



Criteria: 7	Institutional Values and Best Practices
Key Indicator: 7.1	Institutional Values and Social responsibility
7.1.3	Summary

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Criterion 7: Institutional Values & Best Practices

7.1.3 Green Audit/Environmental Audit Report



Ref: 0941/07/2022

Date:-23/06/2022


CERTIFICATE

This is to certify that " Abhalmaya Foundation" has conducted green audit at "Dr. Shivajirao Kadam College of Pharmacy , Digraj" in the academic year 2021-22 . The Green audit involves initiatives, planning, efforts, activities implemented in the college campus like environmental promotional activities, water and waste water management, rain water harvesting, tree plantation, energy conservation, paperless technology and various environmental awareness activities. This Green audit is also aimed to assess impact of green initiatives for maintenance of the campus in an eco friendly manner.

The college has submitted necessary data and credentials of scrutiny. The activities and measures carried out by the college have been verified and the efforts are found to be satisfactory. The efforts taken by the management, faculty, and students towards green campus are highly appreciated.


Green Audit Incharge
(Er.Pratik U. Deshpande)




Authorized Sign
(Architect Pramod B. Chaugule)
(CEO/Auditor)



सुनिश्चित की जायेगी, कि सभी आवश्यक दस्तावेजों को
समय पर, सही प्रकार से उपलब्ध रहेगा।
प्रमाणित किया जाता है कि यह रिपोर्ट
सही जानकारी पर आधारित है।



Teerthankar Education Society's
Dr. Shivajirao Kadam College of Pharmacy, Kasabe Digraj

Criterion 7: Institutional Values & Best Practices

7.1.3 Green Audit/Environmental Audit Report

GREEN AUDIT REPORT



Teerthankar Education Society's
Dr. Shivajirao Kadam College of Pharmacy

CONSULTANT-



Abhalmaya CS 13700, Local Board Colony/

Near Udyog Bhavan, Sangli 416416 Maharashtra, India

Phone No.:-+91 233 2675888

eSign

Signed by: Sidharth Patil
Reason: NAAC
Location: Kasabe Digraj
Date: 04-Aug-2023 (05:06 PM)



Green Audit Report 2021-22.

➤ ACKNOWLEDGEMENT

We are grateful to the committee members of Dr. Shivajirao Kadam College Of Pharmacy, Kasbe Digraj, Sangli to award prestigious project and allow us to step into the new phase of Green Audit in the College Campus.

Further we sincerely thank the college staff for providing us necessary facilities and co-operation during the audit. This helped us in making the audit, a success.

Further we hope, this will boost the new generation to take care of Environment and propagate these vies for many generation to come.

➤ Introduction.

Green audit is defined as an official examination of the effects an organization has on the environment. It is also widely known as Environmental Audit. Green Audit can be better understood as: Compliance of Environmental Laws, Audit of Environment Cost and Environment Impact Assessment and Carbon Credit. In the process systematic identification, quantification, recording, reporting and analysis of the components of environmental diversity is done .

The _Green Audit aims to analyze environmental practices within and outside the college campus, which will have impact on the eco-friendly ambience. It was initiated with the motive of inspecting the work conducted within the organization whose exercise can cause risk to the health of inhabitants and the environment. Through Green Audit, one gets a direction as how to improve the condition of environment and there are various factors that have determined the growth of carrying out Green Audit.



Green Audit Report 2021-22.

➤ **Present status of college.**

Dr. Shivajirao Kadam College Of Pharmacy was established in 2016, it mainly has two courses viz. D.Pharm and B.Pharm.

The college building has a basement floor with G+1 floor.

There are 12 classrooms, 6 cabins, 1 library, 3 laboratories, 1 girls common room and 1 auditorium classroom.

Total Campus -	5 acre
Built up area-	3516 sq.m
No. of students-	700
No. of staffs-	25
No. of trees grown -	600
No of bore well-	2 (1 hp submersible motor)
Rain Water Harvesting-	Done.
Solarium-	None.
R.O.system-	Provided at every floor.
Drinking water tank-	1-500 liter
Storage water tank-	13-2000 liter
No. of vehicles-	175
Solid waste management-	None.
Plastic free-	None.

➤ **Objective of the study.**

The main objective of the Green Audit is to promote the environment Management and Conservation in the Campus. The purpose is to identify, quantify, describe and prioritize framework of environmental sustainability in compliance with the applicable regulations, policies and standards. The main objectives of carrying out Green Audit are:

- To introduce and make students aware of real concerns of environment and its sustainability.

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Green Audit Report 2021-22.

- To secure the environment and cut down the threats posed to human health by analyzing the pattern and extent of resource use on the campus.
- To bring out a status report on environmental compliance.

