GREEN AUDIT REPORT

(2020-21)

YASHWANT SHIKSHAN

SANSTHA'S

MIRAJ MAHAVIDYALAYA, MIRAJ

(ARTS, SCIENCE AND COMMERCE)

ACKNOWLEDGEMENT

We are grateful to the committee members of Miraj Mahavidyalaya, Miraj to award this 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 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 views for many generations to come.

ARCHITECT
PRAMOD CHAUGULE
B.ARCH. M.B.A., M.S.G.B.
CA-84/8776 CAT-I 376
FIIA - 6773,FIV - 3681, III-DALM - 3579

ARCHITECT
PRAMOD CHAU
B.ARCH. M.B.A., M.S.G.B.
CA-84/8776 CAT-I
FIIA - 6773,FIV - 3681, III-DALM - 3579

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

3. 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 class rooms, utility area, gymkhana, auditorium hall, office, staff rooms, library, electric room (meter room), water storage underground and overhead, toilets, kitchen and canteen, ladies hostel, waste storage areas, drainage system. landscape ground and parking. To ensure comprehensive coverage the assessment has been categorized into six broad modules to facilitate a structured evaluation. The modules are as follows:

Waste management	Tree plantation management
Energy Conservation	Transport management
Water management	Green and biodiversity management

Miraj Mahavidyalaya Miraj expresses its commitment to sustainability in many ways. It has taken a number of positive steps to reduce its environmental impact. There are always areas in which improvements can be made. This report serves to highlight many accomplishments and to make recommendations for improving the college's environmental sustainability. The college strives to maintain eco-friendly atmosphere in the campus. To maintain eco-friendly ambience various programs are followed in the campus.

- Waste Generation:

This indicator addresses waste production and disposal of different wastes like paper. food, plastic. biodegradable, construction, glass, dust etc and recycling Furthermore, solid waste often includes wasted material resources that could otherwise be channeled into better service through recycling, repair, and reuse. Solid waste generation and management is a burning issue scientific handling of solid waste can create threats to everyone. The survey focused on type and current management practice of solid waste generated in the campus. The different solid wastes collected are as mentioned above.

- E- waste:

E waste of our college consists of all waste from electronic and electrical appliances used in various laboratories and offices. It includes computer and its accessories-monitors, printers, keyboards, central processing units; typewriters, mobile phones and chargers, remotes, compact discs, headphones, batteries,

LCD/Plasma TVs, air conditioners, refrigerators and other appliances
All these appliances are stored in a e-waste room from where they are to be distributed to the respective waste management agency. Recently college has done MOU with Sangli Miraj and Kupwad Muncipality Carporation and Poornam EcoVision Foundation for the E- Waste lifting from college with the help of social worker Prof. Phadake. E wate hand over program was organized by the college on 20/8/2021.

Our college has signed MoU with sangli,Miraj and Kupwad Muncipal corporation and Poonam ECOVision Foundation and one ton of E waste has been handed over in the year of 2021.

●Energy Use and Conservation:

This indicator addresses energy consumption, energy sources, energy monitoring, lighting appliance and natural gas. Energy use is clearly an important aspect of campus sustainability and thus requires no explanation for its inclusion in the assessment.

A) **Observations on Energy Management**

- Architectural design for the college is based upon use of natural lighting and ventilation. to save extra power for bulbs and fans.
- Utilization of natural light where-ever possible and electricity is appropriately done. (avoiding its misuse).
- College uses generator during shortage/cutoffs of light.
- The college has a canopy of trees in the surrounding that make the environment carbon dioxide free and maintain health of all the inmates.
- The college premises has Neem, Gulmohar, Coconut, Tamarind tree and other trees. which provide shade and a beautiful ambience.
- Energy is also conserved by using natural light in the classrooms.

B) **Recommendations-**

- High energy consuming Incandescent lights and fluorescent lights and number of electrical fans of older generation that are non-energy efficient may be replaced by less energy consuming LED or CFL lights and efficient fans.
- The organization is having considerable area in the roof top (about 1370.72Sq.m. of existing structures), a cost benefit analysis may be done for installation of solar panel to reduce carbon footprint.
- Adoption of a purchasing policy that specifies low or no VOCs.
- Conduct switch off drills at regular intervals
- Ensures that all electronic and electrical equipment's, such as computers, are switched off when not in use, and is generally configured in power saving mode when such option is available.
- **Tree Plantation:**

This indicator addresses Plantation, conservation and preservation of trees. Tree plantation and conservation is an important aspect now a day's Steps should be taken for improvement and maintenance of plants and land under vegetation.

