



ENERGYAUDIT REPORT 2020-2021

Internal Quality Assurance Cell (IQAC)



**AL SHIFA COLLEGE OF
ARTS & SCIENCE**

(Run by Shifa Medicare Trust & Affiliated to University of Calicut)

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Preface

Set against a serene, rural backdrop, Al Shifa College of Arts and Science aspires to rewrite the teaching learning practices at the Undergraduate and Graduate and Research levels and establish a line of programmes aimed at tackling the intellectual demands and career needs of the emerging world. Al Shifa College of Arts & Science will introduce game changing programmes which will be genuinely contemporary and internationally sought after; Al Shifa means to sculpt minds which are capable of choosing Their futures through autonomously thinking their thoughts. Our content delivery, interaction and engagement with the students will be towards building a relationship that empowers the young to know one self and to know the world. Our effort to upskill them and to be career ready and life ready, will certainly complement it. Al Shifa College of Arts and Science will involve, engage and empower the young as they are the Future- for the homes and the world! Al Shifa College of Arts and Science is an unaided Arts and Science College affiliated to the University of Calicut started in 2020. In the current scenario where energy consumption exceeds the supply, it is the social responsibility of an institution to optimize the use of energy to avoid any wastage. This necessitates the conduct of an energy audit. The Energy Audit is conducted periodically to assess the energy consumption pattern and the energy conservation measures adopted by the institution during each academic year. The Audit also aims at educating the youth about the need to work towards sustainable energy production and consumption practices. Data collection for the energy audit was done by a team of experts from 1 June 2020 to 31 March 2021. The audit targets to employ energy efficient appliances substituting the high energy consuming ones.

The data collected, covered the whole campus in which Al Shifa College of Arts and Science functions, including classrooms, Seminar Hall, Library, Computer Lab, and the Media Room. The audit considered the number of electronic equipment in each classroom and its energy usage. High energy consuming appliances were identified and suggestions were provided to substitute those with energy efficient ones.

The audit aimed at optimal use of available resources. Inefficiencies in the use of energy were assessed to take corrective measures.

Introduction

Each source of energy is important to each nation. They have a huge role to play in sustaining the country's economy and sustainable development. Colleges have a huge role to play in energy conservation and raising awareness among the next generation about the need for energy conservation. In addition to reducing power consumption, it is the duty of the next generation to conserve conventional energy sources. To create an awareness among students about the conservation of energy sources, it is imperative in the new era to increase the use of conventional energy sources in colleges.

Energy conservation and energy saving are essential for maintaining the sustainability of our environment. It is the responsibility of every higher educational institution to maintain these energy sustainability and energy conservation. With the view to implement energy conservation measures in the campus, Al Shifa College of Arts and Science conducted an energy survey and prepared a report based on the survey.

The objective of the audit was to study the energy consumption pattern of the facility, identify the areas where potential for energy saving exists and prepare proposals for energy saving.

Objectives

- To study the present pattern of Energy Consumption.
- To identify potential areas for energy optimization.
- To make necessary recommendations to reduce electric energy usage

Data Collection

All required data was collected by a team of experts. Data were collected on the number of fans, tubes, computers and other electronic devices in each room. According to survey the following data were collected.

Table No: 1

Energy Audit 2020-21

Total Power Requirement of Various Equipment's

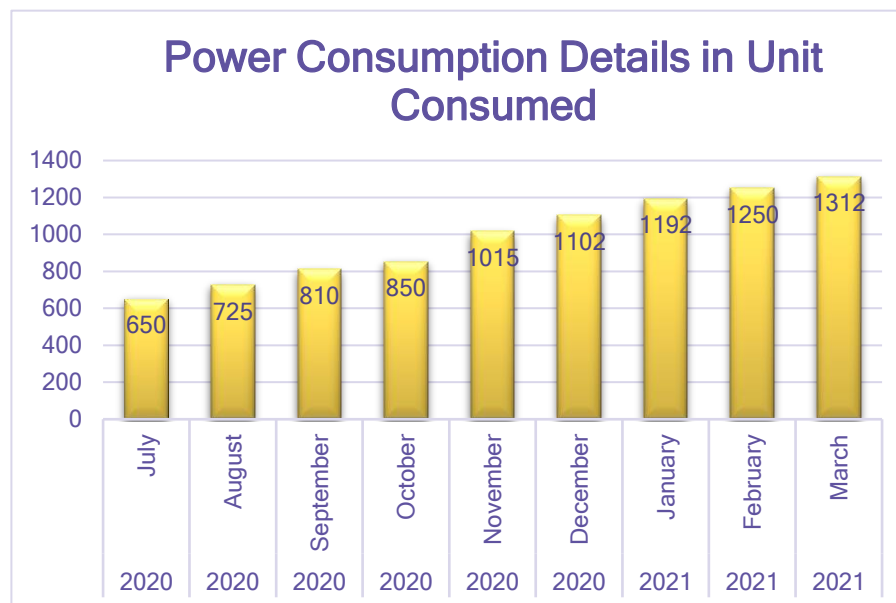
Department	fan	LED Tube Light	CFL Tube light	Computer	Scanner & Printer	Projector	CCTV	Video Camera	A/C	Electric Bell	Punching Machine
Principals Room	1	2	2	2	1						
Office	2	2	2	1	1						
Faculty Room	4	1	1	1							
Class Rooms	14	8	4			4					
Computer Lab	4		5	23							
Library	4		2	1							
Media Room			3	1				1	1		
Seminar Hall	4	3	2			1					
Washroom Boys											
Washroom Girls			1								
Passage			11				11			1	1
Total Quantity	33	16	33	29	2	5	11	1	1	1	1
Total Power Consume in '1' hours (Watt)	1.98	.32	0.99	4.35	.12	1.4	0.165	0.05	1.2	0.05	0.012
Total Power Consume in '5' hours(Watt)	9.9	1.6	4.95	21.75	0.6	7	0.825	0.25	6	0.25	0.06
consumption in month(Watt)	218	35.2	109	378	6	92.4	118.8	2.5	52.8	1.2	.26