➤ **Assessment Methodology.**

- In order to collect factual data the assessment team has interacted with concerned management personnel and visited different areas of the institution namely common classrooms, utility area, office, staff rooms, library, electric room (meter room), overheadwater storage, toilets kitchen and canteen, waste storage area, drainage system landscape ground, green house and parking, to ensure comprehensive coverage the assessment has been categorized into broad modules to facilitate a structured evaluation. The modules are as follows:

Waste management	Tree Plantation Management
Energy Conservation	Transportation Management
Water Management	Green and Biodiversity Management

- The assessment observations are supported by few photographs which have been captured during the visit.

➤ **Waste Management:**

Observation:

- The waste generated are mainly papers wastes, garbage, and few amount of medical waste from the labs.
- There are 3 bins provided in each floor of building, and separate bins are provided in each classroom and laboratory, but there are no separate bins for general dry garbage and wet garbage.

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7.1.3 Green Audit/Environmental Audit Report

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- Reusing single-sided waste paper as notepads, creating a separate tray in the printing for single-sides used waste paper.
- Cardboard boxes are reused where possible.
- Disposable paper cups and glass cups are provided for the tea and coffee for all.
- The wet garbage from Canteen, tree leaves are used efficiently for compost.
- Compost is rich in nutrients. It is used for trees and shrubs in the campus.
- For waste water coming from toilets and washrooms they had adopted soak pit method for waste water management.
- The waste is dumped into the trench.



Recommendation:

- Need to separate bins for wastes which helps to segregate wastes easily.
- More awareness programs should be conducted by college for students, college staff about waste management.
- Proper storage and safer disposal of waste, efficient and proper waste treatment, effective waste conservation and increasing resource recovery from waste should be done adequately.
- Need to adopt vermin composting method for waste management.
- Plastic free zones should be declared by the administration .

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Green Audit Report 2021-22.



➤ **Energy Management:**

Observation:

- About 30 Florescent tubes are installed in classroom, and offices which are being replaced by LEDs with a week, whereas other 75 Led tubes are already installed.
- Utilization of natural light when possible and electricity is appropriately used (avoiding its misuse).
- The planning of classrooms and offices is done such that there is adequet amount of light from the windows during the day time thus saving the energy.
- Shady trees are placed surrounding of the college and school.
- The college has trees and a plants, that the environment carbon dioxide frees and to maintain health of all the inmates.
- The campus has, palm trees, coconut, peepaltrees, and other trees, which provide shade and beautiful ambience. And also shrubs provided along the pathway.
- Some classrooms have a lack of natural light and ventilation.
- For each classroom fans are provided. About 101 fans are installed throughout.

Recommendations:

- High energy consuming incandescent lights and fluorescent lights in classrooms have to be replaced by less energy consuming LED lights.
- The college can introduce solar panel to reduce carbon foot print.

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7.1.3 Green Audit/Environmental Audit Report

Green Audit Report 2021-22.

- The solar lighting system or wind mills can be installed on the adequate terrace that is available.

➤ **Tree Plantation Management:**

- **Observations:**
- College has adequate amount of trees.
- At entrance of college there are abundant amount of trees, entire front view building is covered by trees which gives beautiful aesthetic view of building.
- Coconut trees, palm trees, bird cherry, Nilgiri, peepal etc are different types of trees present in campus. The list is attached.



- **Observation:**
- College has adequate amount of trees.
- At entrance of college there are abundant amount of trees, entire front view building is covered by trees which gives beautiful aesthetic view of building.
- Coconut trees, palm trees, nilgiri, peepal etc are different types of trees present in campus.

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Criterion 7: Institutional Values & Best Practices

7.1.3 Green Audit/Environmental Audit Report

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• **Recommendations:**

- College can put some manmade nests to attract some birds which may help them to maintain the ecological balance and the reservoir zone.
- More amounts of trees should be planted in ground campus to reduce pollution; tress like tamarind, peepal should be planted as it gives more oxygen.
- Terrace gardening along with solar panels should be provided.
- Gardening, lawns and varieties of tress should be planted for elegance purpose.

➤ **Water Management:**

Observation:

- A water purification system is installed in college building. It is common purification system for college.
- Some were checked during the audit and were found to be standard taps which can save water.
- Washing waste water pipe from canteen and kitchens are used for tress.
- Waste water from toilets is connected to soak pits.
- There isno yet connection to municipal drainage line.

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- Building has Rain Water Harvesting system.
- There is no problem, yet about the leakages as so, but the inspection is carried out .
- Number of bore wells activated are two.
- 500 liter water tank is maintained for drinking purpose, there are 13 tanks of 2000 liter capacity are maintained for toilet, garden, canteen and other purposes.



Recommendation:

- Consider carrying out meter reading on a regular basis in order to monitor water usage and set a baseline from which further reductions can be measured.
- Proper installation of appliances which reduce water consumption and installation of aerators/flow restrictors on faucets water consumption.

