Office of the Principal, Govt. Rajmata Vijayaraje Sindhiya Kanya Mahavidyalaya Kawardha, Kabirdham (Chhattisgarh)

Website- www.rvrsgirlscollegekawardha.ac.in
Email- rvrsgirlscollegekwd@gmail.com, Phone – 07741 -232054

L……./ Kawardha, Date - 04/06/2019

ENVIRONMENT AND ENERGY POLICY OF THE COLLEGE

Environment development is its basic work with the educational policies implemented on the campus. Every year, during rainy season, we do tree plantation and carefully look after it. It's our own responsibility to preserve the work done on the campus related to the environment.

Our policy for institute:

i. To create awareness regarding environmental policy amongst the students.
ii. To observe 'No Vehicle' and keep the campus vehicle free. It helps to save the fuel, avoids the environmental pollution.
iii. To use of bicycle by staffs and students.
iv. To ban on plastic, carry bags and disposal.
v. To maintain pollution free campus by avoiding tobacco chewing on the campus.
vi. To bring in use the 'Rain Water Harvesting' on the campus. We have collected the rain water from the college roof and it is percolated in the land.
vii. To maximize the use of ICT and minimize the use of paper. It will help to go towards 'Paperless Office'.
viii. To use 'Use me' Dry and Wet dust bins in the college campus so as to keep college campus clean.
ix. To provide clean water for drinking to students and staffs.
x. To protect and nurture the Flora and Fauna on the campus.
xi. To conduct plantation programs.
xii. To clean institute campus by staffs and students.
xiii. To use of LED and CFL for energy save in institute.
xiv. To ensure switch off the lights, fans, computers after the using in institute.
xv. To conduct internal Green Audit and Energy Audit regularly.

Principal
Govt.Rajmata Vijaya Raje
Sindhiya Kanya Mahavidyalaya,
Kawardha,Kabirdham(C.G.)

Office of the Principal, Govt. Rajmata Vijayaraje Sindhiya Kanya Mahavidyalaya Kawardha, Kabirdham (Chhattisgarh)

Website- www.rvrsgirlscollegekawardha.ac.in
Email- rvrsgirlscollegekwd@gmail.com, Phone – 07741 -232054

Report on Environmental Promotional Activities

Title of the activity	**Environmental Awareness in School**
Venue and Date	**01/01/2016** **Govt. Primary School Sagona**
Report of the event	**The institute has conducted environmental awareness progress in govt. School Sagona under the scheme of Unnat Bharat Abhiyan dated on 01/01/2016**

		 शासकीय राजमाता विजयाराजे सिंधिया कन्या महाविद्यालय कवर्धा जिला–कबीरधाम (छ.ग.) अवलोकन चार्ट सत्र - 2015-16
		 शासकीय राजमाता विजयाराजे सिंधिया कन्या महाविद्यालय कवर्धा जिला–कबीरधाम (छ.ग.) राष्ट्रीय उच्चतर शिक्षा अभियान कार्यशाला शासकीय प्राथमिक शाला-सेंगो टोल फ्री नं. 1800233124 D IPSS POLICE LINE

Title of the activity	**How to Save Fuel for environmental protection**
Venue and Date	**Kawardha 02/12/2016**
Report of the event	**The institute organised vehicle pollution control in Kawaradha**
	


Hero
CAMPUS JUNG
94.3 MY FM
COLLEGE TALENT
MPIONSHIP
Chahta Hai"
on 94.3 MY FM

Govt. Rajmata Vijaya Raje Sindhiya Kanya Mahavidyalaya ,
Kawardha , Dist-Kabirdham(Chhattisgarh)

Email:- rvrsgirlscollegekwd@gmail.com website:- http://www.rvrsgirlscollegekawardha.ac.in

INTERNAL QUALITY ASSURANCE CELL (IQAC)

Submitted to:

Dr. B. S. Chauhan
(Principal In Charge)

Editor

Mr. Asit Kumar, Assistant Professor

GREEN AUDIT REPORT
2019-2020

IQAC-Co-Ordinator
Govt.Rajmata Vijaya Raje
Sindhiya Kanya Mahavidyalay
Kawardha,Kabirdham

Principal
Govt.Rajmata Vijaya Raje
Sindhiya Kanya Mahavidyalaya
Kawardha,Kabirdham(C.G.)

Govt. Rajmata Vijayaraje Sindhiya Kanya Mahavidyalaya

Green Audit Assessment Team

Mr. Asit Kumar, Assistant Professor of Zoology,

Dr. Birendra Kumare, Assistant Professor of Chemistry,

Miss. Varsha Rani Chandravanshi, Guest Lecturer of Botany,

Miss.Niharika Singh Thakur,Guest Lecturer of physics.

