Jaysingpur College
Jaysingpur.

Management committee

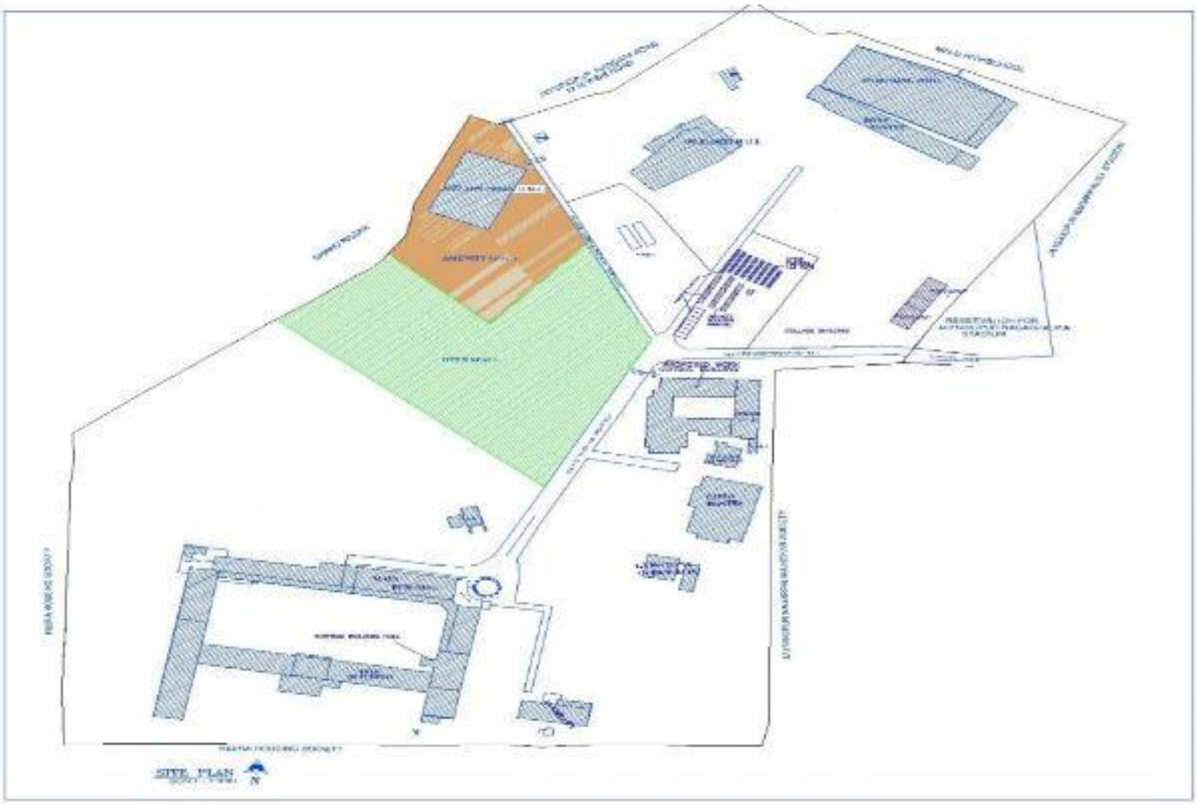
Designation	Name
Principal	Dr. Rajendra R. Kumbhar
Secretory	Dr. Mahaveer Akkole
Senior Clerk	Mr. Sanjay A. Chavare
Office Superintendent	Mr. Sanjay D. Magadum
Architect Name	Ar. Vipin Khade

JAYSINGPUR COLLEGE SR. COLLEGE JAYSINGPUR

PRINCIPAL,
Jaysingpur College, Jaysingpur.

Location map-

Site Plan



EXECUTIVE SUMMARY:

•A walkthrough energy audit was conducted in Jaysingpur college, to assess the energy saving potential of the college.

•Current baseline of Energy Utilization Indices (EUI) was calculated.

•The main segment of energy consumption in the college is on its lights.