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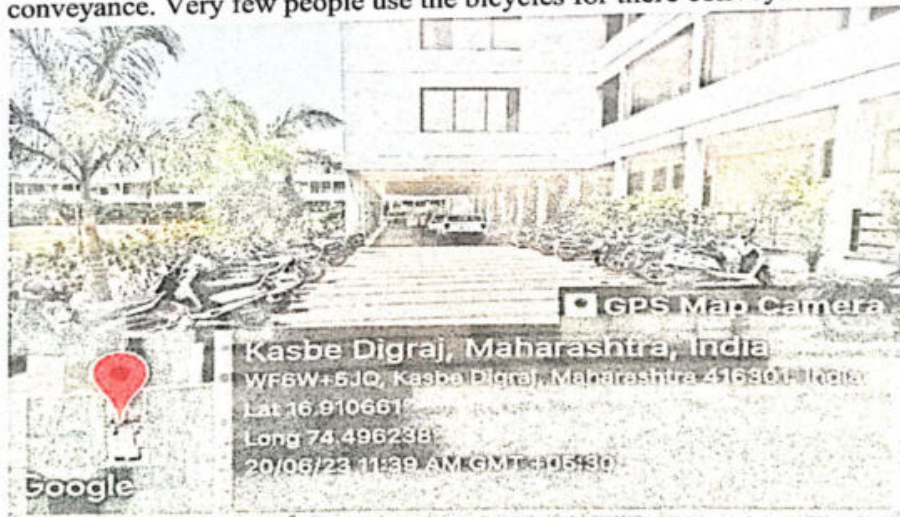
Green Audit Report 2021-22.

- Ro system should be installed for each floor but water from that system should be utilized for either toilet purpose or for trees.
- STP can be installed so as to treat the waste water.

➤ Transport Management:

Observation

- Use of public transport services, bicycle and pedestrian routes is adopted and used by maximum students.
- Preferred parking land spaces for private vehicles and bicycles are provided for faculty and students.
- Adoption of methods to reduce air pollution and noise intensity levels is done by planting large amount of trees in the surrounding areas around the campus.
- There are about 9 college buses and 15 cars, about 150 bikes are used for conveyance. Very few people use the bicycles for their conveyance.



Recommendation:

- Encouraging the awareness and usage of sustainable transportation technology.
- Sharing motor vehicles between students is more preferable.

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Green Audit Report 2021-22.

- Encourage use of bicycles for the students coming from near by areas.

> **Green Management:**

Observation:

- College minimizes the use of all cleaning products and chemical pollutants.
- Avoids the use of pesticides wherever possible.
- College encourages the use of environmentally friendly materials.
- Promotes the information regarding the nature, natural resources, wildlife for the conservation of biodiversity.
- Plantation, pollution and conserving resources and creating awareness of environmental issues and responsibilities.
- Colleges in managing and improving environmental performance.



Recommendation:

- Implementation of a green cleaning program using non-toxic products
- College should strictly ban use of plastic products in the campus.
- Minimizing the ozone depleting substances.
- Limit the use of private vehicles such as two-wheelers and cars instead use public transport where-ever possible.

Green Audit Report 2021-22.

- Conduct environmental awareness workshops based on.
 - i. Effect of pollution.
 - ii. Need of solid waste management.
 - iii. Socio-economic causes and consequences of future environmental changes.
 - iv. Valuing and managing ecosystem
 - v. Water shed and water management
 - vi. Impact of climate change.
 - vii. Recycling and reuse of materials
- More awareness programs amongst students and other stakeholders (faculty, other staffs, service providers etc.) need to be organized for minimizing solid waste disposal.
- Ensure that the buildings conform to green standards.
- Conservation and maintenance of trees should be carried out regularly.
- Programs and celebration without bouquet.

➤ **Biodiversity Management:**

Observation:

- College can take steps to increase the bird diversity.
- Grasses and herbaceous plants produce numerous seed heads that provides invaluable energy sources for migratory birds.

Recommendation:

- Facilitation of colonization by a more diverse flora and fauna. Adding birds boxes, and trap nests for bees as desired can create a unique and rare habitats.
- College can create habitat for living organisms in the nature in the order to enhance biodiversity.
- Adding bird's boxes, bat box, and trap nests for bees as desired can create a unique and rare habitats.
- Implementing programs to promote awareness, training and proper maintenance of green building design and biodiversity.

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Criterion 7: Institutional Values & Best Practices

7.1.3 Green Audit/Environmental Audit Report

Green Audit Report 2021-22.

➤ **Conclusion:**

The audit team suggests that there are always places where improvement can be made. The audit team suggests you to make changes in the college premises as per our recommendations. The audit team is thankful for your guidance and support.

Prepared by:


Er. Pratik B. Deshpande

(M.Tech (CM), B.E Civil, D.C.E)

Certified by:


Architect Pramod B. Chaugule

(B. ARCH, MBA (HR), Master of
Science in Green Building (US))
IGBC Patron Member,
TERI GRIHA Evaluator)

➤ **Declaration**

I agree with all the recommendations and observations mentioned in this Green Audit Report for the period of 2021-22. All the information provided for this audit is true and correct.