CONTENTS

Sl. No.	Titles/Topics	Page No.
1	INTRODUCTION	4
2	OBJECTIVES	4
3	METHODOLOGY	4
4	GEOGRAPHICAL LOCATION WITH CAMPUS MAP IN SCALE	5
5	LAND USE ANALYSIS, Govt. Rajmata Vijayaraje Sindhiya Kanya Mahavidyalaya (As on 31-12-2020)	6-7
6	TREE DIVERSITY OF Govt. Rajmata Vijayaraje Sindhiya Kanya Mahavidyalaya	8-10
7	FAUNAL DIVERSITY IN Govt. Rajmata Vijayaraje Sindhiya Kanya Mahavidyalaya	11
8	FINDINGS	12

INTRODUCTION

Green Audit is a process of systematic identification, quantification, recording, reporting and analysis of components of environmental diversity of any Institution. It aims to analyze environmental practices within and outside of the Institution, which will have an impact on the eco-friendly ambience. Green audit can be a useful tool for a college to determine how and where they are using the most energy or water or resources; the college can then consider how to implement changes and make savings. It can also be used to determine the type and volume of waste,.it can create health consciousness and promote environmental awareness, values and ethics. It provides staff and students better understanding of Green impact on campus.
Thus it is imperative that this college evaluate its own contributions toward a sustainable future. As environmental sustainability is becoming an increasingly important issue for the nation, the role of our institutions in relation to environmental sustainability is more prevalent.

OBJECTIVES

The college has been putting efforts to keep our environment clean since its inception. But the auditing of this non-scholastic effort of the college has not been documented properly. Therefore, the purpose of the present green audit is to identify, quantify, describe and prioritize framework of Environment Sustainability in compliance with the applicable regulations, policies and standards. The main objectives of carrying out Green Audit are:

1. To map the Geographical Location of the college
2. To document the floral and faunal diversity of the college.
3. To record the meteorological parameter of Kawardha where college is situated.
5. To document the Waste disposal system.
6. To document the ambient environmental condition of air and water of the College.
7. To introduce and aware students to real concerns of environment and its sustainability.

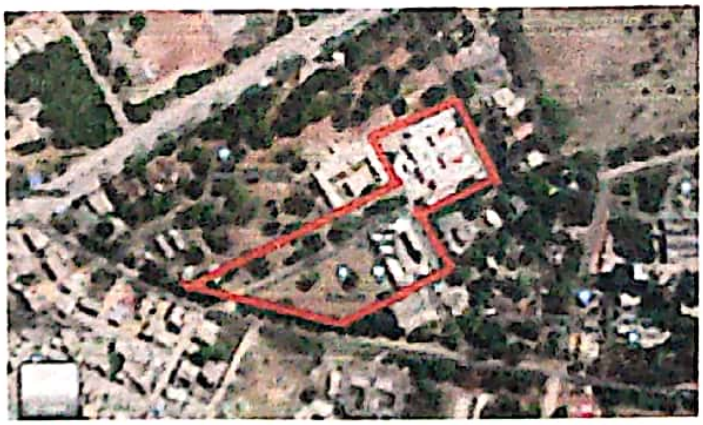
METHODOLOGY

The purpose of the green audit Govt. Rajmata Vijayaraje Sindhiya Kanya Mahavidyalaya is to ensure that the practices followed in the campus are in accordance with the Green Policy adopted by the institution. The methodology include: physical inspection of the campus, observation and review of the documentation, interviewing key persons and data analysis, measurements and recommendations. Some data have also been taken from the students Practical works carried out by various science departments of the college.

GEOGRAPHICAL LOCATION WITH CAMPUS MAP IN SCALE

Kawardha is small city in the western part of Chhattisgarh state, India. The city is known as "Temple of Bhoramdeo" for its historic temple located in the city center.
Kawardha, Chhattisgarh, , **India** is located at *India* country in the *Cities* place category with the gps coordinates of 22° 0' 32.2236" N and 81° 13' 27.6312" E.

The gps coordinates of college campus is 20.006480to 20.007718 N and 81.217462 to 81.219264 E.



LAND USE ANALYSIS

Govt. Rajmata Vijayaraje Sindhiya Kanya Mahavidyalaya (As on 31-12-2020)

GENERAL OVERVIEW OF THE CONCEPT OF LAND USE:

Land use refers to man`s activities and the various uses which are carried on and derived from land. Viewing the earth from space, it is now very crucial in man's activities on natural resource.

Remote sensing and GIS techniques are now providing new tools for advanced land use mapping and planning. Satellite imagery particularly is a valuable tool for generating land use map.

