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# **Energy, Green & Environment Audit Report of**

Loknete Dr. Balasaheb Vikhe Patil  
(Padma Bhushan Awardee) Pravara Rural  
Education Society

**Arts, Science & Commerce College,  
Kolhar**

**Submitted By**

**PowerTech Energy Solutions**

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## **GREEN AUDIT COMPLETION CERTIFICATE**

This is to certify that following utility has carried out Green Audit

<b>Name of the Institute</b>	Loknete Dr. Balasaheb Vikhe Patil (Padma Bhushan Awardee) Pravara Rural Education Society Arts, Science & Commerce College, Kolhar
<b>Details of Facilities Audited</b>	All departments, Laboratories, Library , Etc
<b>Date of Green Audit</b>	05 July 2021
<b>Name of Certified Energy Auditor</b>	Mr. Swapnil Gaikwad
<b>Certification No.</b>	EA 20121
<b>Validity of the Certificate</b>	04 July 2022

Authorised Signatory



Digitally signed  
by Atul Sharad  
Kakad

(Atul Kakad)

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## **ENERGY AUDIT COMPLETION CERTIFICATE**

This is to certify that following utility has carried out Energy Audit as per guidelines laid down in The Energy Conservation Act, 2001 in the month of July 2021

<b>Name of the Institute</b>	Loknete Dr. Balasaheb Vikhe Patil (Padma Bhushan Awardee) Pravara Rural Education Society Arts, Science & Commerce College, Kolhar
<b>Details of Facilities Audited</b>	All departments, Laboratories, Library , Etc
<b>Date of Energy Audit</b>	05 July 2021
<b>Name of Certified Energy Auditor</b>	Mr. Swapnil Gaikwad
<b>Certification No.</b>	EA 20121
<b>Validity of the Certificate</b>	04 July 2022

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## **ENVIRONMENT AUDIT COMPLETION CERTIFICATE**

This is to certify that following utility has carried out Environment Audit

<b>Name of the Institute</b>	Loknete Dr. Balasaheb Vikhe Patil (Padma Bhushan Awardee) Pravara Rural Education Society Arts, Science & Commerce College, Kolhar
<b>Details of Facilities Audited</b>	All departments, Laboratories, Library , Etc
<b>Date of Environment Audit</b>	05 July 2021
<b>Name of Certified Energy Auditor</b>	Mr. Swapnil Gaikwad
<b>Certification No.</b>	EA 20121
<b>Validity of the Certificate</b>	04 July 2022

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### Executive Summary – Energy Audit

Sr. No	Area	Proposed Action	Expected Result	Monthly Energy Saving Potential, kWh	Monthly Carbon Emission Reduction (Tones)	Monetary Saving (Rs.)	Investment (Rs.)	Simple Payback Period (Months)
1	Fan system (Ceiling Fan)	Replace present ceiling fan consuming 78W with energy efficient fans consuming 40W. In the campus where usage is high this conservation measure will produce good savings	<ul style="list-style-type: none"> <li>• Total number of fans in the campus =105 Nos.</li> <li>• Total number of fans used in the campus (considering Usage factor) = 105 Nos.</li> <li>• Number of fans to be replace = 105 Nos.</li> <li>• The Total Current Consumption =511 kWh</li> <li>• The Expected fan Consumption =272 kWh</li> </ul>	239	0.18	1410	273000	193
<b>Total</b>				<b>239</b>	<b>0.18</b>	<b>1410</b>	<b>273000</b>	<b>193</b>

## Executive Summary – Green & Environment Audit

Sr.No	Area	Observations	Remark
1	Green Initiative	College has planted medical plant in botanical garden which is helpful for awareness regarding various species of trees	Good initiative taken by college toward green campus
2	E waste Management	At present, E -waste generated by college is sent to their Head office	College shall ensure that e-waste generated by them is channelized through collection centre or dealer of authorised producer or dismantler or recycler
3	Avoiding Use of Plastic & Paper in Campus	College is encouraging the use of digital assets such as digital library, notices ,etc	Good initiative taken by college
4	Liquid Waste Management	Rain water harvesting system is used to recharge the ground level water	Good initiative taken by college towards water conservation

## Scope for Improvements

It is recommended that below initiatives can be taken by college management toward energy conservation and sustainable environment

1. Use of renewable energy source ( Solar PV system with net metering facility)
2. Solid waste management – Proper functioning and maintenance of vermicopost which is available in college campus
3. Training & Seminars on “ Energy Conservation” , “ Climate Change”, Benefits of Renewable Energy” , etc. by external faculty

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## 1 About College

Arts, Science, and Commerce College, Kolhar is a NAAC accredited institution that began in 1999 with 10 teachers imparting education to 57 students in 2 departments. In 2019-20, the institute boasts of 33 teachers and 698 students spread across 15 departments. The college runs 7 undergraduate, 2 postgraduate, and 6 skill-based courses.