Action Taken Report

Green Audit 2021-2022

Action taken Report

Green Audit Team

Observations:

College can take steps to increase the bird diversity. The no. of trees has been increased significantly within these five years. Grasses and herbaceous plants produce numerous seed heads that provides invaluable energy sources for migratory birds.

Recommendations:

Facilitation of colonization by a more diverse flora and fauna. Adding birds boxes, and trap nests for bees as desired can create a unique and rare habitats. College can create habitat for living organisms in the nature in the order to enhance biodiversity. Adding bird's boxes, bat box, and trap nests for bees as desired can create a unique and rare habitats. Implementing programs to promote awareness, training and proper maintenance of green building design and biodiversity.

Action taken:

- Each year 50 new plant species are planted in and around the campus so will be done in the year 2021-22.
- Small water bins are placed at different location within the campus.
- Proper measures are taken for recharging the bore well i.e. rain water harvesting.
- The degradable and non degradable wastes are dumped and disposed properly.
- Bird boxes are placed on the tree within the campus as per recommended by the green audit team.
- Environment awareness programs are arranged in the local village.




PRINCIPAL,
Dr. Shivajirao Kadam College
of Pharmacy (Degree)
Kasabe-Digraj, Sangli.



Energy Audit Certificates & Report 2021-22



4S Design Consultancy Services

Date: 14.06.2021

CERTIFICATE

ENERGY AUDIT

This is to certify that "4S Design Consultancy Services" has conducted Energy audit of Dr. Shivajirao Kadam College of Pharmacy, Kasabe Digraj in academic year 2021-22. The energy audit involves initiatives planning efforts activities implemented in college campus for energy conservation activities.

The college has submitted necessary data and credential of scrutiny. The activities and measures carried out by the college have been verified based on available data and observations sheet submitted for further process. The efforts taken by the management, faculty, and students towards save energy are highly appreciated.



Authorized Sign.

(S.V.Kerure)

(CEO)/ Auditor



Teerthankar Education Society's
Dr. Shivajirao Kadam College of Pharmacy, Kasabe Digraj

Criterion 7: Institutional Values & Best Practices

7.1.3 Green Audit/Environmental Audit Report

ENERGY AUDIT REPORT



Teerthankar Education Society's
Dr. Shivajirao Kadam College of Pharmacy

CONSULTANT:

 **FOUR-5 4S Design Consultancy Services.**

Smart & Sustainable Solutions

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BRANCHES: Pune | Goa.

Contact: +91 9890459210 Mail Ids: 4sdesigncs@gmail.com.

Website: www.4sdesigncs.com

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eSign

Signed by: Sidharth Patil
Reason: NAAC
Location: Kasabe Digraj
Date: 04-Aug-2023 (05:06 PM)

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Energy Audit Report

1 BASIC DETAILS

1.1 **Name of Institution: Dr. Shivaji Rao Kadam College of Pharmacy, Kasabe Digraj, Sangli.**

Location: Kasabe Digraj, Sangli

Activity Pharmacy Education

Facility Pharmacy College

Energy Scene

Major Connected Load: Lighting, Air/Vacuum Compressors, Geyser, Ovens, AC Units, Pumps, Computers, Medical & Other Office Equipment, etc.

Major Energy Sources Electricity from the Grid

Energy Audit Date 14.06.2021



2 INTRODUCTION

2.1 Preamble

- Shivajirao Kadam College of Pharmacy at Kasabe Digraj.
- The campus is serviced by utilities like lighting, split AC's, electrical geysers, boilers, medical & office equipment like m/c's, etc.
- This energy audit report for NAAC Accreditation.
 - The analysis of data collected,
 - Observations, Recommendations & General Tips.
- This Energy Audit report for is governed by the objectives, scope of work and methodology discussed in ensured.

2.2 Field / Site Visit:

- Opening Meeting- 4S undertook an "Orientation Meeting" with team.
- 4S team conducted all necessary field trials and data collections.
- Closing Meeting – On Table Discussion conducted about field trail and its findings.

2.3 Following observation are found during Energy Audit.

2.3.1 To undertake an energy audit to identify area of energy saving.

2.3.2 **Main LT Panel** – Main LT Panel with manual change over switch.

2.3.3 **DG Set** – At present no DG set installed on site, as per site in charge discussion 35KVA DG set Ordered.

2.3.4 **Tariff** – At present control demand is 50KVA and maximum demand of last six month is 20KVA and as per MSEDCL norms minimum billing demand will be 25KVA.

2.3.5 Earthing –

- a. Some Earthing connection are found Loose.

2.3.6 Lighting –

- a. T5 Tubes are installed in all class and Labs. Lighting fixtures are installed Considering natural lights as decent natural light is obtainable.

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Criterion 7: Institutional Values & Best Practices

7.1.3 Green Audit/Environmental Audit Report

Energy Audit Report

- b. Fans quantity are not as per ECBC norms.
- c. Second floor passage lighting are not installed.