A) **Observations on Tree Plantation Management-**

- College has a botanical garden in the campus
- The organization takes initiative for plantation program every year by involving students to offset the GHG emission.
- Carbon dioxide neutrality is maintained in the campus due to the trees like Gulmohar, Tamarind, Coconut, Spathodia, Mitragyna and other trees etc. The trees are about 2 to 10m high in the surrounding.
- Use of sustainable and environmentally friendly methods for plantations is adopted and the compost manure is provided for the plantations.
- Utilization of native landscaping and increasing diversity in tree plantations is done.
- College implements Integrated Pest Management Program to reduce use of harmful chemicals.

B) **Recommendations-**

- College has a quite large amount of landscape, the area under plantation should include a beautiful flowering garden at the entrance, which will enhance the aesthetic façade look and warmly welcomes the public.
- Maintenance and improvement of plantations and proper storage and disposal of tree waste must be ensured
- The greenery can be maintained by placing pots in the passages at each floor in the and premises.
- Plantation of trees mainly fruits, which attract birds, should be done in the premises. Along with this some vegetable or medicinal plants like Neem, Alovera, Tulsi. Brahmi. Cactus etc. should be planted near the building or in the botanical garden so that they are casily available whenever required for study.
- Harvesting procedures, preservation and protection against soil erosion, sedimentation, fire, pests and diseases must be conducted frequently.
- Utilization of mulch landscaping waste (grass clippings, leaves, branches) should be done to divert from the landfill.

- Water Use

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- Water Use

This indicator addresses water consumption, usage and wastage of water, water sources, irrigation, storm water, appliances and fixtures. A water audit is an on-site survey and assessment to determine the water use and hence improving the efficiency of its use.

A) Observations on Water Management-

- College has facility of three Bore wells and municipal water supply
- The water taps are provided near the office at ground floor for drinking water.
- Utilization of native plants that do not require additional irrigation.
- Identification & stoppage of leakages in pipelines is done regularly thus ensuring proper repairs and maintenance. Float valve operated auto shut off switch may be installed for pump sets used for overhead tank filling.

B) Recommendations-

- Our recommendation is Installation of water recycling mechanism, such as solid immobilized Bio Filters for 3000 students with capacity 60,000lit-day @ 20lit capita day. . Consider carrying out meter readings on a regular basis (e.g. bi-monthly) 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 should be carried out to reduce water consumption.
- College should implement a Rain water harvesting plant as it has a large Rooftop (Existing structure area = 1370.72Sqm) and addition structure area= 120 Sqm (Total structural area=1490.72 Sqm) and utilize the water for plantation Rain water harvesting potential=

  Area at Rooftop (Sqm) x Annual Avg Rainfall (mm)
  = x Runoff Coefficient
  = 1490.72x637x0.8
  =7,59,670.912lit annum.
  = 8,00,000 lit/annum.

  So our recommendation is to provide a rain water harvesting plant of capacity 8,00,000 Liters/annum.
- Washing waste water from canteen & kitchens should be suitably controlled and used for watering of plants while the solid waste should be used for composting • Drinking water supply should be provided at each floor.

- **Transportation:**

This indicator addresses the transport facilities in the college, analyzing the volume of transport, private vehicles and public transport. The transportation audit is the assessment based on the above mentioned transport system.

A) Observations on Transport Management-

•No facility of college vehicle.
- College minimizes the unsustainable transport and promotes green public transport than private transport.
- Use of public transport services, bicycle and pedestrian routes is adopted and used by maximum students,
- Preferred parking land spaces for carpool vehicles, hybrid or electric 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 trees about 10m high in the surrounding areas around the campus.

B) Recommendations-

- Encouraging the awareness and usage of sustainable transportation technology between the staff and students.
- Promote car sharing car pool among the students and faculty members as much as possible.
- Motivate students and staff to make use of bicycles as much as possible and minimize the use of motor vehicles.

•Green Area

This includes the plants, greenery and sustainability of the campus to ensure that the buildings conform to green standards. This also helps in ensuring that the Environmental Policy is enacted, enforced and reviewed using various environmental awareness programmes.