With one well furnished library and 8 well equipped laboratories, our students have all the facilities to quench their thirst for knowledge and execute their creativity. We look forward to them launching the name of our institute to great heights.

Spread over 9 acres that includes 5 acres sports ground and 2000 square feet gymnasium, the college focuses on sports and co-curricular activities in equal measure for overall development of students.

### 1.1 Our Vision

To enable prosperity by providing quality education in emerging fields to produce knowledgeable and cultured human resource for the upliftment of the rural masses who contribute to the process of national development.

### 1.2 Our Mission

To empower the socially, economically and educationally marginalized sections of the society through quality education and transform them into excellent human beings who are aware that being sensitive, modest and humane is the hall mark of being educated, self-disciplined and civilized.



## 2 Energy Audit

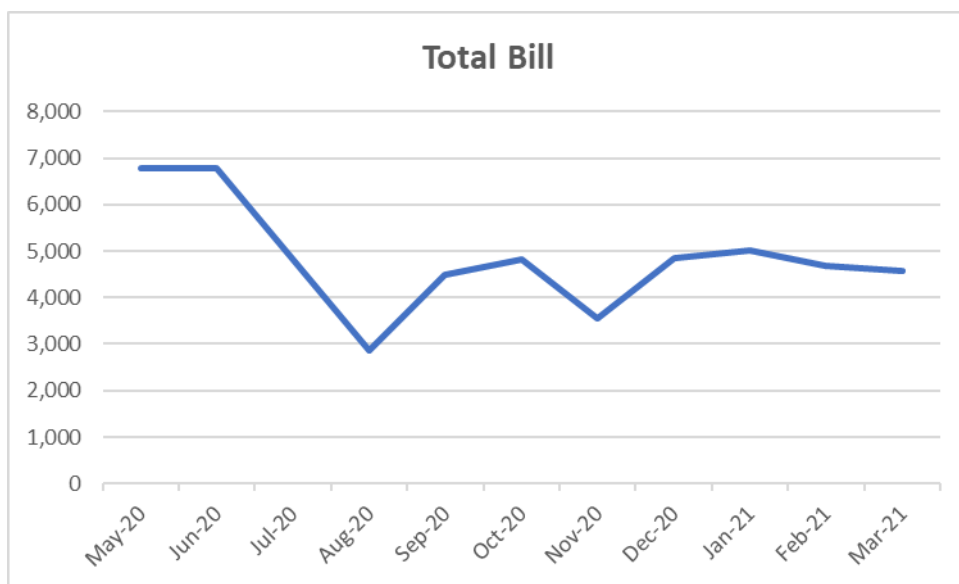
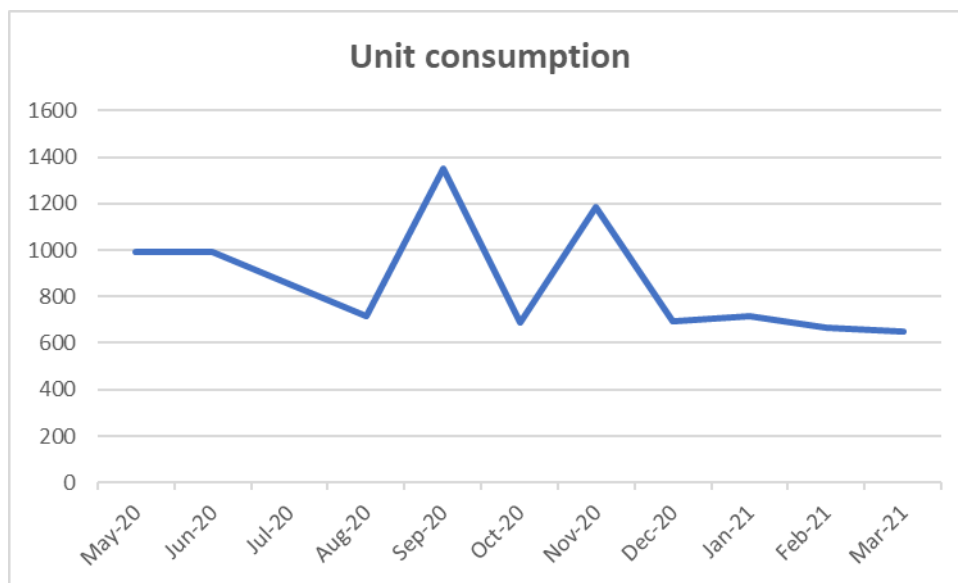
An energy audit is an inspection, survey and analysis of energy flows, for energy conservation in a building, process or system to reduce the amount of energy input into the system without negatively affecting the output(s). In commercial and industrial real estate, an energy audit is the first step in identifying opportunities to reduce energy expense and carbon footprints.

