

# SHRAMDAN

2017-2018



Expansion of Road



Used Water Management



Used Water Management



Drainage Cleaning



Cleaning of Temple Campus



Collage Campus Cleaning



Tree Plantation



Tree Plantation



Shrikrishna Shikshan Sanstha's

# Shrikrishna Mahavidyalaya, Gunjoti

Gunjoti Tq. Omerga Dist. Osmanabad

## Energy Audit Report 2020-21



Submitted by

**KEDAR KHAMITKAR & ASSOCIATES**

Energy Auditor & Planner Empanelled Mahaurja

Latur – Maharashtra M: 9850244701

# ❖ Energy Audit Certificate ❖

This is to certify that  
M/s Shrikrishna Mahavidyalaya, Gunjoti  
Institutional Building Located at  
Gunjoti Tq. Omerga Dist. Osmanabad

The Institution has implemented energy conservation measures

- Percentage of lighting power requirement Met @28% through LED bulbs.
- EC Policy : Efficient use of Energy & Resources.

Name of Energy Auditor : **KEDAR KHAMITKAR**  
Certified by BEE (Bureau of Energy Efficiency)  
Ministry of Power, Govt. of India

Registration No : EA - 8287

Issued Date : 21/09/2021  
Place : Gunjoti



*Kedar*

**Kedar Khamitkar**  
Energy Auditor  
Certified by BEE,  
Ministry of Power, Govt. of India



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## प्रतिज्ञा

हम सत्यनिष्ठा से प्रतिज्ञा करते हैं कि अपने सभी कार्यों में पेट्रोलियम उत्पादों के संरक्षण हेतु सतत प्रयासरत रहेंगे, ताकि देश की प्रगति के लिए आवश्यक इन सीमित संसाधनों की आपूर्ति अधिक समय तक सम्भव हो सके। आदर्श नागरिक होने के नाते हम लोगों को पेट्रोलियम पदार्थों के व्यर्थ उपयोग से बचने तथा पर्यावरण संरक्षण हेतु स्वच्छ ईंधन का प्रयोग करने के लिए जागरूक करेंगे।

## **Acknowledgement:**

We express our sincere gratitude to the authorities of Shrikrishna Mahavidyalaya, Gunjoti for entrusting and offering the opportunity of energy performance assessment assignment.

We are thankful to Principal & Office Staff for their positive support in undertaking the task of system mapping and energy efficiency assessment of all electrical system, utilities and other workshop equipment. The field studies would not have been completed on time without their interaction and guidance. We are grateful to their cooperation during field studies and providing necessary data for the study.



A handwritten signature in blue ink, appearing to read "Kedar", with a horizontal line underneath.

**Kedar Khamitkar**

**Energy Auditor**

Certified by Bureau of Energy Efficiency, Ministry of Power, GOI  
Empanelled Consultant MAHAURJA , Gov. of Maharashtra Institution

## Introduction:

Shrikrishna Shikshan Sanstha has started the Shrikrishna Mahavidyalaya, Gunjoti in June 1991 with two streams i.e. Arts & Science at UG and PG level affiliated to Dr. Babasaheb Ambedkar Marathwada University, Aurangabad and working with a motto "Education for Deprived" i.e., especially for students below the poverty line and girls of this region who cannot go for higher education in urban areas.

This college is one of the well-known colleges in the University situated in a rural area and a remote place from the University.



College is reaccredited by NAAC B Grade and A grade in the academic audit by the university and promotes quality higher education in the rural area, basically for girl students. The college has 26 young qualified regular faculty members and 16

contractual faculties and 16 non-teaching staff. The college runs a “Network Resource Centre” in collaboration with UGC. **Shrikrishna Mahavidyalaya, Gunjoti**

College is permanently affiliated with Dr.B.A.M.U. Aurangabad, included under 2(f) - 12(B) of the University Grants Commission, possesses well physical and academic facilities.