2.3.7 Lighting Protection –

- a. At present no Lighting Protection system is installed.
- b. At present no Surge protection devices are installed.

2.3.8 UPS –

- a. 3KVA UPS used for office of main Labs.
- b. 1650VA UPS used for Principal cabin.
- c. For other PC no UPS power supply provided.

2.3.9 Solar –

- a. Based on available Space on terrace 15 to 20KW Solar Panel can be installed.

2.4 Report:

- Drafting of Report and its verification by management representative.
- Final Report submitted to management.

2.5 Load sheet

1	TOTAL CONNECTED LOAD IN WATTS			102917
2	TOTAL CONNECTED LOAD IN KW			102.9
3	TOTAL DEMAND LOAD IN KW			51.5
ELECTRICAL LOAD CALCULATIONS				
A	TOTAL CONNECTED LOAD IN	KW		103
B	TOTAL DEMAND LOAD IN	KW		51
C	FUTURE EXPANSION IN	%	0%	51
D	SIMULTANEITY FACTOR (Ks-2) IN	%	45%	23
E	SAY CONTRACT DEMAND FROM ELECTRICITY BOARD	KVA		25
F	CONSIDERING PF OF ELECTRICAL LOAD IN	KVA	0.9	26
G	CONSIDERING LOADING FACTOR ON TRANSFORMER IN	KVA	80%	32
H	SELECTION OF TRANSFORMER IN	KVA	1 Number	40.00
	DG SET			

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Criterion 7: Institutional Values & Best Practices

7.1.3 Green Audit/Environmental Audit Report

Energy Audit Report

A	TOTAL CONNECTED LOAD IN	KW		102.92
B	TOTAL DEMAND LOAD IN	KW		51.46
C	SIMULTANEITY FACTOR (Ks-2) IN	%	45%	23.16
D	CONSIDERING PF OF ELECTRICAL LOAD IN	KVA	80%	28.95
E	CONSIDERING LOADING FACTOR ON DG SET IN	KVA	80%	36.18
F	SELECTION OF DG SET IN	KVA	1 Number	40.00

2.6 Electricity

- Use Standby Electric Generation equipment for on peak high load periods.
- Consider on-site DG Generator.
- Keep dedicated meter for utility electric meter.
- Use energy saver mod, switch off computers and printers when not in use.

2.7 Miscellaneous

- All the utilities must be meter and monitored for its optimum use.
- Efficiency must be regularly checked.
- Shut down spare equipment's, idling or unneeded equipment.
- Make sure that all the utilities to the redundant areas are turned off and those are like compressed air, AC, etc.

2.8 Conclusions & Suggestions:

2.8.1 Lighting –

Lighting is the other important system presently in the premise which is highly energy intensive. Fluorescent Tube lights and CFL were observed commonly in the facility. Suggested to replace with energy efficient LED lights.

- a. Lights quantity is not as per standard.
- b. Suggested to install BLDC Fans.
- c. Second floor passage lights to be installed.

2.8.2 Main LT Panel need to modify with ATS and future expansion provisions.

2.8.3 Earthing –

- a) Some Earthing connection to be tightened properly.

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Energy Audit Report

- b) Earthing values to be measured yearly of Earthing Pit.
- c) All DBS and Switch Board Earthing, connections to be checked.

2.8.4 Lighting Protection –

- a) Lighting Protection system to be installed on priority.
- b) Surge protection devices to be installed on priority.
- c) Building earthings is not proper needs to make new chemical earthings & connect

2.8.5 UPS –

- a) Recommended to use centralize UPS for computers.
- b) Mains Grid supply is not stable so suggesting AVR/Servo stabilizer for all connected load.

2.8.6 Load balancing to be done on all DB's by shifting loads from one phase to other.

2.8.7 All DB's & panel feeders labelling needs to be done as per SLD's.





Action Taken Report of Energy Audit 2021-22

Energy Audit 2021-2022

Action taken Report

Energy Audit Team

Observations and Suggestions:

***Lighting-**

Lightning is the other important system presently in the premise which is highly energy intensive. Fluorescent Tube lights and CFL were observed commonly in the facility. Suggested to replace with energy efficient LED lights.

- a. Lights quantity is not as per standard.
- b. Suggested to install BLDC Fans.
- c. Second floor passage lights to be installed.

d. Main LT Panel needs to modify with ATS and future expansion provisions.

*** Earthing-**

- a) Some Earthing connection to be tightened properly:
- b) Earthing values to be measured yearly of Earthing Pit.
- c) All DBS and Switch Board Earthing, connections to be checked.

*** Lightning Protection-**

- a) Lightning Protection system to be installed on priority.
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Criterion 7: Institutional Values & Best Practices

7.1.3 Green Audit/Environmental Audit Report

Action taken:

- LED bulbs were replaced as needed and will be done so in the coming year.
- Second floor passage lights are installed with LED bulbs.
- Earthing connections are tightened properly and checked regularly as per suggested by the audit team.
- All DBS and Switch Board Earthing, connections are scheduled to be checked every month by the electrician.
- Load balancing is done on all DB's by shifting loads from one phase to other as per recommendation.
- All the panels are labeled as per SLD's.