### 2.1 Electricity Bill Analysis

#### College Electricity Bill No. 1

<b>Consumer Name</b>	<b>The Principle, Arts Commerce &amp; Science College Kolhar</b>		
<b>Consumer No.</b>	850280014773		
<b>Utility</b>	MSEDCL		
<b>Tariff</b>	073 /LT VII(B)		
<b>Month</b>	<b>Unit consumption</b>	<b>Total bill</b>	<b>Unit Rate</b>
<b>May-20</b>	991	6,780	6.8
<b>Jun-20</b>	991	6,780	6.8
<b>Aug-20</b>	716	2,850	4.0
<b>Sep-20</b>	1352	4,480	3.3
<b>Oct-20</b>	689	4,830	7.0
<b>Nov-20</b>	1183	3,550	3.0
<b>Dec-20</b>	694	4,860	7.0
<b>Jan-21</b>	718	5,010	7.0
<b>Feb-21</b>	668	4,690	7.0
<b>Mar-21</b>	650	4,570	7.0
<b>Total</b>	<b>8652</b>	<b>48,400</b>	
<b>Average</b>	<b>865.2</b>	<b>4,840</b>	<b>5.9</b>

Below charts shows the graphical presentation of monthly energy consumption and bill



## Observations

- Monthly avg. energy consumption of the college campus is 865 units
- Total energy consumption for last 10 Month is 8652 units
- Total monthly avg. billing is Rs. 4840/-
- Average unit rate is 5.9 Rs.

### 3 Connected Load List

Below is the connected load of college

Sr. No.	Name of Department	Computer	Printer	Xerox Machine	CCTV Camera	Inverter	battery	Projector	Projector Screen	Projector Stand	UPS	Barcode Scanner	Bell	Sound/Speaker	Fire Extinguisher	Blor Drill	Auto Bell	Rack	Switch	Wifi/Router	DVR	Biometrics
1	Principal Office	1	1						1	1	1											
2	Waiting Room																					
3	Administrative Office	4	2		1						3											
4	Store Room	1																2			2	
5	Computer Lab	18	1	1	1	2	3	2	1		1			1				1	1	2		1
6	Ground Floor Passage				1										1							
7	Porch				3																	
8	NAAC Room	2	0					1	1	1	2											
9	Power House															1						
10	Student Section	4	1		1	1	2				3								1			
11	Chemistry Lab	1			1										2							
12	Canteen																					
13	VLC Hall				1			1	1	1				3								
14	Geography							1	0											1		
15	Botany Lab	1			1																	
16	Library	8	1		2	1	2					2			1		1	1			1	
17	Zoology Lab	1																				
18	Physics Lab	1			1																	
19	Block No. 9 & 10	0			1								1									

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Arts, Science & Commerce College, Kolhar

Sr. No.	Name of Department	Computer	Printer	Xerox Machine	CCTV Camera	Inverter	battery	Projector	Projector Screen	Projector Stand	UPS	Barcode Scanner	Bell	Sound/Speaker	Fire Extinguisher	Blor Drill	Auto Bell	Rack	Switch	Wifi/Router	DVR	Biometrics	
20	NSS Office													1									
21	Second Floor				1																		
22	Commerce Dept	1	1		1																		
23	Exam Section	2	1	1	2						1								1				
24	Staff Room		1		1																		
25	English Dept.		2					1	1	1								1	1	1			
26	Block No. 1 & 2				1																		
27	Block No. 3				1																		
28	Third Floor Passage				1																		
29	Block No. 4				1																		
30	Block No. 5				1																		
31	Block No. 06				1																		
32	Block No. 7 & 8				1																		
33	Tower																						
34	Security Dept.				2																		
35	Gymkhana				1																	1	
36	Ladies Hostel																						
37	Open space				3																		
38	Women Emp. Cell																						
39	Economics Dept		1																				
	<b>Total</b>	<b>45</b>	<b>12</b>	<b>2</b>	<b>32</b>	<b>4</b>	<b>7</b>	<b>6</b>	<b>5</b>	<b>4</b>	<b>11</b>	<b>2</b>	<b>1</b>	<b>5</b>	<b>4</b>	<b>1</b>	<b>1</b>	<b>5</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>1</b>