The college is well-equipped with laboratories for research for six subjects with computerization of the Library and Office including a website where each and every piece of information related to the college is displayed. Research facilities B. VOC courses, YCMOU STUDY CENTER, PMKVY skill center, and indoor sports complex are also run by the college to keep the pace with changing patterns in higher education.



## Scope of Work, Methodology and Approach:

Scope of work and methodology were as per the proposal .While undertaking data Collection, field trials and their analysis, due care was always taken to avoid abnormal situations so as to generate normal/representative pattern of energy consumption at the facility.

## Approach to Energy Audit:

We focused our attention on energy management and optimization of energy efficiency of the systems, sub systems and equipment's. The key to such performance evaluation lies in the Sound knowledge of performance of equipment's and system as a whole.

## Energy Audit:

The objective of Energy Audit is to balance the total energy inputs with its use and to identify the energy conservation opportunities in the stream. Energy Audit also gives focused Attention to energy cost and cost involved in achieving higher performance with technical and financial analysis. The best alternative is selected on financial analysis basis.





## Chapter: 1 **Executive Summary**

<b>SN</b>	<b>Recommendation</b>	<b>Saving (KWH/Year)</b>	<b>Investment (Rupees)</b>	<b>Payback</b>	<b>Remark</b>
1	Replacing 98 nos. Inefficient Fan (75W) with 5 star energy saving Fan or BLDC fan (28W)	11800	2.25 Laks	4.5 yrs.	<b>Long Term</b>
2	<b>Install Solar Power Plant</b> 10 KW	@51000	3.50 Lakh	6	<b>Long Term</b>
3	<b>Awareness Project</b> Conduct Training Program	@10%	NA	NA	<b>No Investment</b>

## Specific Energy Consumption (SEC)

a) Specific Energy Consumption: SEC is defined as energy usage per Square meter of area. It is calculated total electrical kWh/total area of the campus. By calculating SEC, we can crudely target the factors of energy efficiency or inefficiency

The Specific Energy Consumption (SEC) is the ratio of energy required per square meter.

Total Electricity Consumption 9501 kWh /Year

(For July 20- June 21)

Total Built-up Area = 6155 Sq. Meter

In this case the SEC is evaluated as electrical units consumed per square meter of area.

It is calculated as under for (Electricity): 1.54 kWh/Sq. Meter

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### Percentage of lighting power requirement met through LED bulbs

Percentage of lighting power requirement met through LED bulbs

= (Lighting power requirement met through LED bulbs / Total lighting power requirement) X 100

= (1.3/4.55) X 100

= 28 %

# Chapter: 2 **Energy Audit Methodology**

Energy Audit Study is divided into following steps

## **1. Historical data analysis:**

The historical data analysis involves establishment of energy consumption pattern to the established base line data on energy consumption and its variation with change in production volumes.

## **2. Actual measurement and data analysis:**

This step involves actual site measurement and field trials using various portable Measurement instruments. It also involves input to output analysis to establish actual operating Equipment efficiency and finding out losses in the system.

## **3. Identification and evaluation of Energy Conservation Opportunities:**

This step involves evaluation of energy conservation opportunities identified during the energy audit. It gives potential of energy saving and investment required to implement the Proposed modifications with payback period.

## **4. Energy Audit Instruments used**

- a) Power Quality Analyser **HIOKI - 3197**
- b) Lux Meter **MECo**
- c) Thermometer
- d) Wattmeter **MECo**

