7.1.2 The Institution has facilities and initiatives for

Rajarshee Shahu Science College, Chandur Railway strives to provide the quality education as per the vision and mission statement. College has identified the areas of sensitization of students in relativity with environment, energy, sustainability inclusiveness and provided a conducive environment through the facilities and activities in tune with the Perspective plan, policies, and procedures. This helped in accepting the challenges of 21st century and NEP 2020 to undertake initiatives to address glocal (Global and Local) issues. The role of institute is reflected in terms of various programmes and activities incorporating within its regular functioning. The Institution has facilities and initiatives for

1. Alternate sources of energy and energy conservation measures

BRIEF REPORT

Internal Quality Assurance Cell (IQAC) framed the policy on Green Campus, Environment and Energy. It has taken all possible measures and initiatives to conserve the energy, water and to make the premises eco-friendlier and greener. The link for policies and procedures is as follows:

Alternate source of energy and energy conservation

The Institution has facilities for alternate sources of energy and energy-conservation measures. 500KWP energy is generated through the solar panels and 25% of electricity consumption is met by these solar panels. Energy-saving LED bulbs and power-efficient equipment are used in the college campus. Ordinary lights have been replaced by CFL and LED lights to conserve energy. Institute is focusing on use of LED lights to save energy especially at common places. At the institute all fluorescent tube lights has been replaced with LED lights and used at Common places like washroom, Department passages, and Conference room etc. to save energy.

ALTERNATE SOURCES OF ENERGY AND ENERGY CONSERVATION MEASURES

Electrical Energy Consumption Survey and Energy Saving

11 March 2022

Place Village: Kalamjapur Tah: Chandur Railway, Dist:Amravati

Objective of the Activity:

- To make students a responsible citizen.
- To make villagers aware of new technology.
- To help them in saving amount in electric bill.

Collaborator NSS officer and Unit

BRIEFING OF ACTIVITY:

Some peoples in Villages are unaware of the new technology introduced globally and its benefits for many reasons. To reach these peoples with proper information in their benefit is our social responsibility. One of the issues in the villages is the electric bill. To percolate the social responsibility among the students and benefit the villagers, Department of Physics in collaboration with NSS unit carried out a "Electrical Energy Consumption Survey and Energy Saving Awareness" in the Kalamjapur village.

Mr. S.A.Wani has prepared an information leaf and explained students the same in the NSS camp. Students reached people door to door and on the basis of collected information, explained them the energy consumption by different electrical appliances and aware them with new technology-based appliances that are more efficient and low energy consumption rate.

During the survey and awareness Campion, village people cooperated a lot with the students. Gentle behavior from both the end was the key for success of this activity. This activity was successfully headed under the able guidance and supervision of Head Department of Physics and NSS Officer Dr. A. P. Pachkawade, Mr. S. A. Wani and Dr. R. N. Bhagat.

USEFUL INFORMATION:

- **Incandescent light bulb:**

The incandescent light bulb or lamp is a source of electric light that works by incandescence, which is the emission of light caused by heating the filament. The wire is surrounded by a glass bulb that is usually filled with an inert gas.

- **Compact fluorescent light bulbs (CFLs)**

A fluorescent light bulb uses gas inside the bulb to light up: when electricity runs through it, it excites a mixture of gases, which are transformed into light. A fluorescent lamp tube is filled with a mix of argon, xenon, neon, or krypton, and mercury vapor. The pressure inside the lamp is around 0.3% of atmospheric pressure. The partial pressure of the mercury vapor alone is about 0.8 Pa (8 millionths of atmospheric pressure), in a T12 40-watt lamp.

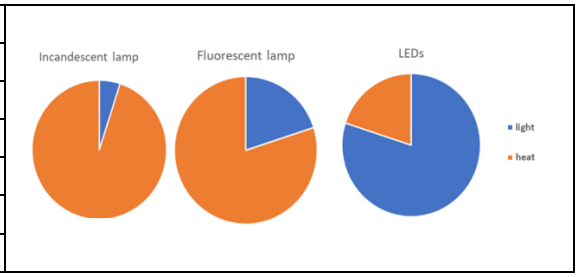
Compact fluorescent light bulbs (CFLs) use dramatically less energy than incandescent bulbs and reduce greenhouse gas emissions. But they also contain mercury – a dangerous toxin. If a CFL breaks, some of the mercury that's contained in the bulb will evaporate into the air. Inhaling mercury vapor is hazardous to human health. Breathing in mercury vapors may cause symptoms such as cough, fever, difculty breathing, nausea, vomiting, headaches, increased salivation and an acute metallic taste in the mouth.