A) Observations on Green Management-

- 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 of trees and conservation of materials and energy is done.
- Preventing pollution and conserving resources and creating awareness of environmental issues and responsibilities.

•Most of the waste generated is water-soluble and ultimately disposed to large water bodies through normal sewerage system.

B) Recommendations-

- 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.
- 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

Biodiversity :

This indicator addresses the utilization of compost, promotes biodiversity, maintenance of green building and biodiversity, biodiversity enhancement.

A) Observations on Biodiversity Management-

•College promotes greening in the built environment and create habitat for living organisms in the nature in order to enhance biodiversity.

•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:

Ar. Shraddha Athavale

Certified by:

ARCHITECT
PRAMOD CHAUGULE
B.ARCH. M.B.A., M.S.G.B.
CA/84/8776 CAT-I 376
FIIA - 6773,FIV - 3681, III-DALM - 3579

College Declaration

I agree with all the recommendations and observations mentioned in this Green Audit Report for the period of 2020-21. All the information provided for this audit is true and correct.

MIRAJ MAHAVIDYALAYA MIRAJ Y.S.S.

Jk Principal
Miraj Mahavidyalaya Miraj

OFFG. PRINCIPAL
MIRAJ MAHAVIDYALAYA,
MIRAJ

Yashwant Shikshan Sanstha's

Miraj Mahavidyalaya, Miraj

Preliminary Energy Audit Report

(Year-2020-21)

Dr. C. T. More
Convener,
Energy Audit Committee

MIRAJ MAHAVIDYALAYA MIRAJ Y.S.S.

Dr. P. A. Patil
Principal

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1. Abstract:

Preliminary Energy Auditing has been conducted to the Miraj Mahavidyalaya, Miraj to estimate the energy consumed in a day, week and month. The Energy Auditing for a day is the index of the consumption which normalizes the situation of energy crisis by providing the conservation schemes. Any organization so called bulk consumer of electrical energy propose to adopt suitable technology or scheme of energy conservation to minimize the unwanted power shutdown either incidentally or by load shedding. Energy auditing has been a part and parcel of every consumer of any form of which energy is exhaustible and inexhaustible in nature. In olden days farmers used to exploitation of energy only when it is available. For example during crops harvesting wind blow in one direction was very essential for that they used wait overnight whenever wind blows little heavily harvesting process used to be done. Also they used select the season for harvesting exclusively for this purpose because ample labors were also available there will not rain and sufficient sun is available people will not be having any work in the field. That is how energy by nature was used by farmers. Now we are being literate energy being used without bothering its existence further. Energy auditing is one tool through which balancing of demand and supply is determined and it is a big step to adopt suitable technology or scheme of energy conservation for better tomorrow.

Keywords: conservation, recommendations,

2. Introduction

Energy auditing is an integral part of energy conservation and energy management is also part and parallel of conservation. The “Energy Audit” is the key to a systematic approach for decision-making in the area of energy management. It attempts to balance the total energy inputs with their use, and serves to identify all the energy streams in a facility. It quantifies energy usage according to its discrete functions. Energy audit is an effective tool in defining and pursuing a comprehensive energy management program within a business. As per the Energy Conservation Act, 2001, passed by the government of India, energy audit is defined as “the verification, monitoring and analysis of use of energy including submission of technical reports containing recommendations

for improving energy efficiency with cost benefit analysis and an action plan to reduce energy consumption."

The energy audits can be classified into two types: Preliminary audit and detailed audit.

3. Need for Energy Audit

In an organization like our College, the top operating expense is often found to be electrical energy. In most assessments of the manageability of the cost or potential cost savings in the above component, would invariably emerge as a top priority, and thus energy audit is necessary. Energy constitutes a strategic area for cost reduction. A well done energy audit will always help owners to understand more about the ways energy is used in their organizations, and help to identify areas where waste can occur and where scope for improvement exists.

The energy audit would give a positive orientation to the energy cost reduction, preventive maintenance, and quality control programs which are vital for production and utility activities. Such an audit program will help to keep focus on variations that occur in the energy costs, availability, and reliability of supply of energy, help decide on the appropriate energy mix, identify energy conservation technologies, retrofit for energy conservation equipment, etc. In general, the energy audit is the translation of conservation ideas and hopes into reality, by lending technically feasible solutions with economic and other organizational considerations within a specified time frame.