# Chapter: 3 Study of Electrical System

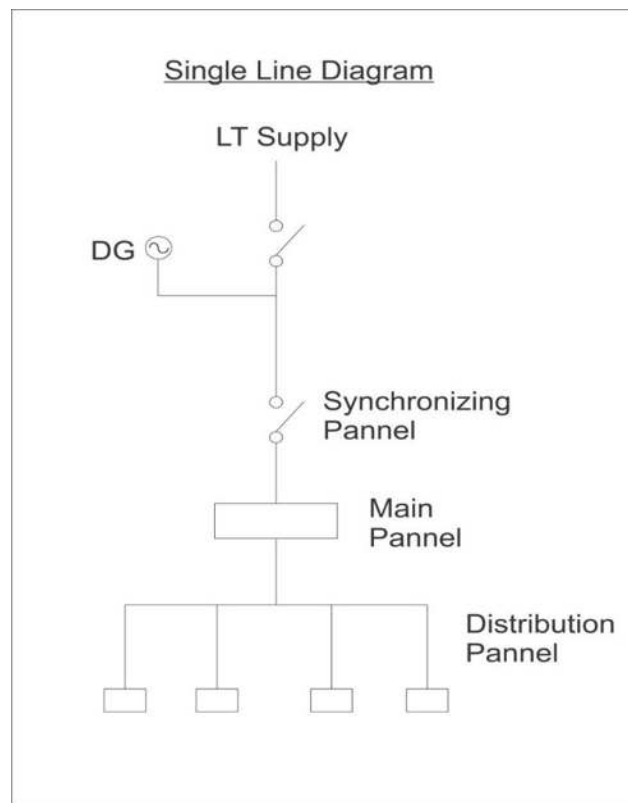
Source of Energy:

**Source 1:** Shrikrishna Mahavidyalaya, Gunjoti receives Electricity from MSEDCL: Maharashtra State Electricity Distribution Company Limited

**Source 2:** Diesel Generator Capacity 1 KVA

**Table No 3.1:** Meter Details:

	<b>Consumer No.</b>	<b>597560004997</b>
<b>Details of Electricity Demand</b>	<b>Tariff</b>	<b>073 /LT VII(B) Public Service 0-20KW Oth</b>
<b>Sanctioned Load</b>	<b>10.5</b>	<b>KW</b>



## Details of Connected Load:

Following are the major consumers of electricity in the facility:

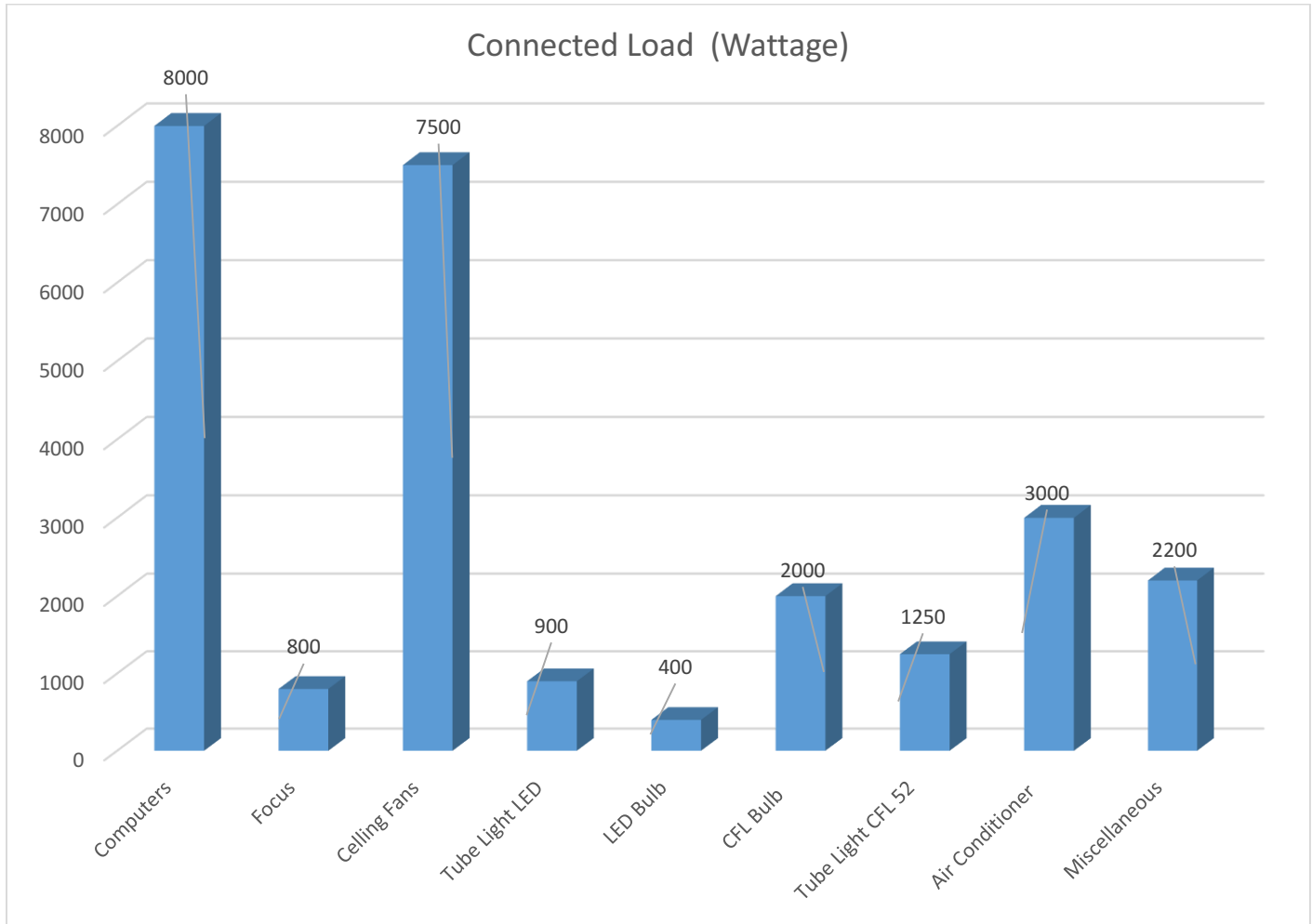
<b>Sr.</b>	<b>Appliance Name</b>	<b>Qty.</b>	<b>watt</b>	<b>Total Wattage</b>
1	Computers	40	200	8000
2	Focus	8	100	800
3	Celling Fans	100	75	7500
4	Tube Light LED	50	18	900
6	LED Bulb	40	10	400
7	CFL Bulb	100	20	2000
8	Tube Light CFL 52	50	52	1250
9	Air Conditioner	2	1500	3000
10	Miscellaneous			2200