## 4 Performance Assessment of Lighting System

Lighting load of the college is shown in below table. All lights are changed into energy efficient LED system

Sr. No	Name of Department	Type of Fitting	Wattage	Total Quantity	Load in kW	Daily Working Hrs	Monthly Working Days	Monthly kWh
1	Principal Office	LED Tube	20	4	0.08	6	24	11.52
2	Waiting Room	LED Tube	20	1	0.02	6	24	2.88
3	Administrative Office	LED Tube	20	3	0.06	6	24	8.64
4	Store Room	LED Tube	20	1	0.02	6	24	2.88
5	Computer Lab	LED Tube	20	4	0.08	6	24	11.52
6	Ground Floor Passage	LED Tube	20	5	0.1	6	24	14.4
7	Porch	LED Tube	20	1	0.02	6	24	2.88
8	NAAC Room	LED Tube	20	4	0.08	6	24	11.52
9	Power House	LED Tube	20	13	0.26	6	24	37.44
10	Student Section	LED Tube	20	3	0.06	6	24	8.64
11	Chemistry Lab	LED Tube	20	10	0.2	6	24	28.8
12	Canteen	LED Tube	20	4	0.08	6	24	11.52
13	VLC Hall	LED Tube	20	6	0.12	6	24	17.28
14	Geography	LED Tube	20	4	0.08	6	24	11.52
15	Botany Lab	LED Tube	20	6	0.12	6	24	17.28
16	Library	LED Tube	20	11	0.22	6	24	31.68
17	Zoology Lab	LED Tube	20	7	0.14	6	24	20.16
18	Physics Lab	LED Tube	20	5	0.1	6	24	14.4
19	Block No. 9 & 10	LED Tube	20	4	0.08	6	24	11.52
20	NSS Office	LED Tube	20	1	0.02	6	24	2.88
21	Second Floor	LED Tube	20	3	0.06	6	24	8.64
22	Commerce Dept	LED Tube	20	3	0.06	6	24	8.64
23	Exam Section	LED	20	1	0.02	6	24	2.88

Sr. No	Name of Department	Type of Fitting	Wattage	Total Quantity	Load in kW	Daily Working Hrs	Monthly Working Days	Monthly kWh
		Tube						
24	Staff Room	LED Tube	20	2	0.04	6	24	5.76
25	English Dept.	LED Tube	20	3	0.06	6	24	8.64
26	Block No. 1 & 2	LED Tube	20	2	0.04	6	24	5.76
27	Block No. 3	LED Tube	20	1	0.02	6	24	2.88
28	Third Floor Passage	LED Tube	20	1	0.02	6	24	2.88
29	Block No. 4	LED Tube	20	1	0.02	6	24	2.88
30	Block No. 5	LED Tube	20	1	0.02	6	24	2.88
31	Block No. 06	LED Tube	20	1	0.02	6	24	2.88
32	Block No. 7 & 8	LED Tube	20	1	0.02	6	24	2.88
33	Tower	LED Tube	20	3	0.06	6	24	8.64
34	Security Dept.	LED Tube	20	1	0.02	6	24	2.88
35	Gymkhana	LED Tube	20	10	0.2	6	24	28.8
36	Women Emp. Cell	LED Tube	20	1	0.02	6	24	2.88
37	Toilet	LED Tube	20	4	0.08	6	24	11.52
<b>Total</b>				<b>136</b>	<b>2.72</b>			<b>392</b>

#### 4.1 Observations

- There are total 136 LED lights in campus
- Total lighting load is 2.72 kW
- Monthly lighting energy consumption is 392 units

#### 4.2 Type Wise Lighting Distribution

Type	Qty	kW Load	% Load
LED Lights	136	2.71	100
Conventional Lights	0	0	0
<b>Total</b>	<b>136</b>	<b>2.71</b>	