[Signature]
PRINCIPAL,
Dr. Shivajirao Kadam College
of Pharmacy (Degree)
Kasabe-Digraj, Sangli.





Energy Audit Certificates & Report 2019-20



FOUR-S 4S Design Consultancy Services

Date: 14.07.2019

CERTIFICATE

ENERGY AUDIT

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Authorized Sign.

(S.V.Kerure)

(CEO)/ Auditor

OM Residence Vishrambaug, Sangli – 416416. Contact: +91 9890459210
Mail Id: 4sdesigncs@gmail.com.



ENERGY AUDIT REPORT FOR FY 2019-2020



Teerthankar Education Society's
Dr. Shivajirao Kadam College of Pharmacy

CONSULTANT:

 **FOUR:5 4S Design Consultancy Services.**

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BRANCHES: Pune | Goa.

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Website: www.4sdesigncs.com.



Energy Audit Report

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Energy Audit Date 14.07.2019

Page 2 of 5



Energy Audit Report

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2.3.2 Lighting –

- a. Fans quantity are not as per ECBC norms.

2.3.3 UPS –

- a. Standalone UPS are used.

2.4 Report:

- Drafting of Report and its verification by management representative.
- Final Report submitted to management.

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Criterion 7: Institutional Values & Best Practices

7.1.3 Green Audit/Environmental Audit Report

Energy Audit Report

2.5 Load sheet

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D	SIMULTANEITY FACTOR (Ks-2) IN	%	45%	23
E	SAY CONTRACT DEMAND FROM ELECTRICITY BOARD	KVA		25
F	CONSIDERING PF OF ELECTRICAL LOAD IN	KVA	0.9	26
G	CONSIDERING LOADING FACTOR ON TRANSFORMER IN	KVA	80%	32
H	SELECTION OF TRANSFORMER IN	KVA	1 Number	40.00
	DG SET			
A	TOTAL CONNECTED LOAD IN	KW		102.92
B	TOTAL DEMAND LOAD IN	KW		51.46
C	SIMULTANEITY FACTOR (Ks-2) IN	%	45%	23.16
D	CONSIDERING PF OF ELECTRICAL LOAD IN	KVA	80%	28.95
E	CONSIDERING LOADING FACTOR ON DG SET IN	KVA	80%	36.18
F	SELECTION OF DG SET IN	KVA	1 Number	40.00

2.6 Electricity

- Use Standby Electric Generation equipment for on peak high load periods.
- Consider on-site DG Generator.
- Keep dedicated meter for utility electric meter.
- Use energy saver mod, switch off computers and printers when not in use.

Page 4 of 5



Criterion 7: Institutional Values & Best Practices

7.1.3 Green Audit/Environmental Audit Report

Energy Audit Report

2.7 Conclusions & Suggestions:

2.7.1 Lighting –

Lighting is the other important system presently in the premise which is highly energy intensive. Fluorescent Tube lights and CFL were observed commonly in the facility. Suggested to replace with energy efficient LED lights.

- a. Suggested to install BLDC Fans.

2.7.2 Earthing –

- a) Some Earthing connection to be tightened properly.
- b) Earthing values to be measured yearly of Earthing Pit.
- c) All DBS and Switch Board Earthing, connections to be checked.

Page 5 of 5





Action Taken Report of Energy Audit 2019-20

Energy Audit 2019-2020

Action taken Report

Energy Audit Team

Observations and Suggestions:

Lighting-

Lightning is the other important system presently in the premise which is highly energy intensive. Fluorescent Tube lights and CFL were observed commonly in the facility. Suggested to replace with energy efficient LED lights.

- a. Suggested to install BLDC Fans.

2.7.2 Earthing-

- a) Some Earthing connection to be tightened properly.
- b) Earthing values to be measured yearly of Earthing Pit.
- c) All DBS and Switch Board Earthing, connections to be checked.

Action taken:

- LED bulbs were replaced as needed and will be done so in the coming year.
- Earthing connections are tightened properly and checked regularly as per suggested by the audit team.
- All DBS and Switch Board Earthing, connections are scheduled to be checked every month by the electrician.



[Signature]
PRINCIPAL,
Dr. Shivajirao Kadam College
of Pharmacy (Degree)
Kasabe-Digraj, Sangli.



Energy Audit Certificates & Report 2018-19



FOUR S 4S Design Consultancy Services

Date: 16.06.2018

CERTIFICATE

ENERGY AUDIT

This is to certify that "4S Design Consultancy Services" has conducted Energy audit of Dr. Shivajirao Kadam College of Pharmacy, Kasabe Digraj in academic year **2018-2019**. The energy audit involves initiatives planning efforts activities implemented in college campus for energy conservation activities.

