24	4 Hours	Split
	BT-20, HOD Room	Split	1	1.5T	3 Star	24	4 Hours	Split
C-Level-2 Ground Floor	CG-02 VC Sir	Split	1	1.5T	3 Star	24	4 Hours	Split
	CG-03 Sr. Advisor	Split	1	1.5T	3 Star	24	4 Hours	Split
	CG-07 Staff Room	Split	4	1.5T	3 Star	24	4 Hours	Split
	CG-10 Placement	Split	5	1.5T	3 Star	24	4 Hours	Split
	CG-12 CP Lab	Window	2	1.5T	3 Star	24	4 Hours	Window
	CG-13 Staff Room	Split	3	1.5T	3 Star	24	4 Hours	Split
	CG-14 Chemistry Lab	Split	2	1.5T	3 Star	24	4 Hours	Split
	CG-15 Staff Room	Split	2	1.5T	3 Star	24	4 Hours	Split
	CG-19 Staff Room	Split	3	1.5T	3 Star	24	4 Hours	Split
	CG-20 Chemistry lab	Split	1	1.5T	3 Star	24	4 Hours	Split
C-Level-4 Second	CS-01 Seminar Hall	Split	4	2T	3 Star	24	4 Hours	Split
	CS-02 TR	Split	1	1T	3 Star	24	4 Hours	Split
	CS-12 CP Lab	Window	2	1.5T	3 Star	24	4 Hours	Window
	CS-15 Staff Room	Split	1	1.5T	3 Star	24	4 Hours	Split

Floor	CS-16 Staff Room	Split	1	1.5T	3 Star	24	4 Hours	Split
	CS-21 CP Lab	Window	2	1.5T	3 Star	24	4 Hours	Window
	CS-22 CP Lab	Window	2	1.5T	3 Star	24	4 Hours	Window
	CS-23 CP Lab	Window	1	1.5T	3 Star	24	4 Hours	Window
C-Level-5 Third Floor	CT-01 Seminar Hall	Split	4	2T	3 Star	24	4 Hours	Split
	CT-03 CP Lab	Split	2	1.5T	3 Star	24	4 Hours	Split
	CT-09 CP Lab	Split	2	1.5T	3 Star	24	4 Hours	Split
	CT-10 HoD IT	Split	1	1.5T	3 Star	24	4 Hours	Split
	CT-15 CR Staff Room IT	Split	3	1.5T	3 Star	24	4 Hours	Split
	CT-18 CR CP Lab	Split	2	2T	3 Star	24	4 Hours	Split
	CT-19 Staff Room	Split	3	1.5T	3 Star	24	4 Hours	Split
	CT-20 Chemistry Lab	Split	1	1.5T	3 Star	24	4 Hours	Split
Central Library	Central Library	Split	4	1.5T	3 Star	24	4 Hours	Split
		Tower	14	2T	3 Star	24	4 Hours	Tower
D Block Ground Floor	Admission Room DG-02	Split	4	1.5T	3 Star	24	4 Hours	Split
	Auditorium	Split	6	1.5T (3) 22T(2) 11T(1)	3 Star	24	4 Hours	Split
D Block First Floor	Confrence Room DF-04	Split	4	1.5T	3 Star	24	4 Hours	Split
	DF-03 LT	Split	1	1.5T	3 Star	24	4 Hours	Split
	DF-08 CP LAB	Split	4	1.5T	3 Star	24	4 Hours	Split
	JIC	Split	5	1.5T	3 Star	24	4 Hours	Split
	DF-06, Lab	Split	4	1.5T	3 Star	24	4 Hours	Split
	DF-07, Seminar Room	Split	1	1.5T	3 Star	24	4 Hours	Split
	DS-05, LT	Split	2	1.5T	3 Star	24	4 Hours	Split
	DS-03, LT	Split	2	1.5T	3 Star	24	4 Hours	Split
	DS-01, LT	Split	2	1.5T	3 Star	24	4 Hours	Split
	DS-12, Staff Room	Split	4	1.5T	3 Star	24	4 Hours	Split
	DS-11, CP Lab	Split	4	1.5T	3 Star	24	4 Hours	Split
D Block Third Floor	DT-05, LT	Split	2	1.5T	3 Star	24	4 Hours	Split
	DT-03, LT	Split	2	1.5T	3 Star	24	4 Hours	Split
	DT-01, LT	Split	2	1.5T	3 Star	24	4 Hours	Split
	Mechanical Staff	Split	2	1.5T	3 Star	24	4 Hours	Split