# Chapter: 4 Historical Data Analysis

## Graphical View:

Electricity Connected load details.

Maximum Computer System: 8 KW Minimum load LED: 0.4 KW



**Observations:** Connected load of Inefficient Fans 7.35 KW

**Suggestion: Fan System** Load can be reduced by installation of BLDC Fan system.

**To reduce Lighting System load CFL bulb & Tube Light can be replaced with LED efficient Lighting System.**

# Mahavitrans Electricity Consumption History

Month	Consumption (Units)
Jul-20	2,501
Aug-20	484
Sep-20	104
Oct-20	202
Nov-20	536
Dec-20	1,286
Jan-21	647
Feb-21	800
Mar-21	741
Apr-21	929
May-21	995
Jun-21	276

# Chapter: 5 Performance Evaluation

## STUDY OF ACTUAL MEASUREMENT AND ITS ANALYSIS

### a) Fan system :

Total number of fans used in the campus = 98 Nos.

- Number of fans to be replace = 98 Nos.
- The Total Current Consumption =18800 kWh
- The Expected fan Consumption =7000 kWh
- Total KWh saved per year = 11800 kWh

**Suggestions:** Replace existing Inefficient Fan System (75W) with Five Star BLDC (28W)





## b) Lighting system:



**Observations: Existing Condition Tube & Bulbs are installed without reflectors.**

Average Lux level 100 found which is very Low.

**Suggestions:** In areas where we do tasks like reading, it is recommended to increase the LUX to 300.

Office task	Required luminance level (lux)
Filing, copying, circulation	300
Writing, typing, reading	500
Technical drawing	750
CAD workstation	500
Conference & meeting rooms	500
Reception desk	300
Archives	200

## Chapter: 6 **General Recommendations**

### **Conduct Training program for Staff & Students**

### **Display the stickers of save electricity**

All Class Rooms and labs to have Display Messages regarding optimum use of electrical appliances in the room like, lights, fans, computers and projectors. Save electricity.