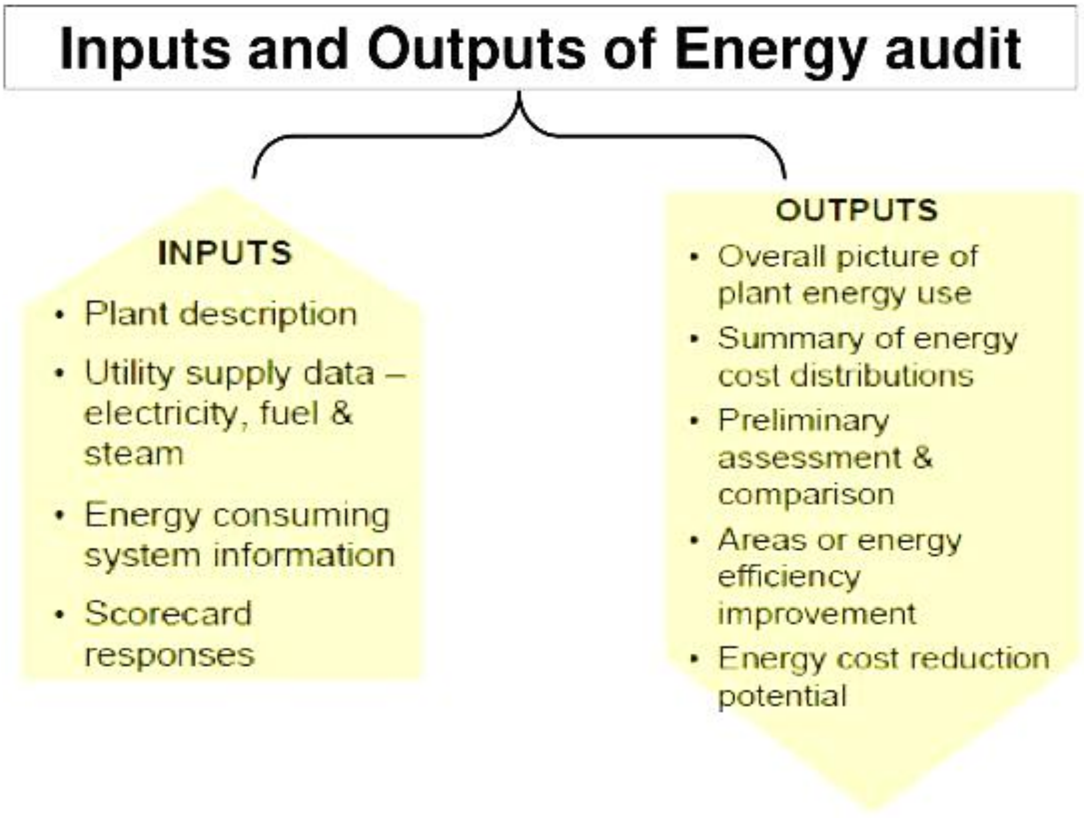
•Several measures on energy conservation measures were recommended based on the observations.

•The energy consumption of the college would reduce, and the new EUI that could be achieved would be lowered.

OBJECTIVES:

•The objective of conducting this audit is to identify the energy saving potential that exist this college.

•The objective is thus to analyze the achievable percentage of energy saving potential in the parameters of kWh/m2/year for Jaysingpur college, with energy efficient measures.



LOAD DEATAILS:

Load calculations of the campus is done by dividing the whole campus into following blocks:

1. Principal cabin
2. Management cabin
3. Main office
4. Account office
5. Atal lab
6. Jr. Chemistry
7. BCA
8. BCS
9. Jr. Computer
10. Sr. Electronics
11. Sr. Physics
12. Math’
13. Library
14. Economics
15. Gate Room
16. Electric Pump
17. Tissue Lab
18. Ladies Hostel
19. Principal Bungalow
20. Indoor Stadium
21. Boys Hostel
22. Watchmen House
23. Swimming pool
24. Eklavya Acedemic
25. DST Lab
26. Food Science
27. Zoology
28. Botany
29. Cap Center
30. Canteen
31. Pat Sanstha
32. NCC
33. Marathi
34. History
35. Hindi
36. Physical Education
37. BPO
38. Psychology
39. Printing Department
40. Geography
41. Auto Mobile
42. English Department
43. New Staff Room
44. Sr. Chemistry