The primary objective of the energy audit is to determine ways to reduce energy consumption per unit of product output or to lower operating costs. The energy audit provides a benchmark, or reference point, for managing and assessing energy use across the organization and provides the basis for ensuring more effective use of energy.

4. Preliminary Energy Audit Methodology

The preliminary energy audit uses existing or easily obtained data. It is a relatively quick exercise to:

- Determine energy consumption in the college
- Estimate the scope for saving
- Identify the most likely (and easiest areas) for attention
- Identify immediate (especially no-cost/low-cost) improvements/savings
- Identify areas for more detailed study/measurement

5. College-Department wise number of electric equipments

Sr. No.	Department/Room	Tube	Fan	PC	Other Major Instruments
1	Staff Room	6	4		
2	Ladies Room 1	3	2		
3	Office	10	7	10	Printer-7,Xerox machine-1, laptop-1,CCTV SYSTEM-UPS Inverter, Water Cooler-1
4	Chemistry	15	4	1	Distil Water Plant, Oven-1200WATT Polari-meter, Freeze, PRINTER-1,1 BULB LCD projector
	Room 1	4	-		
6	Ladies Room 2	3	1		
7	Room 2	10	2		
8	Microbiology	8	1	1	1 bulb Water Filter, Centrifuge Machine, Autoclave-4, Incubator-3,Oven-3,Water Bath-1, S-Filter, Hot Plate, uv chamber Cooling Freeze-2, cooling centrifuse-2,Sonicator 1, BOD Incubator, Water bath,
9	Hindi	3	1		
10	Room 9	9	4		Amplifier-1 LCD HOLDER
11	History	1	1	1	
12	Room 10	4	2		
13	Geography	2	1	2	1 CRT
14	Room 7	4	-		
15	Room 6	5	2		
16	Room 5	3	-		
17	Room 4	3	1		
18	Library	21	19	5	1 Audio Player, Xerox Machine-1
19	Computer	9	9	60	Printer2, LCD-2, ups-10KVA,5kva,generator-2.5KVA
20	Marathi	2	1		
21	Physics	14	10	1	CRO-3, Frequency generator, Polari-meter, sodium lamp- Mercury lamp, table lamps, BG,HOT COIL
22	Botany	7	4	1	
23	Zoology	7	4		
24	Room 8	7	4		
25	Room 3	2	2		
26	Room G-7	4	2		
27	Store Room	2	1		
28	English	2	2	10	Printer-1,Plasma TV 1, LCD1
29	Ground				2 HIGH WATTAGE BULBS-1000WATTS 2-Electric Pumps
	Total	**170**	**91**	**92**	

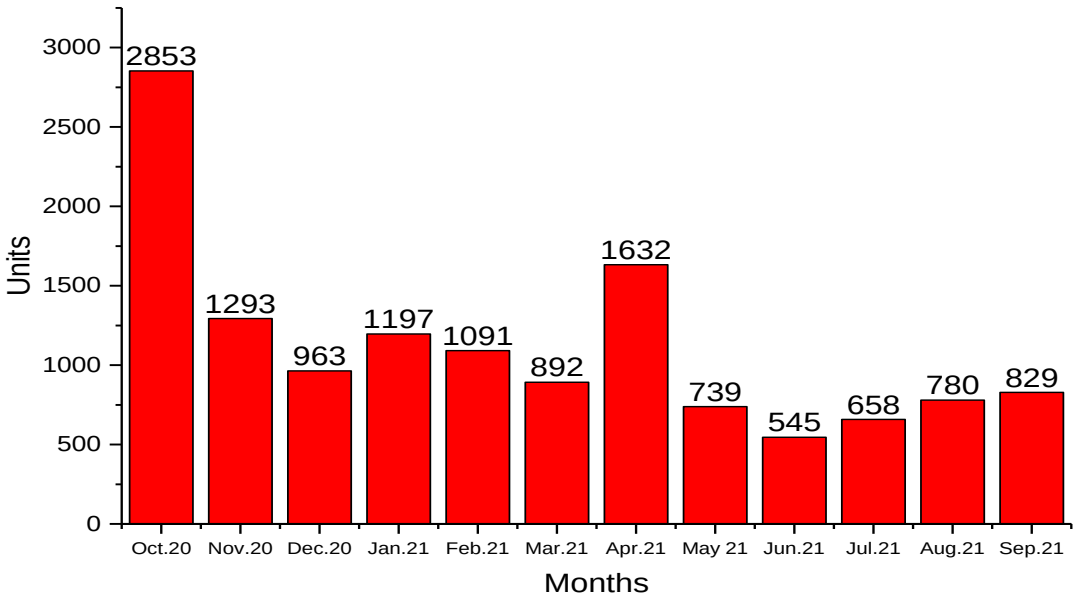
6. Ladies Hostel - Department wise number of electric equipments