1. There has to be Institute level student community that keeps track of the energy consumption Parameters of the various departments, class rooms, halls, areas, meters, etc.

2. Energy auditing inside the campus has to be done on a regular basis and report should be made public to generate awareness.

3. Need to create energy efficiency/ renewable energy awareness among the college campus i.e. solar, wind, Biogas energy. College should take initiative to arrange seminars, lectures, paper presentation competition among students and staff for general awareness.

⊙ Most of the time, all the tube lights in a class room are kept ON, even though, there is sufficient light level near the window opening. In such cases, the light row near the window may be kept OFF.

⊙ All projectors to be kept OFF or in idle mode if there will be no presentation slides.

⊙ All computers to have power saving settings to turn off monitors and hard discs, say after 10 minutes/30 minutes.



# ENCON Measures: Awareness Project

## 'Save Water Program'



Institute has been organised Training & Awareness Program on Water Conservation for College Staff & Students.

Institutional Training Program On Water Conservation

## Media Report

लोकमत

### ज्ञानराज चौगुले : श्रीकृष्ण महाविद्यालयाच्या राष्ट्रीय सेवा योजना शिबिरास मुरळी येथे प्रारंभ पाण्याच्या प्रत्येक थेंबाचे व्यवस्थापन व्हावे...

लोकमत न्यूज नेटवर्क

गुंजोटी : पाण्याच्या प्रत्येक थेंबाचे योग्य व्यवस्थापन केल्यास पाण्याची कमतरता भासणार नाही, असे मत उमरगा-लोहाराचे आमदार ज्ञानराज चौगुले यांनी व्यक्त केले.

गुंजोटी येथील श्रीकृष्ण महाविद्यालयाच्या राष्ट्रीय सेवा योजनेचे मुरळी येथे आयोजित 'स्वच्छ ग्राम व जलसंवर्धन' या विशेष शिबिराचे उद्घाटन आमदार चौगुले यांच्या हस्ते मंगळवारी करण्यात आले. यावेळी ते बोलत होते. यावेळी श्रीकृष्ण शिक्षण संस्थेचे सचिव डॉ. दामोदर पतंगे अध्यक्षस्थानी होते. दामोदर पतंगे अध्यक्षस्थानी होते. संस्था उपाध्यक्ष प्रभाकरराव हिरवे,

संचालक राजशेखर माळगे, मुरळी गावचे सरपंच शमशोहीन जमादार, उपसरपंच आनंद सुर्यवंशी, तंटामुक्त अध्यक्ष पटेल राशीदखॉ, शालेय समितीचे अध्यक्ष भरत देडे, उपाध्यक्ष पटेल इब्रान, प्राचार्य डॉ. दिलीप कुलकर्णी, ग्रामपंचायत सदस्या नयनाबाई कांबळे, सोनाबाई विराजदार, बानुवी मोजनीदार, तानाबाई सरवदे, चिनोद विराजदार, कार्यक्रमाधिकारी डॉ. रमेश पात्रे, प्रा. रामदास कोळी यांची प्रमुख उपस्थिती होती.

आमदार चौगुले म्हणाले, घराचे नवीन बांधकाम करताना पावसाच्या पाण्याच्या साठवणकरिता योग्य नियोजन करावे. तसेच राष्ट्रीय सेवा



गुंजोटी येथील श्रीकृष्ण महाविद्यालयाच्या वतीने आयोजित शिबिराच्या उद्घाटन प्रसंगी बोलताना आ. ज्ञानराज चौगुले. व्यासपीठावर मान्यवर विसत आहेत.

योजना आणि उन्नत भारत अभियान यांच्यामार्फत गावात ग्रामस्थांनी बंधारे, ग्राम स्वच्छता होण्यास सहकार्य करावे असे आवाहन केले.