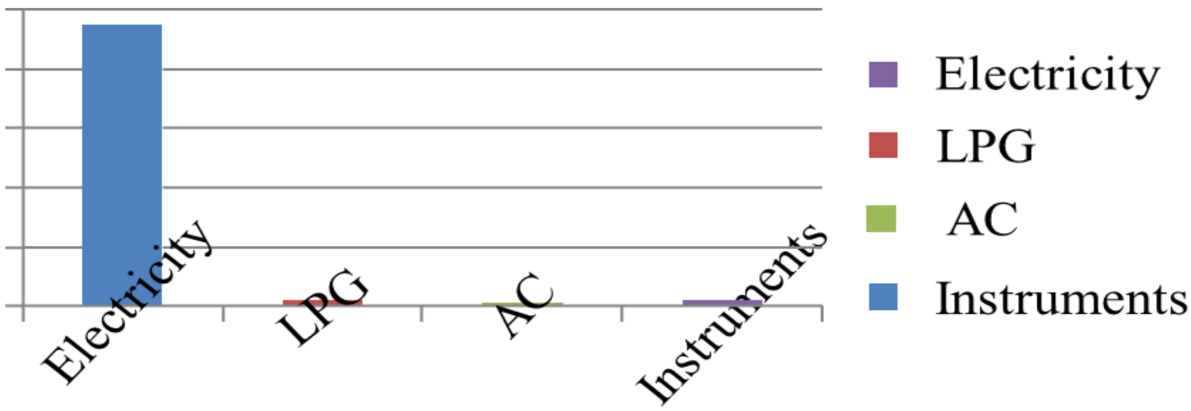
Dept. Name	Equipment Type	Total Number	Wattage	Total Wattage	Hrs. of use per day		Days of use per year	Total watt	Total kw
Principal	Computer	2	200	400	12	4800	270	1296000	309.75
Cabin	Printer	2	700	1400	7	9800	270	2646000	632.41
	LED TV	1	500	500	12	6000	270	1620000	387.19
	Fan	1	90	90	7	630	270	170100	40.65
Management cabin	Fan	2	90	180	7	1260	270	340200	81.31
Main Office	Computer	10	200	2000	7	14000	270	3780000	903.44
	Printer	5	700	3500	7	24500	270	6615000	1581.02
	Xerox machine	1	1000	1000	7	7000	270	1890000	451.72
	Fan	5	90	450	7	3150	270	850500	203.27
Account Office	Computer	3	200	600	7	4200	270	1134000	271.03
	Printer	2	700	1400	7	9800	270	2646000	632.41
	Fan	2	90	180	7	1260	270	340200	81.31
Atal Lab	Fan	3	90	270	7	1890	270	510300	121.96
Jr. Chemistry	Fan	5	90	450	7	3150	270	850500	203.27
BCA	Computer	25	200	5000	7	35000	270	9450000	2258.61
	Printer	1	700	700	7	4900	270	1323000	316.20
	LCD Projector	1	150	150	2	300	270	81000	19.36
	Fan	3	90	270	7	1890	270	510300	121.96
BCS	Computer	25	200	5000	7	35000	270	9450000	2258.61
	Printer	1	700	700	7	4900	270	1323000	316.20
	UPS	1			7		270	0	0.00
	Fan	3	90	270	7	1890	270	510300	121.96
Jr. Computer	Computer	25	200	5000	7	35000	270	9450000	2258.61
	Printer	1	700	700	7	4900	270	1323000	316.20
	Fan	3	90	270	7	1890	270	510300	121.96
Sr. Electronics	Computer	5	200	1000	7	7000	270	1890000	451.72
	CRO	4	700	2800	7	19600	270	5292000	1264.82
	Fan	2	90	180	7	1260	270	340200	81.31
Sr. Physics	Computer	5	200	1000	7	7000	270	1890000	451.72
	Printer	1	700	700	7	4900	270	1323000	316.20
	Fan	5	90	450	7	3150	270	850500	203.27
Jr. Physics	Computer	1	200	200	7	1400	270	378000	90.34
	Printer	1	700	700	7	4900	270	1323000	316.20
	Fan	2	90	180	7	1260	270	340200	81.31
Math's	Computer	22	200	4400	7	30800	270	8316000	1987.57
	Printer	2	700	1400	7	9800	270	2646000	632.41
	Fan	6	90	540	7	3780	270	1020600	243.93
	LCD Projector	1	150	150	2	300	270	81000	19.36