Sr.No.	Department/Room	Tube	Fan	PC	Other Major Instruments
1	Canteen	2	1		Feeze-2,oven Mixer1
2					Submersible pump-1
3	BASE	7			
3	LH1	4	2		1 bulb
4	LH2		1		
5	LH3	2	1		
6	LH4	1	1		1
7	MCVC	2	2	1	CRO
8	Chairman Sir	2	1		
9	NAAC	2	1	2	
10	NSS	2	1		
11	NCC	1	1		
12	LH6	4	2		3BULB
13	LH7	4	2		
14	LH8	1	1		
15	LH9	4	2		
16	LH10	4	2		
17	LH11	4	2		
18	LH12	4	2		
19	LH13	4	2		
20	LH14	4	2		
21	LH15	4	2		
22	LH16	4	2		
23	LH17	2	1		
24	LH18	2	1		
25	UPSTAIRS	8			
	Total	78	35	3	
	GRAND TOTAL	**248**	**126**	**95**	

7. Month wise consumption of Electricity in units (Year 2020-21)

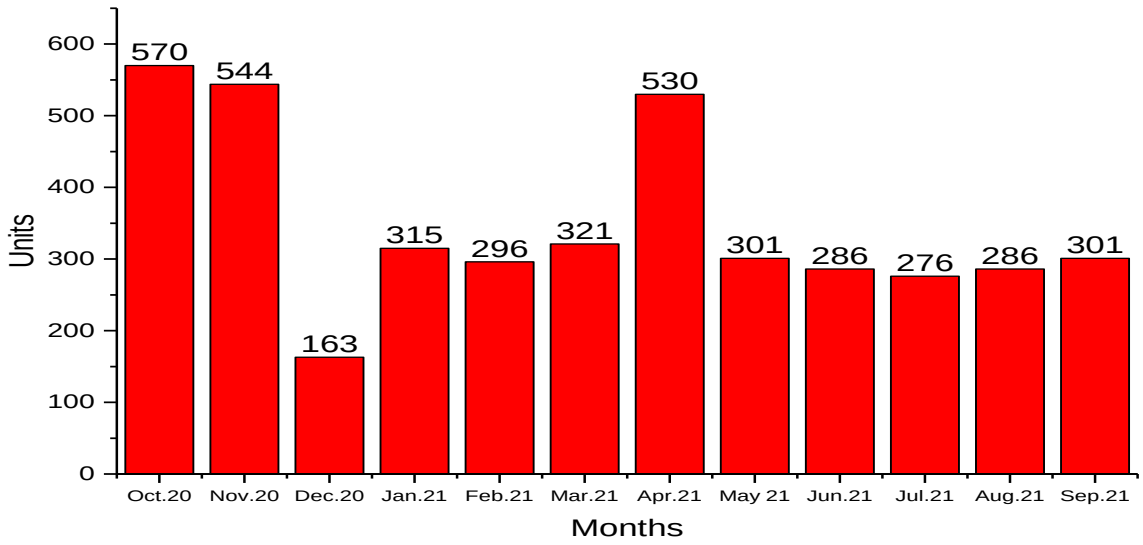
1. Consumer Number -279010392840

Bill Month	Consumption (Units)	Bill Amount
Sep 2021	829	6,630.00
Aug 2021	780	12,420.00
Jul 2021	658	6,030.00
Jun 2021	545	570.00
May 2021	739	-3,930.00
Apr 2021	1,632	13,110.00
Mar 2021	892	7,330.00
Feb 2021	1,091	9,080.00
Jan 2021	1,197	9,610.00
Dec 2020	963	7,870.00
Nov 2020	1,293	10,550.00
Oct 2020	2,853	5,450.00
Total	**13472**	**84720**