## 5 Performance of Fan System

Below table shows the assessment of ceiling fans

Sr. No	Location	Type of Fitting	Wattage	Total Quantity	Load in kW	Daily Working Hrs	Monthly Working Days	Monthly kWh
1	Principal Office	Ceiling Fan	75	3	0.225	4	24	21.6
2	Waiting Room	Ceiling Fan	75	1	0.075	1	24	1.8
3	Administrative Office	Ceiling Fan	75	3	0.225	4	24	21.6
4	Store Room	Ceiling Fan	75	1	0.075	4	24	7.2
5	Computer Lab	Ceiling Fan	75	6	0.45	4	24	43.2
6	Ground Floor Passage	Ceiling Fan	75		0	1	24	0
7	Porch	Ceiling Fan	75		0	1	24	0
8	NAAC Room	Ceiling Fan	75	6	0.45	2	24	21.6
9	Power House	Ceiling Fan	75	2	0.15	2	24	7.2
10	Student Section	Ceiling Fan	75	2	0.15	4	24	14.4
11	Chemistry Lab	Ceiling Fan	75	8	0.6	2	24	28.8
12	Canteen	Ceiling Fan	75	4	0.3	4	24	28.8
13	VLC Hall	Ceiling Fan	75	5	0.375	4	24	36
14	Geography	Ceiling Fan	75	3	0.225	2	24	10.8
15	Botany Lab	Ceiling Fan	75	4	0.3	2	24	14.4
16	Library	Ceiling Fan	75	6	0.45	4	24	43.2
17	Zoology Lab	Ceiling Fan	75	3	0.225	2	24	10.8
18	Physics Lab	Ceiling Fan	75	5	0.375	2	24	18
19	Block No. 9 & 10	Ceiling Fan	75	6	0.45	2	24	21.6
20	NSS Office	Ceiling Fan	75		0	2	24	0
21	Second Floor	Ceiling Fan	75		0	1	24	0
22	Commerce Dept	Ceiling Fan	75	4	0.3	2	24	14.4
23	Exam Section	Ceiling Fan	75	2	0.15	2	24	7.2
24	Staff Room	Ceiling Fan	75	3	0.225	3	24	16.2
25	English Dept.	Ceiling Fan	75	4	0.3	2	24	14.4
26	Block No. 1 & 2	Ceiling Fan	75	4	0.3	2	24	14.4

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Sr. No	Location	Type of Fitting	Wattage	Total Quantity	Load in kW	Daily Working Hrs	Monthly Working Days	Monthly kWh
27	Block No. 3	Ceiling Fan	75	2	0.15	2	24	7.2
28	Third Floor Passage	Ceiling Fan	75		0	1	24	0
29	Block No. 4	Ceiling Fan	75	2	0.15	2	24	7.2
30	Block No. 5	Ceiling Fan	75	2	0.15	2	24	7.2
31	Block No. 06	Ceiling Fan	75	2	0.15	2	24	7.2
32	Block No. 7 & 8	Ceiling Fan	75	4	0.3	2	24	14.4
33	Tower	Ceiling Fan	75		0	2	24	0
34	Security Dept.	Ceiling Fan	75	2	0.15	4	24	14.4
35	Gymkhana	Ceiling Fan	75	4	0.3	4	24	28.8
36	Women Emp. Cell	Ceiling Fan	75	2	0.15	2	24	7.2
37	Toilet	Ceiling Fan	75		0	1	24	0
<b>Total</b>				<b>105</b>	<b>7.875</b>			<b>511.2</b>

## 5.1 Observations

- There are total 105 ceiling fans in college
- Total ceiling load is 7.85 kW
- Monthly fan energy consumption is 511 units which is almost 62% of total consumption

## 6 Energy Saving Measures

### 6.1 Energy Saving Measure 1 – Replace present ceiling fan consuming 75W with energy efficient fans consuming 40W

Sr. No	Location	Qty	Wattage	Fan Type	Op Hr	Mthly kWh	Change	New Wattage	New kWh	Saving kWh	Saving (Rs)	Unit Price (Rs)	Investment (Rs)	Payback (Months)
1	Principal Office	3	75	Ceiling Fan	4	21.6	40W EE Fan	40	11.52	10.08	89	1700	5100	57
2	Waiting Room	1	75	Ceiling Fan	1	1.8	40W EE Fan	40	0.96	0.84	7	1700	1700	230
3	Administrative Office	3	75	Ceiling Fan	4	21.6	40W EE Fan	40	11.52	10.08	89	1700	5100	57
4	Store Room	1	75	Ceiling Fan	4	7.2	40W EE Fan	40	3.84	3.36	30	1700	1700	57
5	Computer Lab	6	75	Ceiling Fan	4	43.2	40W EE Fan	40	23.04	20.16	178	1700	10200	57
6	Ground Floor Passage	0	75	Ceiling Fan	0	0	40W EE Fan	40	0	0	0	1700	0	#DIV/0!
7	Porch	0	75	Ceiling Fan	0	0	40W EE Fan	40	0	0	0	1700	0	#DIV/0!
8	NAAC Room	6	75	Ceiling Fan	2	21.6	40W EE Fan	40	11.52	10.08	89	1700	10200	115
9	Power House	2	75	Ceiling Fan	2	7.2	40W EE Fan	40	3.84	3.36	30	1700	3400	115
10	Student Section	2	75	Ceiling Fan	4	14.4	40W EE Fan	40	7.68	6.72	59	1700	3400	57
11	Chemistry Lab	8	75	Ceiling Fan	2	28.8	40W EE Fan	40	15.36	13.44	118	1700	13600	115
12	Canteen	4	75	Ceiling Fan	4	28.8	40W EE Fan	40	15.36	13.44	118	1700	6800	57
13	VLC Hall	5	75	Ceiling	4	36	40W	40	19.2	16.8	148	1700	8500	57