Library	Computer	9	200	1800	7	12600	270	3402000	813.10
	Printer	2	700	1400	7	9800	270	2646000	632.41
	Fan	23	90	2070	7	14490	270	3912300	935.06
	Scanner	1	1000	1000	1	1000	270	270000	64.53
Economics	Computer	2	200	400	7	2800	270	756000	180.69
	Printer	1	700	700	7	4900	270	1323000	316.20
	Fan	1	90	90	7	630	270	170100	40.65
Gate Room	Fan	2	90	180	7	1260	270	340200	81.31
Electric Pump (Bore Motor)	5 HP	1	7045	7045	5	35225	270	9510750	2273.13
Tissue Lab	Ac	1	1500	1500	24	36000	270	9720000	2323.14
	Fan	3	90	270	7	1890	270	510300	121.96
	Auto Disinfectant Fan	1	100	100	7	700	270	189000	45.17
	Incubuter	1	500	500	12	6000	270	1620000	387.19
	Hot Air Oven	1	1000	1000	7	7000	270	1890000	451.72
Ladies Hostel	Fan	19	90	1710	7	11970	270	3231900	772.44
	T. V.	1	40	40	2	80	270	21600	5.16
	Freez	1	1000	1000	24	24000	270	6480000	1548.76
Principal Banglo	Fan	4	90	360	7	2520	270	680400	162.62
	T. V.	1	40	40	4	160	270	43200	10.33
	Freez	1	1000	1000	24	24000	270	6480000	1548.76
	Electric HEATER	1	1000	1000	1	1000	270	270000	64.53
Indoor Stedium	AC	3	1500	4500	12	54000	270	14580000	3484.71
	Big Instruments	3	1500	4500	12	54000	270	14580000	3484.71
Boys Hostel	Fan	8	90	720	7	5040	270	1360800	325.24
Watchman house	Fan	1	90	90	7	630	270	170100	40.65
	T. V.	1	40	40	4	160	270	43200	10.33
Swimming Tank	Motor (3 HP)	3	4000	12000	6	72000	270	19440000	4646.28
						0			
Eklavya Acedemic	Fan	3	90	270	7	1890	270	510300	121.96
DST Lab	Computer	12	200	2400	7	16800	270	4536000	1084.13
	Printer	2	700	1400	7	9800	270	2646000	632.41
	Fan	6	90	540	7	3780	270	1020600	243.93
	AC	2	1500	3000	24	72000	270	19440000	4646.28
	Instruments	1	1000	1000	5	5000	270	1350000	322.66
Food Sci.	Computer	2	200	400	7	2800	270	756000	180.69
	Printer	1	700	700	7	4900	270	1323000	316.20
	Fan	6	90	540	7	3780	270	1020600	243.93
	Oven	2	1000	2000	7	14000	270	3780000	903.44
	Freeze	1	1000	1000	7	7000	270	1890000	451.72
	Instruments	1	1000	1000	7	7000	270	1890000	451.72
Zoology	Computer	3	200	600	7	4200	270	1134000	271.03
	Printer	1	700	700	7	4900	270	1323000	316.20
	Fan	6	90	540	7	3780	270	1020600	243.93
	LCD Projector	1	150	150	2	300	270	81000	19.36
	Freeze	1	1000	1000	24	24000	270	6480000	1548.76
	Oven	1	1000	1000	7	7000	270	1890000	451.72
	Incubator	1	500	500	7	3500	270	945000	225.86