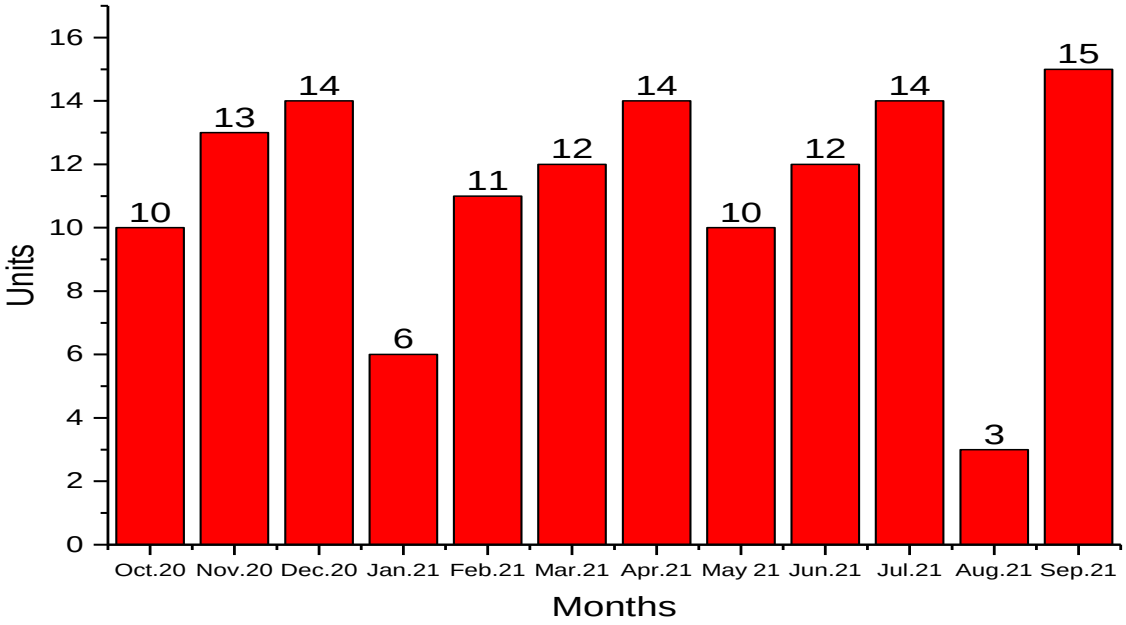
2. Consumer Number -279010343628

Bill Month	Consumption (Units)	Bill Amount
Sep 2021	301	2,690.00
Aug 2021	286	2,580.00
Jul 2021	276	2,500.00
Jun 2021	286	2,600.00
May 2021	301	7,040.00
Apr 2021	530	4,550.00
Mar 2021	321	2,930.00
Feb 2021	296	2,780.00
Jan 2021	315	2,850.00
Dec 2020	163	1,670.00
Nov 2020	544	4,690.00
Oct 2020	570	120.00
Total	**4189**	**37000**



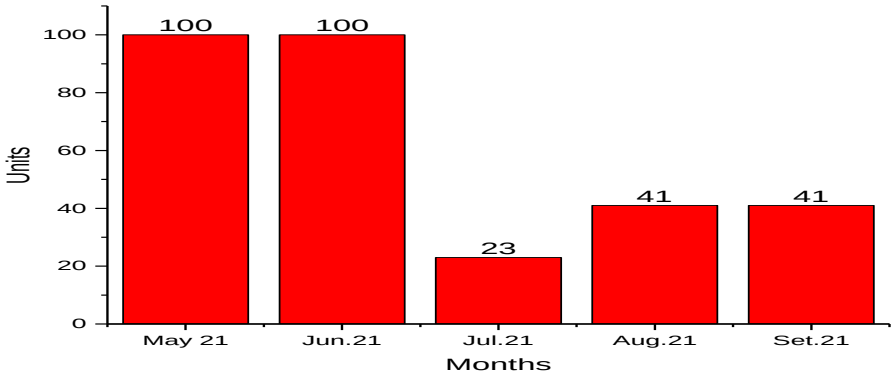
3. Consumer Number -279010531271

Bill Month	Consumption (Units)	Bill Amount
Sep 2021	15	570.00
Aug 2021	3	370.00
Jul 2021	14	550.00
Jun 2021	12	2,660.00
May 2021	10	2,100.00
Apr 2021	14	1,650.00
Mar 2021	12	1,100.00
Feb 2021	11	3,160.00
Jan 2021	6	2,610.00
Dec 2020	14	2,110.00
Nov 2020	13	1,550.00
Oct 2020	10	1,000.00
Total	**134**	**19430**