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Sr. No	Location	Qty	Wattage	Fan Type	Op Hr	Mthly kWh	Change	New Wattage	New kWh	Saving kWh	Saving (Rs)	Unit Price (Rs)	Investment (Rs)	Payback (Months)
				Fan			EE Fan							
14	Geography	3	75	Ceiling Fan	2	10.8	40W EE Fan	40	5.76	5.04	44	1700	5100	115
15	Botany Lab	4	75	Ceiling Fan	2	14.4	40W EE Fan	40	7.68	6.72	59	1700	6800	115
16	Library	6	75	Ceiling Fan	4	43.2	40W EE Fan	40	23.04	20.16	178	1700	10200	57
17	Zoology Lab	3	75	Ceiling Fan	2	10.8	40W EE Fan	40	5.76	5.04	44	1700	5100	115
18	Physics Lab	5	75	Ceiling Fan	2	18	40W EE Fan	40	9.6	8.4	74	1700	8500	115
19	Block No. 9 & 10	6	75	Ceiling Fan	2	21.6	40W EE Fan	40	11.52	10.08	89	1700	10200	115
20	NSS Office	0	75	Ceiling Fan	0	0	40W EE Fan	40	0	0	0	1700	0	#DIV/0!
21	Second Floor	0	75	Ceiling Fan	0	0	40W EE Fan	40	0	0	0	1700	0	#DIV/0!
22	Commerce Dept	4	75	Ceiling Fan	2	14.4	40W EE Fan	40	7.68	6.72	59	1700	6800	115
23	Exam Section	2	75	Ceiling Fan	2	7.2	40W EE Fan	40	3.84	3.36	30	1700	3400	115
24	Staff Room	3	75	Ceiling Fan	3	16.2	40W EE Fan	40	8.64	7.56	67	1700	5100	77
25	English Dept.	4	75	Ceiling Fan	2	14.4	40W EE Fan	40	7.68	6.72	59	1700	6800	115
26	Block No. 1 & 2	4	75	Ceiling Fan	2	14.4	40W EE Fan	40	7.68	6.72	59	1700	6800	115
27	Block No. 3	2	75	Ceiling Fan	2	7.2	40W EE Fan	40	3.84	3.36	30	1700	3400	115
28	Third Floor Passage	0	75	Ceiling Fan	0	0	40W EE Fan	40	0	0	0	1700	0	#DIV/0!

Sr. No	Location	Qty	Wattage	Fan Type	Op Hr	Mthly kWh	Change	New Wattage	New kWh	Saving kWh	Saving (Rs)	Unit Price (Rs)	Investment (Rs)	Payback (Months)
29	Block No. 4	2	75	Ceiling Fan	2	7.2	40W EE Fan	40	3.84	3.36	30	1700	3400	115
30	Block No. 5	2	75	Ceiling Fan	2	7.2	40W EE Fan	40	3.84	3.36	30	1700	3400	115
31	Block No. 06	2	75	Ceiling Fan	2	7.2	40W EE Fan	40	3.84	3.36	30	1700	3400	115
32	Block No. 7 & 8	4	75	Ceiling Fan	2	14.4	40W EE Fan	40	7.68	6.72	59	1700	6800	115
33	Tower	0	75	Ceiling Fan	0	0	40W EE Fan	40	0	0	0	1700	0	#DIV/0!
34	Security Dept.	2	75	Ceiling Fan	4	14.4	40W EE Fan	40	7.68	6.72	59	1700	3400	57
35	Gymkhana	4	75	Ceiling Fan	4	28.8	40W EE Fan	40	15.36	13.44	118	1700	6800	57
36	Women Emp. Cell	2	75	Ceiling Fan	2	7.2	40W EE Fan	40	3.84	3.36	30	1700	3400	115
37	Toilet	0	75	Ceiling Fan	0	0	40W EE Fan	40	0	0	0	1700	0	#DIV/0!
<b>Total</b>		<b>105</b>				<b>511.2</b>			<b>272</b>	<b>238</b>	<b>2102</b>		<b>178500</b>	<b>85</b>