Botany	Computer	3	200	600	7	4200	270	1134000	271.03
	Printer	2	700	1400	7	9800	270	2646000	632.41
	Fan	9	90	810	7	5670	270	1530900	365.89
	Freeze	1	1000	1000	24	24000	270	6480000	1548.76
	Oven	1	1000	1000	7	7000	270	1890000	451.72
	Incubator	1	500	500	7	3500	270	945000	225.86
Cap Center	Computer	2	200	400	7	2800	270	756000	180.69
	Printer	1	700	700	7	4900	270	1323000	316.20
	Fan	6	90	540	7	3780	270	1020600	243.93
	Xerox machine	1	1000	1000	7	7000	270	1890000	451.72
Canteen	Fan	4	90	360	7	2520	270	680400	162.62
	Freeze	1	1000	1000	24	24000	270	6480000	1548.76
Pat Sanstha	Computer	2	200	400	7	2800	270	756000	180.69
	Printer	1	700	700	7	4900	270	1323000	316.20
	Fan	2	90	180	7	1260	270	340200	81.31
NCC	Computer	1	200	200	7	1400	270	378000	90.34
	Printer	1	700	700	7	4900	270	1323000	316.20
	Fan	2	90	180	7	1260	270	340200	81.31
Marathi	Computer	1	200	200	7	1400	270	378000	90.34
	Printer	1	700	700	7	4900	270	1323000	316.20
	Fan	1	90	90	7	630	270	170100	40.65
						0			
History	Computer	1	200	200	7	1400	270	378000	90.34
	Printer	1	700	700	7	4900	270	1323000	316.20
	Fan	1	90	90	7	630	270	170100	40.65
Hindi	Computer	1	200	200	7	1400	270	378000	90.34
	Printer	1	700	700	7	4900	270	1323000	316.20
	Fan	1	90	90	7	630	270	170100	40.65
Physical Edu.	Computer	1	200	200	7	1400	270	378000	90.34
	Printer	1	700	700	7	4900	270	1323000	316.20
	Fan	1	90	90	7	630	270	170100	40.65
BPO	Computer	8	200	1600	7	11200	270	3024000	722.75
	Printer	2	700	1400	7	9800	270	2646000	632.41
	Fan	3	90	270	7	1890	270	510300	121.96
	LCD Projector	1	500	500	2	1000	270	270000	64.53
Psychology	Computer	2	200	400	7	2800	270	756000	180.69
	Printer	1	700	700	7	4900	270	1323000	316.20
	Fan	2	90	180	7	1260	270	340200	81.31
	LCD Projector	1	500	500	7	3500	270	945000	225.86
Printing Dept	Computer	2	200	400	7	2800	270	756000	180.69
	Printer	2	700	1400	7	9800	270	2646000	632.41
	Fan	3	90	270	7	1890	270	510300	121.96
	Printing Machine	2	1000	2000	7	14000	270	3780000	903.44
Geography	Computer	2	200	400	7	2800	270	756000	180.69
	Printer	1	700	700	7	4900	270	1323000	316.20
	Fan	3	90	270	7	1890	270	510300	121.96
	LCD Projector	1	500	500	7	3500	270	945000	225.86
Auto Mobile	Computer	1	200	200	7	1400	270	378000	90.34
	Fan	4	90	360	7	2520	270	680400	162.62
	Leth Machine	1	1200	1200	7	8400	270	2268000	542.07

Dept. Name	Equipment Type	Total Number	Wattage	Total Wattage	Hrs. of use per day		Days of use per year	Total watt	Total kw
English Dept	Computer	5	200	1000	7	7000	270	1890000	451.72
	Printer	1	700	700	7	4900	270	1323000	316.20
	Fan	2	90	180	7	1260	270	340200	81.31
	LCD Projector	1	500	500	3	1500	270	405000	96.80
New Staff Room	Fan	3	90	270	7	1890	270	510300	121.96
Sr. Chemistry	Computer	3	200	600	7	4200	270	1134000	271.03
	Printer	3	700	2100	7	14700	270	3969000	948.61
	Fan	7	90	630	7	4410	270	1190700	284.58
	Other machine	1	1000	1000	7	7000	270	1890000	451.72
Inword Outword	Computer	1	200	200	7	1400	270	378000	90.34
	Fan	1	90	90	7	630	270	170100	40.65
		Total							**75830.78**

Energy Consumption



Total units used per year = 75830.78 kw

Average units used per month = 75830.78/12

= 6319.24 kw per month

Approximate bill per month = 1,20,000

CB 2 0

MAHAVITARAN

CIN : U40109MH2005SGC153645

Maharashtra State Electricity Distribution Co. Ltd.

BILL OF SUPPLY FOR THE MONTH OF Jul-2019

GSTIN: 27AAECM2933K1ZB Website: www.mahadiscom.in HSN CODE: 27160000

KOLHAPUR CIRCLE - 500 JAYASINGPUR DIVISIO - 503 JAYSINGPUR - 030 BU 1171 Bill No.: 000000508112676

Consumer No. : 252580234622	BILL DATE : 14/08/2019 DUE DATE : 28/08/2019 ₹ 121160.00
Consumer Name : THE PRINCIPAL JAYSINGPUR COLLEGE	IF PAID UPTO 20/08/2019 ₹ 120170.00
Address : TAL.SHIROL,DIST.KOLHAPUR.	IF PAID AFTER 28/08/2019 ₹ 122670.00
	Last Receipt No./Date : / 15-07-2019
	Last Month Payment : 132430.00
Village : JAYSINGPUR Pin Code : 416101	Scale / Sector : Large Scale / Private Sector