4. Consumer Number -279010749667

Bill Month	Consumption (Units)	Bill Amount
Sep 2021	41	630.00
Aug 2021	41	-90.00
Jul 2021	23	-820.00
Jun 2021	100	2,240.00
May 2021	100	1,080.00
Total	**305**	**3040**



Bill Month	Consumption (Units)	Bill Amount
Sep 2021	3433	9890
Aug 2021	1850	15370
Jul 2021	1140	
Jun 2021	1518	570.00
May 2021	1398	-3,930.00
Apr 2021	1225	13,110.00
Mar 2021	2176	7,330.00
Feb 2021	1150	9,080.00
Jan 2021	943	9,610.00
Dec 2020	971	7,870.00
Nov 2020	1110	10,550.00
Oct 2020	1146	5,450.00
Total	**13472**	**84720**

11. How to Save Electricity?

Comparison Chart

LED Lights vs. Incandescent Light Bulbs vs. CFLs

Sr. No.	Energy Efficiency & Energy Costs	Light Emitting Diodes (LEDs)	Incandescent Light Bulbs	Compact Fluorescents (CFLs)
1	Life Span (average)	50,000 hours	1,200 hours	8,000 hours
2	Watts of electricity used (equivalent to 60 watt bulb). LEDs use less power (watts) per unit of light generated (lumens). LEDs help reduce greenhouse gas emissions from power plants and lower electric bills	6 - 8 watts	60 watts	13-15 watts
	Kilo-watts of Electricity used (30 Incandescent Bulbs per year equivalent)	329 KWh/yr.	3285 KWh/yr.	767 KWh/yr.
	Annual Operating Cost (30 Incandescent Bulbs per year equivalent)	2168/year	21686/year	5058/year
	Environmental Impact	Light Emitting Diodes (LEDs)	Incandescent Light Bulbs	Compact Fluorescents (CFLs)
	Contains the TOXIC Mercury	No	No	Yes - Mercury is very toxic to your health and the environment
	RoHS Compliant	Yes	Yes	No - contains 1mg-5mg of Mercury and is a major risk to the environment
	Carbon Dioxide Emissions (30 bulbs per year) Lower energy consumption decreases: CO2 emissions, sulfur oxide, and high-level nuclear waste.	451 pounds/year	4500 pounds/year	1051 pounds/year
	Important Facts	Light Emitting Diodes (LEDs)	Incandescent Light Bulbs	Compact Fluorescents (CFLs)
	Sensitivity to low temperatures	None	Some	Yes - may not work under negative 10

				degrees Fahrenheit or over 120 degrees Fahrenheit
	Sensitive to humidity	No	Some	Yes
	On/off Cycling Switching a CFL on/off quickly, in a closet for instance, may decrease the lifespan of the bulb.	No Effect	Some	Yes - can reduce lifespan drastically
	Turns on instantly	Yes	Yes	No - takes time to warm up
	Durability	Very Durable - LEDs can handle jarring and bumping	Not Very Durable - glass or filament can break easily	Not Very Durable - glass can break easily
	Heat Emitted	3.4 btu's/hour	85 btu's/hour	30 btu's/hour
	Light Output	Light Emitting Diodes (LEDs)	Incandescent Light Bulbs	Compact Fluorescents (CFLs)
	Lumens	Watts	Watts	Watts
	450	4-5	40	9-13
	800	6-8	60	13-15
	1,100	9-13	75	18-25
	1,600	16-20	100	23-30
	2,600	25-28	150	30-55

It has been observed that there are around 27 locations as electrically dangerous locations because these points pose serious threat to the students.

12. Recommendations to save energy

a) Tube lights should be replaced by LED bulbs

b) Employees are advised to use only cotton clothes white or relatively white cloth during summer. Therefore they can avoid too much sweating with that the effect of dehydration can be minimized and the water consumption can be minimized through which cold water storage burden will reduce at least by 10- 20% of total consumption and also they will reduce the use of fans

c) They can use cotton mini size umbrella it is not for rain protection it is exclusively to protect for direct attack of solar radiations, when they walk outside during afternoon. So that soon after reaching college fan use can be minimized and it is healthy because immediate use of fan should be avoided as biologically certain harmonically imbalance takes place. Gradual body cooling is better.