- Total number of fans in the campus =105 Nos.
- Total number of fans used in the campus (considering Usage factor) = 105 Nos.
- Number of fans to be replace = 105 Nos.
- The Total Current Consumption =511.2 kWh
- The Expected fan Consumption =272.64 kWh
- Total KWh saved per month = 238.56 kWh
- Total monthly cost savings = Rs.1410
- Investment = Rs. 273000
- Payback Period =193 Months

## 7 Requirement of NAAC

### 7.1 Alternative Energy Initiative

Percentage of power requirement met by renewable energy sources

$$= (\text{Power requirement met by renewable energy sources} / \text{Total power requirement}) \times 100$$

$$= (0/1095) \times 100$$

$$= \mathbf{0\%}$$

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

Percentage of lighting power requirement met through LED bulbs

$$= (\text{Lighting power requirement met through LED bulbs} / \text{Total lighting power requirement}) \times 100$$

$$= (136/136) \times 100$$

$$= \mathbf{100\%}$$

## 8 Green Audit

Green audit was initiated with the beginning of 1970s with the motive of inspecting the work conducted within the organizations whose exercises can cause risk to the health of inhabitants and the environment. It exposes the authenticity of the proclamations made by multinational companies, armies and national governments with the concern of health issues as the consequences of environmental pollution. It is the duty of organizations to carry out the Green Audits of their ongoing processes for various reasons such as; to make sure whether they are performing in accordance with relevant rules and regulations, to improve the procedures and ability of materials, to analyze the potential duties and to determine a way which can lower the cost and add to the revenue. 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. Some of the incidents like Bhopal Gas Tragedy (Bhopal; 1984), Chernobyl Catastrophe (Ukraine; 1986) and Exxon-Valdez Oil Spill (Alaska; 1989) have cautioned the industries that setting corporate strategies for environmental security elements have no meaning until they are implemented.

Green Audit is assigned to the Criteria 7 of NAAC, National Assessment and Accreditation Council which is a self-governing organization of India that declares the institutions as Grade a, Grade B or Grade C according to the scores assigned at the time of accreditation.

The intention of organizing Green Audit is to upgrade the environment condition in and around the institutes, colleges, companies and other organizations. It is carried out with the aid of performing tasks like waste management, energy saving and others to turn into a better environmentally friendly institute.

### 8.1 Goals of Green Audit

- The objective of carrying out Green Audit is securing the environment and cut down the threats posed to human health.
- To make sure that rules and regulations are taken care of
- To avoid the interruptions in environment that are more difficult to handle and their correction requires high cost.
- To suggest the best protocols for adding to sustainable development



## 8.2 Benefits of Green Audit

- It would help to shield the environment
- Recognize the cost saving methods through waste minimizing and managing
- Point out the prevailing and forthcoming complications
- Authenticate conformity with the implemented laws
- Empower the organizations to frame a better environmental performance
- It portrays a good image of a company which helps building better relationships with the group of stakeholders
- Enhance the alertness for environmental guidelines and duties

## 9 Initiatives by College towards Sustainable Environment

### 9.1 Tree Plantation on World Environment Day

World Environment Day, which is celebrated annually on June 5 across the globe, is one of the biggest events organized by the United Nations (UN) to **generate awareness about the significance of nature**. The day is celebrated to tell people that nature should be respected for its values. The theme of this year's World Environment Day is 'Reimagine. Recreate. Restore.' as the year 2021 marks the beginning of the United Nations Decade on Ecosystem Restoration

The World Environment Day was celebrated on 5<sup>th</sup> June 2021 under the department of Botany in Arts, Science and Commerce college, Kolhar. On this occasion, a Google quiz was organized by the department of botany for college student, researcher and professors. 692 Participants attended it and were awarded certificates.

The Department of Botany held inauguration function of preparation of sapling of Gulvel (*Tinospora cordifolia* L.). The principal of ASC College, Kolhar, and Dr. S.N. Shingote sir inaugurated this function. Miss. Aher A. A., Head of the Department, Botany, deliver welcome addresss and Mrs. Pavane M.S. paid vote of thanks.