याप्रसंगी डॉ. दामोदर पतंगे, सरपंच शमशोहीन जमादार यांचीही भाषणे झाली. प्रास्ताविक प्राचार्य डॉ.

डी. आर. कुलकर्णी यांनी केले. सकाळी योग, प्राणायाम व कवायती, शोषखड्डे ग्रामस्वच्छता मोहीम, वृक्षारोपण, जलसंधारणाची कामे, रक्तदान, महिलांची हिमोग्लोबिन तपासणी, उन्नत भारत अभियानतर्फे सर्वेक्षण व जागृती, सेंद्रिय शंती

काळाची गरज, आपती व्यवस्थापन आदी उपक्रम २९ तारखेपर्यंत चालणार आहेत. या सर्व उपक्रमात मुरळीचे ग्रामस्थ सहभागी होणार आहेत. प्रा. राजेंद्र निगडे यांनी सूत्रसंचालन केले. डॉ. आर. डी. पात्रे यांनी आभार मानले.



# Shrikrishna Mahavidyalaya, Gunjoti

श्रीकृष्ण महाविद्यालय, गुंजोटी, ता.उमरगा, जि.उस्मानाबाद. ४१३६०६  
 Tq. Omerga, Dist. Osmanabad (M.S.) 413606 ☎ / Fax - 02475-250091

E-mail : skmg1991@yahoo.co.in, Website : www.skmg.in ☎ 9421486384

Principal - Dr.D.R. Kulkarni

Ref. No. SKMG / /

Date : / /20

## 7.1.3 Waste Management Report

Pollution from waste is unpleasant and results in large amount of litters. Waste may cause several health problems that can be categorized as biodegradable, non biodegradable and hazard waste. Biodegradable waste includes food waste, waste from toilets etc. Non-biodegradable waste includes plastic, glass, bottles etc. and hazard waste is cleaning chemical and laboratory chemical products.

Each and every department of the college creates some waste and dumps in dust bins available in the department. The biodegradable wastes are converted to fertilizer by composting inside the campus. Liquid waste generated from laboratories is Sewage waste and laboratory effluent types.

E-waste generated from computer lab, academic and administrative offices includes lab instruments, desktop, laptop, UPS, sound system, wifi devices, network cable etc. These wastes are put to optimal use and they are stored in a place for disposal.

Notebooks and papers used for different purposes are sent for recycling. Every bit of paper is utilized to save trees by all the departments for academic and office work. Non degradable waste are also collected and are disposed to the Gram-panchayat. Sweepers are allotted to each room, to manage all the waste generated at the college campus. Waste audit is done during the year.

### Solid Waste

Sr. No.	Department	No of Bins
1.	Physics Laboratory	01
2.	Computer Science Laboratory	01
3.	Chemistry Laboratory	01
4.	Ladies room	01
5.	Geography Laboratory	01
6.	Library	01
7.	Zoology Laboratory	01
8.	Botany Laboratory	01
9.	Office	01

10.	Other place	01
11.	Indoor sports hall	01
12.	Mathematics Department	01
13.	Seminar Hall	01
14.	All Classrooms	Each 01

**Liquid waste**

Laboratories	Liter/Week
Chemistry	08 kg/week
Zoology	4kg/week
Botany	3kg/week

**E-Waste**

Sr. No.	Material / Item	Quantity
1.	CPU	05
2.	Monitor	05
3.	Printer	03
4.	Keyboard	06
5.	Harddisk	03
6.	Stabilizer	02
7.	Battery	04
8.	Scanner	01
9.	Mouse	07
10.	OHP	01
11.	RAM	02

  
 IQAC Coordinator  
**Co-Ordinator**  
 Internal Quality Assurance Cell  
 S.K.M. Gunjoti - 413 613  
 Dist. Osmanabad (M.S.)

  
 Principal  
**PRINCIPAL**  
 SHRIKRISHNA MAHAVIDYALAYA  
 GUNJOTI. DIST OSMANABAD (M.S.)