	Room							
E Block	SDO office	Split	2	1.5T	3 Star	24	4 Hours	Split
	Meeting Room	Split	2	1.5T	3 Star	24	4 Hours	Split
	Pranshu Sharma	Split	2	1.5T	3 Star	24	4 Hours	Split
	Priyanka Shukla	Split	1	1.5T	3 Star	24	4 Hours	Split
	Jatin and Vipul	Split	1	1.5T	3 Star	24	4 Hours	Split
	Meeting Room	Split	1	1.5T	3 Star	24	4 Hours	Split
	Sonia Madam	Split	1	1.5T	3 Star	24	4 Hours	Split
	Student Meeting Room-1	Split	1	1.5T	3 Star	24	4 Hours	Split
	Student Meeting Room-2	Split	1	1.5T	3 Star	24	4 Hours	Split
	Dance Room	Split	1	1.5T	3 Star	24	4 Hours	Split
	Music Room	Split	1	1.5T	3 Star	24	4 Hours	Split
	Canteen Area	Split	6	1.5T	3 Star	24	4 Hours	Split
Hostel -1	Office	Split	1	1.5T	3 Star	24	4 Hours	Split
Hostel -2	Office	Split	1	1.5T	3 Star	24	4 Hours	Split
Girls Hostel	Office	Split	1	1.5T	3 Star	24	4 Hours	Split
	Student Rooms-55	Split	55	1.5T	3 Star	24	4 Hours	Split
	Guest Room	Split	1	1.5T	3 Star	24	4 Hours	Split
	Warden Room	Split	1	1.5T	3 Star	24	4 Hours	Split
	Dinning Hall	Split	6	1.5T	3 Star	24	4 Hours	Split
	Common Room	Split	3	1.5T	3 Star	24	4 Hours	Split
	Visitor Room	Split	1	1.5T	3 Star	24	4 Hours	Split
	Room-3	Split	3	1.5T	3 Star	24	4 Hours	Split

Observation:

- The facility is equipped with split, tower and window air conditioners, all of which are rated with a 3-star energy efficiency rating. This ensures optimal cooling performance while minimizing energy consumption.
- All air conditioners are in proper working condition and have been well-maintained, ensuring efficient performance and reliable operation throughout the facility.
- Periodic servicing and thorough cleaning of air conditioner filters are regularly conducted to maintain optimal performance, improve air quality, and enhance energy efficiency.

Recommendation:

- All doors should be kept closed while the air conditioners are in use to ensure optimal cooling efficiency. Additionally, an annual service for the air conditioners should be conducted regularly to maintain their performance and longevity.

- The air conditioner temperature should be set and maintained at 26°C to optimize energy efficiency while ensuring a comfortable indoor environment.

- A reduction of just 1°C in the set temperature can lead to a 5% decrease in energy costs. By strategically adjusting the temperature settings according to seasonal requirements and specific area needs, significant savings on power consumption can be achieved, contributing to overall energy efficiency.

- In the future, when air conditioners need to be replaced, BEE 5-star rated air conditioners shall be considered, as they are highly energy-efficient and will further contribute to reducing energy consumption and operational costs.

- The use of AC energy savers can be considered for air conditioners that operate for more than 10 hours, as these devices help optimize energy consumption and improve overall efficiency during extended usage.

Split Air Conditioners

Window Air Conditioners

Chapter 05: Pumps and Motors

Pump is generally used for pumping of ground water to the water tank. The details of the pumps are given below:

Name of Pump and make	Running Hours	Rated Capacity in KW	RPM
Submersible Pump	18 Hr / Day	5 HP	-
Submersible Pump	12 Hr / Day	5 HP	-
Water Pump	15 Hr / Day	5 HP	-
Water Pump	07Hr / Day	3 HP	-
MUD Pump (12 Nos.)	-	10 HP	2700

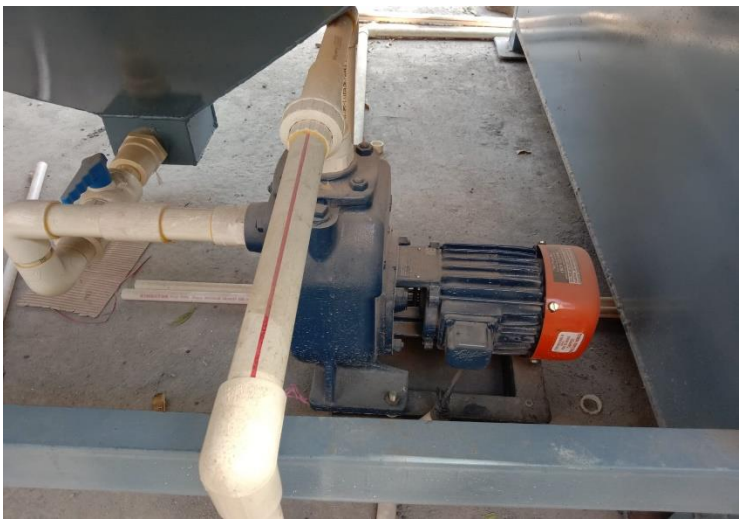
Observation:

- The condition of the pumps is satisfactory, and they are being well-maintained to ensure reliable and efficient operation when needed.

Recommendation:

- Proper maintenance and regular upkeep of pumps, motors, and associated panels should be carried out to ensure optimal performance, longevity, and reliability of the equipment.

- The management should consider replacing the old pumps with energy-efficient, 5-star rated pumps to enhance operational efficiency and reduce energy consumption, contributing to long-term cost savings and sustainability.



Conclusion

The energy audit performed at Jaipur Engineering College and Research Centre showcased commendable efforts towards sustainability within the college. The replacement of conventional lights with energy-efficient LED alternatives marks a significant stride in reducing energy consumption. Additionally, the integration of a fully functional solar water heater system underscores the commitment to renewable energy sources.

Despite these advancements, there remains untapped potential for further enhancing energy efficiency. The audit report likely contains specific recommendations aimed at maximizing sustainability efforts. Implementing these suggestions could significantly bolster the college's energy-saving initiatives, continuing the positive trajectory towards a more environmentally conscious campus.

End of Report

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