Inauguration of celebration of world environment day



Inauguration of preparation of Gulvel Sapling





Preparation of Gulvel Sapling



## **Tree Plantation and Distribution of Medicinal Plants on The Occasion of Honourable Narendra Modi's Birth Ceremony**

Trees represent life, growth, peace and nature. They produce oxygen, clean soil, prevent drought, control flood related disasters, prevent soil erosion, improve physiological, mental and spiritual health, and also reduce carbon footprints. Keeping this in mind the Department of Botany was initiated Tree plantation programme. Trees are the foremost source for producing the oxygen in environment, they helps to reduce the level of CO<sub>2</sub>. As we all know that the whole world is facing the problem of global warming and to recover from such problem planting the trees is become one of the most important aspects today.

17<sup>th</sup> September is the 71<sup>st</sup> Birthday of Prime Minister Narendra Modi. "It is a happy coincidence that we are also celebrating 'Azadi Ka Amrut Mahotsav'. Prime Minister Modi never works to earn fame. His aim is public welfare and development. In line with this spirit, the birthday of Prime Minister Modi is being celebrated in the form of a massive tree plantation campaign. It is also an occasion to celebrate Mr Modi's two decades of service and dedication for good governance as Chief Minister and Prime Minister. During these twenty years, Mr Narendra Modi left his indelible mark on the life of crores of people through his relentless efforts to address fundamental problems facing the poor.

On Behalf of Department of Botany Arts, Science and Commerce College, Kolhar distributed Medicinal Plants to the members of Kolhar Gram panchayat on the occasion of Prime Minister Narendra Modi's Birthday.

Various Herbal saplings prepared by the Department of Botany were planted in the College campus. On this occasion Principal Prof. Jayshree Singar, Mrs. Sangita Dhimate , Dr. Archana Vikhe, Mr. Uttam Yeole, Dr. Pravin Tupe, Miss, Ashwini Aher, Mrs. Manisha Pavane planted saplings in the college campus.

These saplings include *Neem, Almond Tree, Tamrind, Giloy, Behda*, etc. Some staff members were assigned the task to give water and some were digging to plant trees.

All were happy and experience proud after the tree plantation event was finished, because it really feels great to do positive for the nature. Mrs. Manisha Pavane proposed vote of thanks.

We hope that such activities shall sensitize and encourage the students and staff members to "Love the trees until their leaves fall Off, then encourage them to try again next year".





Distribution of Medicinal Plants to the members of Kolhar Gram panchayat on the occasion of Prime Minister Narendra Modi's Birthday



Tree Plantation in College Campus On the occasion of Prime Minister Narendra Modi's Birthday



“Trees are my guru. They continue to give unconditionally even when you pelt them with stones to take their fruit, and even if you cut them down. Trees give life. Let’s reciprocate that. Plant more trees.” —APJ  
Abdul Kalam

## 9.2 E- Waste Management Program

- a) ASC College , Kolhar is digitalized to some extent.
- b) The institute has 42 PCs, 07 Printers, 1 Air conditioners in working condition.
- c) The generation of E-waste is also small.
- d) All E-waste is collected and stored in respected department and once in five year this E-waste is collected from respective department and given to authorize recycler.
- e) The data on E-waste generation and its disposal is not available.
- F) There is no documented policy for collection , segregation of e-waste .

## 9.3 Initiative Taken to Avoid Use of Paper / Plastic, Etc. In College Campus

Being academic intuition , waste paper is the main solid waste waste generation in the premises . The institution has taken steps to minimize and avoid paper usage .It was observed that:

- a) Prints and photocopies are taken on both sides of the pages to avoid excess paper usage. Rather than photocopy, digitalization (scanning) is practiced.
- b) The college E-Library facilities with INFLIBNET N-List and DELNET Consortia.
- c) The library is fully automated with bar-coded books.
- d) There is 6000+ E-journals and 3135000+ E-books in library.
- e) Faculty and administration staff use old papers and envelop for internal usages as rough work , file markers , page separators etc.
- f) Paper notices are displayed on the notice boards.
- g) The dissertation reports, journals, and answer papers are stored as per the University rules. Most answer papers will be archived and stored in a record room at ground floor. Old publications are still stored in the library.
- h) As per the memo, for the disposal of old newspaper scrap dealer is called by librarian.



## 9.4 Rain Water Harvesting

Rain water which is accumulated on terrace of different building is getting utilised by means of rain water harvesting system. Water from the various buildings is transferred to the one big chamber. 78000 This water is used to recharge the ground water

Following are the same images of actual system