- **LED lamp or LED light bulb:**

An LED lamp or LED light bulb is an electric light that produces light using light-emitting diodes (LEDs). LED lamps are significantly more energy-efficient than equivalent incandescent lamps and can be significantly more efficient than most fluorescent lamps.

Equivalent Wattages and Light Output of Incandescent, CFL, and LED Bulbs:

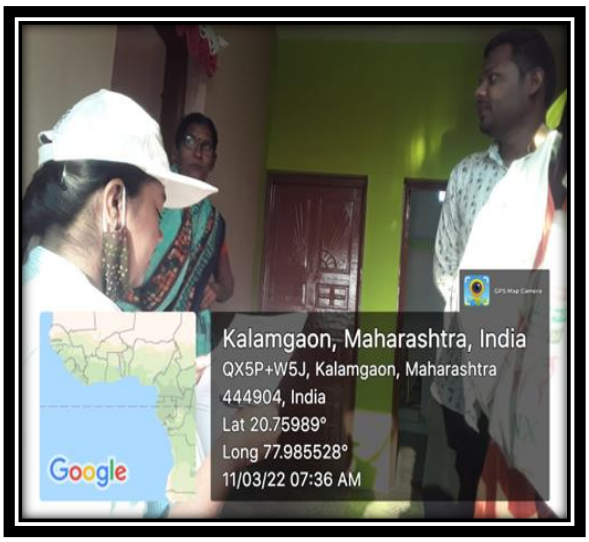
Light Output	LEDs	CFLs	Incandescents
Lumens	Watts	Watts	Watts
450	4-5	8-12	40
750-900	6-8	13-18	60
1100-1300	9-13	18-22	75-100
1600-1800	16-20	23-30	100
2600-2800	25-28	30-55	150



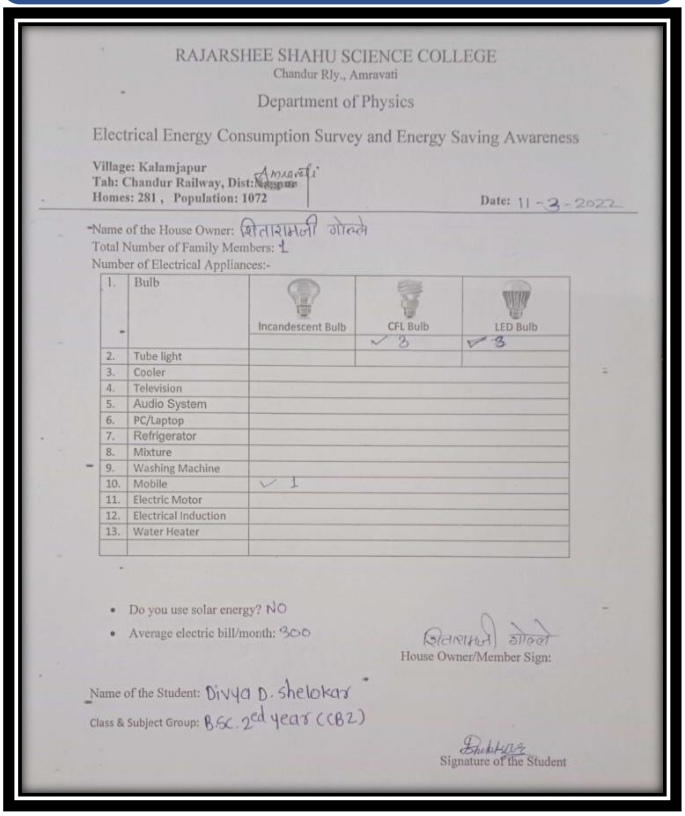
Comparing the Features of Incandescent, CFL, and LED Light Bulbs:

Features	**LEDs**	**CFLs**	**Incandescents**
Frequent On/Off Cycling	no effect	shortens lifespan	yes
Turns on instantly	yes	slight delay with some CFLs	yes
Durability	durable	fragile	fragile
Heat Emitted	low (3 btu's/hr)	medium (15 btu's/hr)	high (85 btu's/hr)
Sensitivity to high temperature	some	yes	no
Sensitivity to low temperature	no	yes	no
Sensitivity to humidity	no	yes	some
Hazardous Materials	none	5 mg mercury/bulb	none
Replacement frequency (over 25k hours)	1	2.5	20+

Activity Photos



Survey Form



RAJARSHEE SHAHU SCIENCE COLLEGE
Chandur Rly., Amravati

Department of Physics

Electrical Energy Consumption Survey and Energy Saving Awareness

Village: Kalamjapur
Tah: Chandur Railway, Dist: Amravati
Homes: 281 , Population: 1072

Date: 11-3-2022

Name of the House Owner: शीतलमणी गोरले
Total Number of Family Members: 4
Number of Electrical Appliances:-

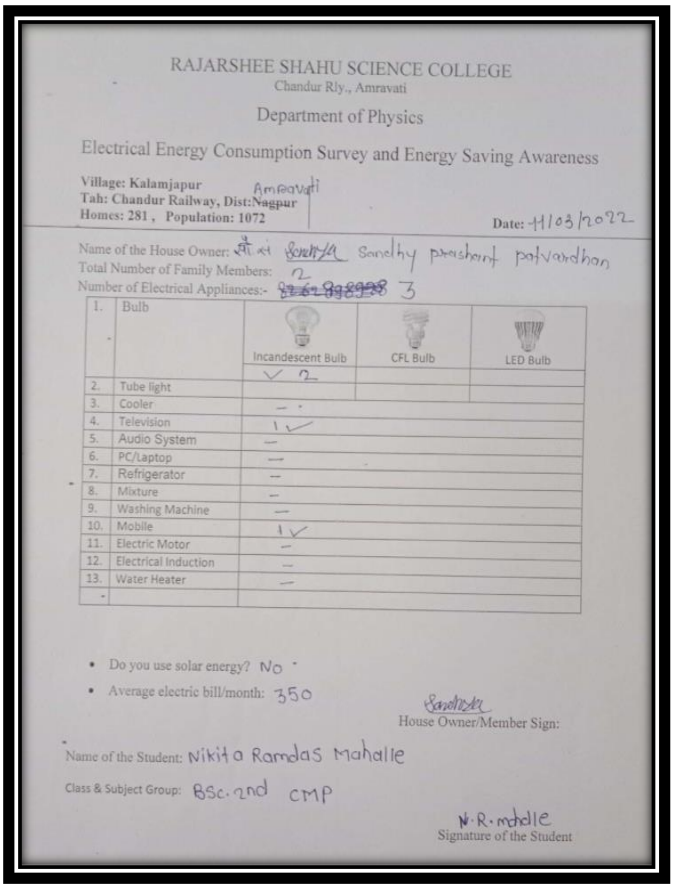
		Incandescent Bulb	CFL Bulb	LED Bulb
1.	Bulb		✓ 3	✓ 3
2.	Tube light			
3.	Cooler			
4.	Television			
5.	Audio System			
6.	PC/Laptop			
7.	Refrigerator			
8.	Mixture			
9.	Washing Machine			
10.	Mobile	✓ 1		
11.	Electric Motor			
12.	Electrical Induction			
13.	Water Heater			

- Do you use solar energy? NO
- Average electric bill/month: 300

शीतलमणी गोरले
House Owner/Member Sign:

Name of the Student: Divya D. shelokar
Class & Subject Group: B.Sc. 2ed year (CBZ)

Signature of the Student



RAJARSHEE SHAHU SCIENCE COLLEGE
Chandur Rly., Amravati

Department of Physics

Electrical Energy Consumption Survey and Energy Saving Awareness

Village: Kalamjapur Amravati
Tah: Chandur Railway, Dist:Nagpur
Homes: 281 , Population: 1072

Date: 11/03/2022

Name of the House Owner: श्री Sanchita Sanchay prashant patvardhan
Total Number of Family Members: 2
Number of Electrical Appliances:- 3