Table No: 2 Power Consumption in Units 2020-2021

SI No	Year	Month	Unit Consumed
1	2020	July	650
2	2020	August	725
3	2020	September	810
4	2020	October	850
5	2020	November	1015
6	2020	December	1102
7	2021	January	1192
8	2021	February	1250
9	2021	March	1312

Source: Electricity Bill, Kerala State Electricity Board

Chart No: 1 Power Consumption in Units 2020-2021



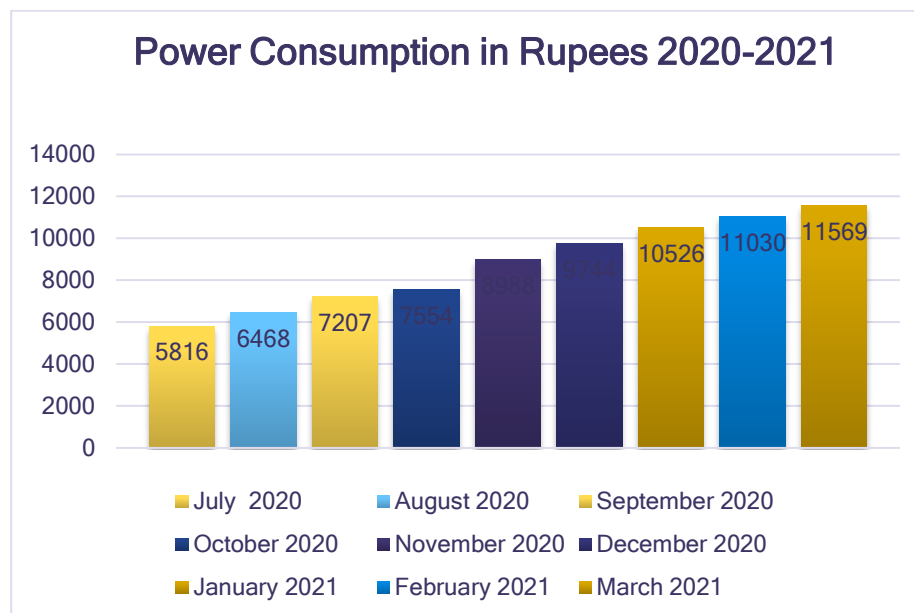
Source: Electricity Bill, Kerala State Electricity Board

Table No: 3 Power Consumption in Rupees 2020-2021

SI No	Month	Year	Amount/Rs
1	July	2020	5816
2	August	2020	6468
3	September	2020	7207
4	October	2020	7554
5	November	2020	8988
6	December	2020	9744
7	January	2021	10526
8	February	2021	11030
9	March	2021	11569

Source: Electricity Bill, Kerala State Electricity Board

Chart No: 2 Power Consumption in Rupees 2020-2021



Source: Electricity Bill, Kerala State Electricity Board

Result Analysis and Discussion

- The table No 1 shows that the monthly power consumption of computers and fans are the highest.
- Punching machine consumes less energy every month.
- Due to the pandemic situation classes are online mostly, so the use of fans and projectors are comparatively less.
- All classrooms are fully equipped with ICT and all teachers make the most of ICT facilities.
- College promotes the use of LED bulbs that reduces the consumption of electric energy.
- College has a fully equipped media room to record video lessons for flipped classes. Considering the safety of electronic equipment, the media room is airconditioned.
- College is completely under CCTV Surveillance, as a part of safety and security. There are 11 surveillance cameras in the College premises.
- Table No 2&3 shows that the electricity consumption increased during the month of January, February and March as offline classes were in progress during this period.

Recommendations and Suggestions

- Substitute all CFL Tube lights with LED Bulbs, to as to save power
- Install solar power energy for reducing electric energy
- Install battery saver in computer lab
- Conduct inspection at regular intervals to check the usage of energy.
- Conduct audit in periodic intervals.

Conclusion

The energy audit is an assessment of the prevailing energy consumption patterns of the institution. This energy audit helped to assess the efficiency of power consumption in the institution and helped to suggest corrective measures to rectify the same. Energy audits if conducted periodically increases the scope of improvement in economic and environments aspects of power consumption.