The college has submitted necessary data and credential of scrutiny. The activities and measures carried out by the college have been verified based on available data and observations sheet submitted for further process. The efforts taken by the management, faculty, and students towards save energy are highly appreciated.



Authorized Sign.

(S.V.Kerure)

(CEO)/ Auditor

OM Residence Vishrambaug, Sangli - 416416. Contact: +91 9890459210
Mail Id: 4sdesigncs@gmail.com.



ENERGY AUDIT REPORT FOR FY 2018-2019



Teerthankar Education Society's
Dr. Shivajirao Kadam College of Pharmacy

CONSULTANT:

 **FOUR-S 4S Design Consultancy Services.**

Smart Solutions Sustainable Solutions

Sangli office: Asher Villa F-102, MSEB Road, near Kwality Bakery, Vishrambaug, Sangli, MH. - 416416

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Contact: +91 9890459210 Mail Ids: 4sdesigncs@gmail.com.

Website: www.4sdesigncs.com.



Criterion 7: Institutional Values & Best Practices

7.1.3 Green Audit/Environmental Audit Report

Energy Audit Report

1 BASIC DETAILS

1.1 **Name of Institution: Dr. Shivaji Rao Kadam College of Pharmacy, Kasabe Digraj, Sangli.**

Location: Kasabe Digraj, Sangli

Activity Pharmacy Education

Facility Pharmacy College

Energy Scene

Major Connected Load: Lighting, Air/Vacuum Compressors, Geyser, Ovens, AC Units, Pumps, Computers, Medical & Other Office Equipment, etc.

Major Energy Sources Electricity from the Grid

Energy Audit Date 16.06.2018

Page 2 of 5



Energy Audit Report

2 INTRODUCTION

2.1 Preamble

- Dr. Shivajirao Kadam College of Pharmacy at Kasabe Digraj.
- The campus is serviced by utilities like lighting, split AC's, electrical geysers, boilers, medical & office equipment like m/c's, etc.
- This energy audit report for NAAC Accreditation.
 - The analysis of data collected,
 - Observations, Recommendations & General Tips.
- This Energy Audit report for is governed by the objectives, scope of work and methodology discussed in ensured.

2.2 Field / Site Visit:

- Opening Meeting- 4S undertook an "Orientation Meeting" with team.
- 4S team conducted all necessary field trials and data collections.
- Closing Meeting – On Table Discussion conducted about field trail and its findings.

2.3 Following observation are found during Energy Audit.

2.3.1 To undertake an energy audit to identify area of energy saving.

2.3.2 Lighting –

- a. Fans quantity are not as per ECBC norms.

2.3.3 UPS –

- a. Standalone UPS are used.

2.4 Report:

- Drafting of Report and its verification by management representative.
- Final Report submitted to management.

Page 3 of 5



Criterion 7: Institutional Values & Best Practices

7.1.3 Green Audit/Environmental Audit Report

Energy Audit Report

2.5 Load sheet

1	TOTAL CONNECTED LOAD IN WATTS			102917
2	TOTAL CONNECTED LOAD IN KW			102.9
3	TOTAL DEMAND LOAD IN KW			51.5
ELECTRICAL LOAD CALCULATIONS				
A	TOTAL CONNECTED LOAD IN	KW		103
B	TOTAL DEMAND LOAD IN	KW		51
C	FUTURE EXPANSION IN	%	0%	51
D	SIMULTANEITY FACTOR (Ks-2) IN	%	45%	23
E	SAY CONTRACT DEMAND FROM ELECTRICITY BOARD	KVA		25
F	CONSIDERING PF OF ELECTRICAL LOAD IN	KVA	0.9	26
G	CONSIDERING LOADING FACTOR ON TRANSFORMER IN	KVA	80%	32
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2.6 Electricity

- Use Standby Electric Generation equipment for on peak high load periods.
- Consider on-site DG Generator.
- Keep dedicated meter for utility electric meter.
- Use energy saver mod, switch off computers and printers when not in use.



Energy Audit Report

2.7 Conclusions & Suggestions:

2.7.1 Lighting –

Lighting is the other important system presently in the premise which is highly energy intensive. Fluorescent Tube lights and CFL were observed commonly in the facility. Suggested to replace with energy efficient LED lights.

- a. Suggested to install BLDC Fans.

2.7.2 Earthing –

- a) Some Earthing connection to be tightened properly.
- b) Earthing values to be measured yearly of Earthing Pit.
- c) All DBS and Switch Board Earthing, connections to be checked.

Page 5 of 5





Action Taken Report of Energy Audit 2018-19

Energy Audit 2018-2019

Action taken Report

Energy Audit Team

Observations and Suggestions:

Lighting-

Lighting is the other important system presently in the premise which is highly energy intensive. Fluorescent Tube lights and CFL were observed commonly in the facility. Suggested to replace with energy efficient LED lights.

- a. Suggested to install BLDC Fans.

2.7.2 Earthing-

- a) Some Earthing connection to be tightened properly.
- b) Earthing values to be measured yearly of Earthing Pit.
- c) All DBS and Switch Board Earthing, connections to be checked.