		Incandescent Bulb	CFL Bulb	LED Bulb
1.	Bulb	✓ 2		
2.	Tube light			
3.	Cooler	–		
4.	Television	1 ✓		
5.	Audio System	–		
6.	PC/Laptop	–		
7.	Refrigerator	–		
8.	Mixture	–		
9.	Washing Machine	–		
10.	Mobile	1 ✓		
11.	Electric Motor	–		
12.	Electrical Induction	–		
13.	Water Heater	–		

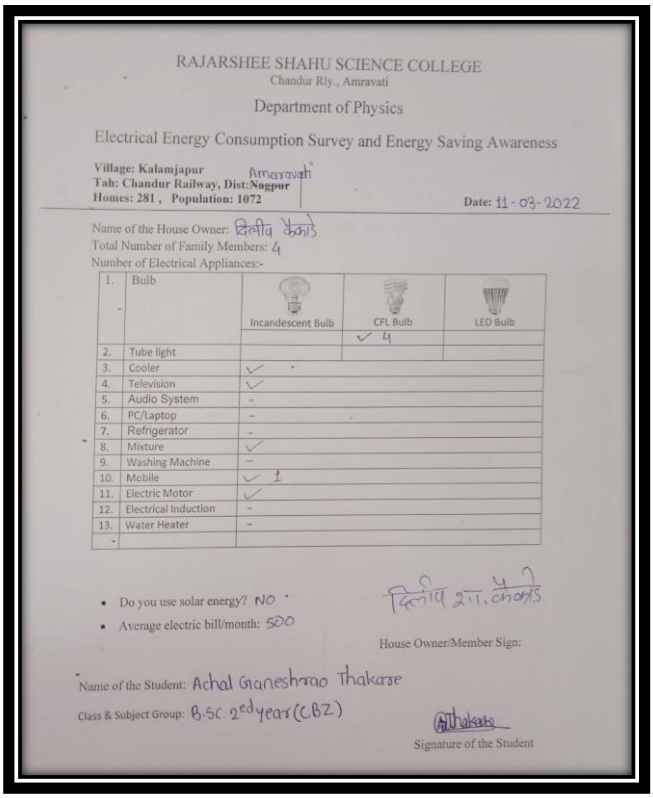
- Do you use solar energy? No
- Average electric bill/month: 350

Sanchita
House Owner/Member Sign:

Name of the Student: Nikita Ramdas Mahalle

Class & Subject Group: BSc. 2nd CMP

N.R.mahalle
Signature of the Student



RAJARSHEE SHAHU SCIENCE COLLEGE
Chandur Rly., Amravati

Department of Physics

Electrical Energy Consumption Survey and Energy Saving Awareness

Village: Kalamjapur Amravati
Tah: Chandur Railway, Dist:Nagpur
Homes: 281 , Population: 1072

Date: 11-03-2022

Name of the House Owner: दिलीप येकाडे
Total Number of Family Members: 4
Number of Electrical Appliances:-

		Incandescent Bulb	CFL Bulb	LED Bulb
1.	Bulb		✓ 4	
2.	Tube light			
3.	Cooler	✓		
4.	Television	✓		
5.	Audio System	-		
6.	PC/Laptop	-		
7.	Refrigerator	-		
8.	Mixture	✓		
9.	Washing Machine	-		
10.	Mobile	✓ 1		
11.	Electric Motor	✓		
12.	Electrical Induction	-		
13.	Water Heater	-		