E-mail: jspxxxxxxx@gmail.com		Activity :
Mobile No.: 84xxxxxx67	Meter No.: 055-X0461238	Seasonal N /
Sanctioned Load (KW). 60.00	Connected Load (KW) : 60.00	Urban/Rural Flag : U Express Feeder Flag : N
Contract Demand (KVA): 57.00	50% of Con. Demand (KVA): 28.50	Feeder Voltage (KV) : 11
Tariff: 89 LT-X B III	DTC : 4030277 GIS Dtc/Pole :	PC-MR-ROUTE-SEQ : 00-37-0023-0371

Date of Connection: 28/09/1988	Category: 89 LT-X B III	GSTIN:
Supply at: HT	Elec. Duty: 07 PART B	PAN:
Prev. Highest (Mth): Jan	Prev. Highest Bill Demand (KVA): 30	
Security Deposit Held Rs.: 64636.85	Addl. S.D. Demanded Rs.: 0.00	
Bank.Guarantee Rs. :	S D Arrears Rs.: 39387.65	

Maintain Harmonic distortion within limit as prescribed by IEEE STANDARD 519-1992 to avoid penalty

BILLING HISTORY

Bill Month	Units	Bill Demand(KVA)	Bill Amount
Jun-2019	10850	23	132396.39
May-2019	11130	23	135616.39
Apr-2019	12103	25	147433.77
Mar-2019	12073	23	145948.36
Feb-2019	9775	23	117171.80
Jan-2019	9781	23	119771.19
Dec-2018	9962	23	128782.82
Nov-2018	7444	30	108854.20
Oct-2018	12160	30	165845.94
Sep-2018	10591	30	135740.77
Aug-2018	10380	0	102605.04
Jul-2018	8081	0	78430.08

CUSTOMER CARE Toll Free No. 1912,1800-233-3435, 1800 102-3435

Rule & Procedure for Consumer Grievances Redressal is available at www.mahadiscom.in>consumer portal>CGRF

Instead of Printed bill, register for E-bill and avail Rs. 10 per bill as a "Go-green" discount. For registration visit at www.mahadiscom.in->consumer portal->Quick access->Go-green request

Avail Power factor incentive up to 3.5% maintaining power factor above 95% to 100%

Avail load factor Incentive up to 15% by maintaining constant load profile.

Avail 1% prompt payment discount by paying bills within prompt payment date.

Important Message

- Consumers can pay online using Net banking, Credit/Debit cards at https://wss.mahadiscom.in/wss/wss after registration.
- Submit / update your E-mail id and mobile number to Circle Office for receiving prompt alerts through SMS.
- Submit / update your PAN & GSTIN to circle office with copies of PAN & GSTIN for verification.
- Special desk is operational for HT Consumers, please contact: htconsumer@mahadiscom.in for any clarification / query or grievance.
- This Electricity Bill should not be use for the address proof and as a proof of property ownership.
- For any payment to MSEDCL, ENSURE & INSIST for computerized receipt with unique system generated receipt number. Do not accept hand written receipt. Pay online to avoid any inconvenience.

Solution:

Maximum energy consumed in form of electricity. One of the Solution for this energy consumption is solar system. As we are having enough space for solar system, we use solar system for energy requirements of the building. Capacity of solar system required is given below:

•Average energy

consumed per month = 6319.24 kw per month

•Average energy

consumed per day = 6319.24 kw / 30days = 210.64 kw

•Solar PV system of 1kw generate 4kw hr /day

•Capacity of solar system required = 210.64 / 4

= 52.66 kw per day (53)

= 52.66 x 1000

= 52660 watt

Approximately = 53000 watt

•We select polycrystalline P.V. System of 330 watt for better durability.

•1 sq. ft. of area produces 330 watt

•Therefore, total no. of panels required = 53000 / 330 =160.61

round off = 161 no. of panels.

Total 161 panels required to full fill energy needs of the college

Payback period of the system:

• Average bill per month = 1,20,000

•Total units consumed per month = 210.64 kw

• Cost per unit = 1,20,000 / 6319.24 = 18.99 Rupee per unit

•Cost of the system per kilowatt is = 50,000

•Total kw required = 53 kw

•Total cost of the system = 50,000 x 53= 26,50,000 Rupee

• Pay back period of the system = 26,50,000 / 1,20,000

= 22.08 i.e. 23 months

CONCLUSIONS:

The walkthrough energy audit conducted in Jaysingpur College Jaysingpur, had revealed the potential of saving energy by using Solar system.

•Total 161 solar panels required for the solar system.

•Payback period of the solar system is 23 months.


Aschelminthes


BOYS HOSTEL