Action taken:

- As per suggested by the audit team most of the fluorescent tube light and CFL at first floor are replaced by LED lights.
- All the earthing connections are tightened properly and checked regularly as per suggested by the audit team.
- All DBS and Switch Board Earthing, connections are scheduled to be checked every month by the electrician.




PRINCIPAL,
Dr. Shivajirao Kadam College
of Pharmacy (Degree)
Kasabe-Digraj, Sangli.



Energy Audit Certificates & Report 2017-18



FOUR-S 4S Design Consultancy Services

Date: 12.06.2017

CERTIFICATE

ENERGY AUDIT

This is to certify that "4S Design Consultancy Services" has conducted Energy audit of Dr. Shivajirao Kadam College of Pharmacy, Kasabe Digraj in academic year **2017-2018**. The energy audit involves initiatives planning efforts activities implemented in college campus for energy conservation activities.

The college has submitted necessary data and credential of scrutiny. The activities and measures carried out by the college have been verified based on available data and observations sheet submitted for further process. The efforts taken by the management, faculty, and students towards save energy are highly appreciated.



Authorized Sign.

(S.V.Kerure)

(CEO)/ Auditor

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Mail Id: 4sdesigncs@gmail.com.



ENERGY AUDIT REPORT FOR FY 2017-2018



Teerthankar Education Society's
Dr. Shivajirao Kadam College of Pharmacy

CONSULTANT:

 **FOUR-S 4S Design Consultancy Services.**

Smart Safe Sustainable Solutions

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Energy Audit Report

1 BASIC DETAILS

1.1 **Name of Institution: Dr. Shivaji Rao Kadam College of Pharmacy, Kasbe Digraj, Sangli.**

Location: Kasabe Digraj, Sangli

Activity Pharmacy Education

Facility Pharmacy College

Energy Scene

Major Connected Load: Lighting, Air/Vacuum Compressors, Geyser, Ovens, AC Units, Pumps, Computers, Medical & Other Office Equipment, etc.

Major Energy Sources Electricity from the Grid

Energy Audit Date 12.06.2017

Page 2 of 5



Energy Audit Report

2 INTRODUCTION

2.1 Preamble

- Dr. Shivajirao Kadam College of Pharmacy at Kasabe Digraj.
- The campus is serviced by utilities like lighting, split AC's, electrical geysers, boilers, medical & office equipment like m/c's, etc.
- This energy audit report for NAAC Accreditation.
 - The analysis of data collected,
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- 4S team conducted all necessary field trials and data collections.
- Closing Meeting – On Table Discussion conducted about field trail and its findings.

2.3 Following observation are found during Energy Audit.

2.3.1 To undertake an energy audit to identify area of energy saving.

2.3.2 Earthing –

- a. Some Earthing connection are found Loose.

2.3.3 Lighting –

- a. Fans quantity are not as per ECBC norms.

2.3.4 UPS –

- a. Standalone UPS are used.

Page 3 of 5



Criterion 7: Institutional Values & Best Practices

7.1.3 Green Audit/Environmental Audit Report

Energy Audit Report

2.5 Load sheet

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2.6 Electricity

- Use Standby Electric Generation equipment for on peak high load periods.
- Consider on-site DG Generator.
- Keep dedicated meter for utility electric meter.
- Use energy saver mod, switch off computers and printers when not in use.

Page 4 of 5



Energy Audit Report

2.7 Conclusions & Suggestions:

2.7.1 Lighting –

Lighting is the other important system presently in the premise which is highly energy intensive. Fluorescent Tube lights and CFL were observed commonly in the facility. Suggested to replace with energy efficient LED lights.

- a. Suggested to install BLDC Fans.

2.7.2 Earthing –

- a) Some Earthing connection to be tightened properly.
- b) Earthing values to be measured yearly of Earthing Pit.
- c) All DBS and Switch Board Earthing, connections to be checked.

2.7.3 UPS –

- a) Recommended to use centralize UPS for computers.

Page 5 of 5





Action Taken Report of Energy Audit 2017-18

Energy Audit 2017-2018

Action taken Report

Energy Audit Team

Observations and Suggestions:

Lighting-

Lighting is the other important system presently in the premise which is highly energy intensive. Fluorescent Tube lights and CFL were observed commonly in the facility. Suggested to replace with energy efficient LED lights.

- a. Suggested to install BLDC Fans.

Earthing-

- a) Some Earthing connection to be tightened properly.
- b) Earthing values to be measured yearly of Earthing Pit.
- c) All DBS and Switch Board Earthing, connections to be checked.

UPS-

- a) Recommended to use centralize UPS for computers.

Action taken:

- The LED lights were installed were ever needed.
- The earthing connections are tightened properly as per suggested by the audit team.
- All DBS and Switch Board Earthing, connections are scheduled to be checked every month by the electrician.




PRINCIPAL,
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