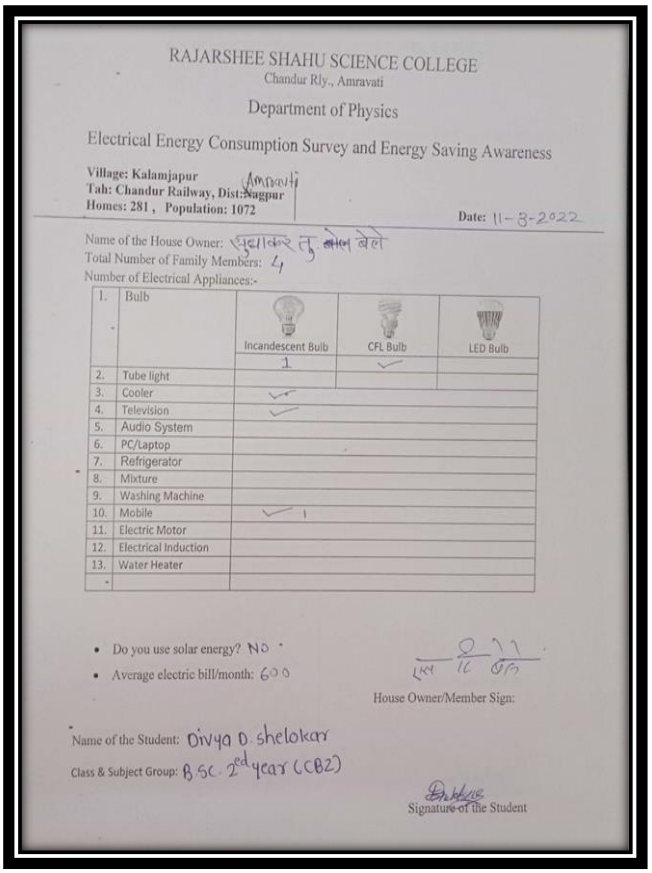
- Do you use solar energy? NO
- Average electric bill/month: 500

दिलीप येकाडे 4 जणांचे
House Owner/Member Sign:

Name of the Student: Achal Ganeshrao Thakare

Class & Subject Group: B.Sc. 2ed years (CBZ)

A.Thakare
Signature of the Student



RAJARSHEE SHAHU SCIENCE COLLEGE
Chandur Rly., Amravati

Department of Physics

Electrical Energy Consumption Survey and Energy Saving Awareness

Village: Kalamjapur
Tah: Chandur Railway, Dist: Nagpur
Homes: 281 , Population: 1072

Date: 11-3-2022

Name of the House Owner: सुधाकर तु. बेले
Total Number of Family Members: 4
Number of Electrical Appliances:-

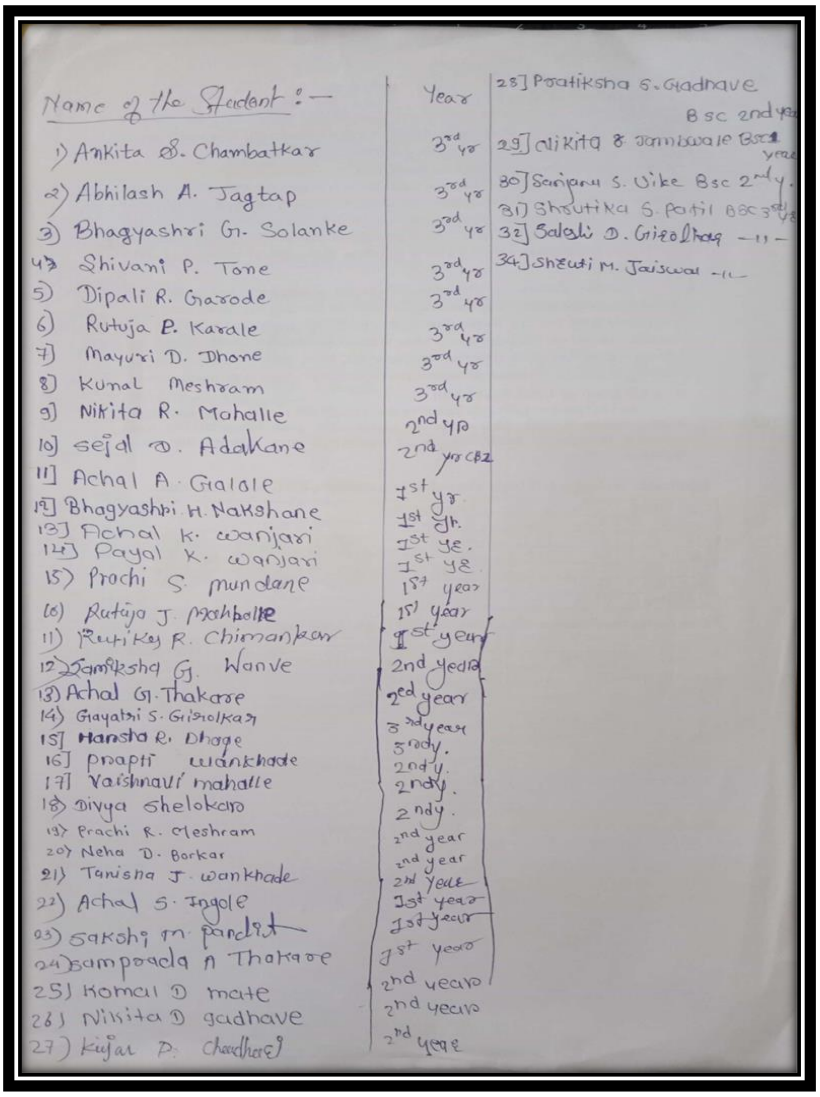
		Incandescent Bulb	CFL Bulb	LED Bulb
1.	Bulb	1	✓	
2.	Tube light			
3.	Cooler	✓		
4.	Television	✓		
5.	Audio System			
6.	PC/Laptop			
7.	Refrigerator			
8.	Mixture			
9.	Washing Machine			
10.	Mobile	✓ 1		
11.	Electric Motor			
12.	Electrical Induction			
13.	Water Heater			