d) Use focused light for reading place or table lamp. Sometime recommended to avoid full room lighting it leads to wastage of illumination and disturbance of sleep to housemates which disturb their work efficiency at working place. Man-hour efficiency reduction is the national waste also insufficient sleeps leads to health problems.

e) All Interior walls should be painted using Enameled paint which would reflect light

f) One special provision can be made for cooled water storage facility wherever possible attached to room, so that multipurpose utilization of AC to cool the water will reduce the power consumption by 30%.

g) Good light ventilation and Air ventilation to classrooms may solve the problem of Energy Consumption.

h) Replacement of CRT monitor by LCD monitor not only gives the cost benefit interms of energy saving but also play a significant role of radiations due high potential when CRT is used high voltage level handling by CRT at HT electrodes may emit harmful radiations beyond the screen which affect the vision. Human being get in touch for trouble shooting may receive great risk of deadly shock if they touch the charged body which is normally charged up to 10000 volts (approximately) In LCD monitor all such problems can be minimized.

i) Energy saving by replacing LCD desktop with LAPTOP illustrate the benefits in terms of portability, space saving, maintenance cost of desktop computers and additional cost of peripherals. Also cost of damage and other electrical problems. Critical space management and cost involved can be removed. Wiring for LAN and labor cost can also be prevented.

j) Unnecessary power consumption by negligence of user and system administrator for not switching off while leaving the office/class room/lab will have more vulnerability for damage due to short circuit and heavy voltage due to lightning.

k) It is recommended to replace Tube lights by LED which is handy by construction and possibility of breakage is less. Installation is easy and the labor charge required for replacement of burnt tubes and defected choke lamps is a costly affair. Disposal of burnt

tubes will disturb the habitat place of both human being and animals. The release of krypton and argon gases is more dangerous, it may lead to ecological imbalance if it in mass destruction.

l) Switch off the photocopier machine at the main outlet itself when not in use or in other words machine should not be kept in stand by and sleep mode which consumes power.

m) Avoiding individual mobile phone facility at the working place during working hours is better; as they use charging facility which consume power and substandard battery chargers draws more current leads to more power consumption. There is also possibility of electrical short circuit. Common communication facility may lead to harmony among employs due to uniform facility it keeps the working atmosphere very clean and calm in addition to the cost benefit.

n) Use good lighting system will reduce the power burden as a whole.

o) Fans running without capacitor or under rated capacitor will draw more current therefore use of correct rated capacitor will reduce the power consumption.

p) High/low KVA UPS must be avoided since they consume 40 percent power.

q) Recommended to use online harmonics measurement system to monitor the harmonics. Higher level harmonics lead generate heat in the equipment may lead to greater power loss. Harmonics suppression equipment is necessary.

r) Recommended to use solar water cooler in place of conventional one.

s) WI-FI internet facility must be started to minimize power use.

t) Many locations are to be repaired electrically to avoid electric shock.

u) Many times it is observed that fans and tube lights are switched on in empty classrooms empty chairs and empty laboratories. Xerox machines PCs and other heavy equipments should be completely switched off after their use. Fans and tube lights must be switched off in empty classrooms, empty chairs and empty laboratories.

13. Conclusion

This energy audit report gives strong warning not only in terms of the energy bills but also the energy crisis in the near future to all sectors of people. There is a scope of improvement to include the advanced lighting scheme and other replacement scheme to reduce further 30% of the cost.

14. Acknowledgements

I am very thankful to respected and honorable Prof. Sharad Patil, Chairman Yashwant Shikshan Sanstha and Dr. P.A.Patil Principal, for giving me opportunity to do the important work of energy audit of the college.

15. References:

Website: http:/www. Compare LED Lights vs CFL vs Incandescent Lighting Chart.mht

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Dr. C. T. More
Convener,
Energy Audit Committee

MIRAJ MAHAVIDYALAYA MIRAJ Y.S.S.

Dr. P.A.Patil
Principal,
Miraj Mahavidyalaya, Miraj

‘ABHALMAYA’ Foundation, Market Yard Sangli- 416416

Certificate

This is to certify that the Green Audit Report 2020-21has been submitted herewith to the Principal, Miraj Mahavidyalaya Miraj.

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 our recommendations.

Date: 11/4/2021

Prepared by:

Er.Pratik U. Deshpande
(M.Tech (CM),B.E Civil, D.C.E)

आभाळमाया सांगली फाऊण्डेशन

Certified by:

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