- Do you use solar energy? NO
- Average electric bill/month: 600

House Owner/Member Sign:

Name of the Student: Divya D. shelokar
Class & Subject Group: B.Sc. 2nd year (CBZ)

Signature of the Student



Name of the Student :— | Year

1) Ankita S. Chambatkar — 3rd yr
2) Abhilash A. Jagtap — 3rd yr
3) Bhagyashri G. Solanke — 3rd yr
4) Shivani P. Tone — 3rd yr
5) Dipali R. Garode — 3rd yr
6) Rutuja P. Karale — 3rd yr
7) Mayuri D. Dhone — 3rd yr
8) Kunal Meshram — 3rd yr
9) Nikita R. Mohalle — 2nd yr
10) Sejal D. Adakane — 2nd yr CBZ
11) Achal A. Gialale — 1st yr
12) Bhagyashri H. Nakshane — 1st yr.
13) Achal K. wanjari — 1st ye.
14) Payal K. wanjari — 1st ye.
15) Prachi S. mundane — 1st year
16) Rutuja J. Pashbolle — 1st year
17) Rutika R. Chimankar — 1st year
18) Sanjkesha G. Wanve — 2nd year
19) Achal G. Thakare — 2ed year
20) Gayatri S. Girolkar — 3rd year
21) Hansha R. Bhage — 3rdy.
22) Prapti Wankhade — 2ndy.
23) Vaishnavi mahalle — 2ndy.
24) Divya Shelokar — 2ndy.
25) Prachi R. Meshram — 2nd year
26) Neha D. Borkar — 2nd year
27) Tanisha J. wankhade — 2nd year
28) Achal S. Ingole — 1st year
29) Sakshi M. pandit — 1st year
30) Sampada A Thakare — 1st year
31) Komal D mate — 2nd year
32) Nikita D gadhave — 2nd year
33) Kajal P. Chaudhary — 2nd year
34) Pratiksha S. Gadhave — B sc 2nd yr
35) Ankita S. Jambuwale — B sc 1 year
36) Sanjana S. Uike — B sc 2nd y.
37) Shrutika S. Patil — B sc 3rd yr
38) Sakshi D. Girolkar — 1 —
39) Shruti M. Jaiswal — 1 —

NSS Officer	Convenor	Co-Convenor
Dr.A.P.Pachkawade	**Mr. S. A. Wani**	**Dr. Roshani N. Bhagat**
Head Dept. of Physics	Asst. Prof. Dept. of Physics	Asst. Prof. Dept. of Physics

IQAC Co-ordinator
Rajarshee Shahu Science College
Chandur Rly., Dist. Amravati

(Dr. Minal Keche)

Rajarshee Shahu Sc College
SEAL
807
Chandur Rly

Principal
Rajarshee Shahu Science College
Chandur Rly. Distt. Amravati

(Dr. Mahesh Chikhale
Chairman IQAC and Principal)