METHODOLOGY ADOPTED FOR LAND USE MAPPING

Three types of data that are Gps points, field survey data and Google earth data for Geo referencing and drawings of CGPWD Department have been used in this study. Attempt has been made in this study to map land use for Govt. Rajmata Vijayaraje Sindhiya Kanya Mahavidyalaya,Kawardha with a view to detect the land consumption in the built-up land area.

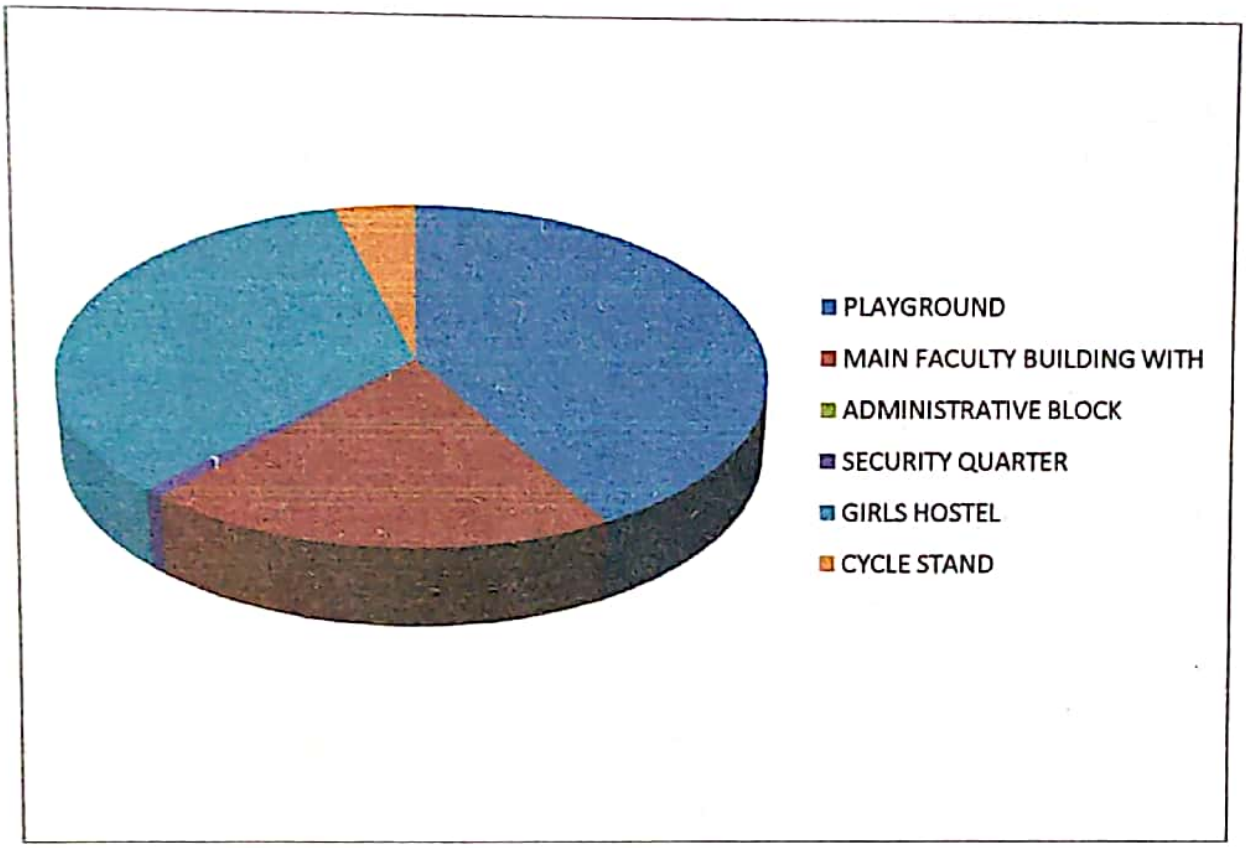
LAND USE DATA OF Govt. Rajmata Vijayaraje Sindhiya Kanya Mahavidyalaya

The total area of Govt. Rajmata Vijayaraje Sindhiya Kanya Mahavidyalaya,Kawardha is 19964 sq metres out of which the built up area is 13.87% (i.e 2770 sq meters) and open space & plantation area is 86.12% (i.e 17194 sq metres).

LAND USE (BUILT UP AREA) ANALYSIS:

CATEGORIES OF LAND USE (BUILT UP AREA)	AREA IN SQ METRES
PLAYGROUND	1987.59
MAIN FACULTY BUILDING WITH ADMINISTRATIVE BLOCK	937.00
SECURITY QUARTER	40.00
GIRLS HOSTEL	1600.00
CYCLE STAND	192.77
TOTAL	4757.36

PIE DIAGRAME

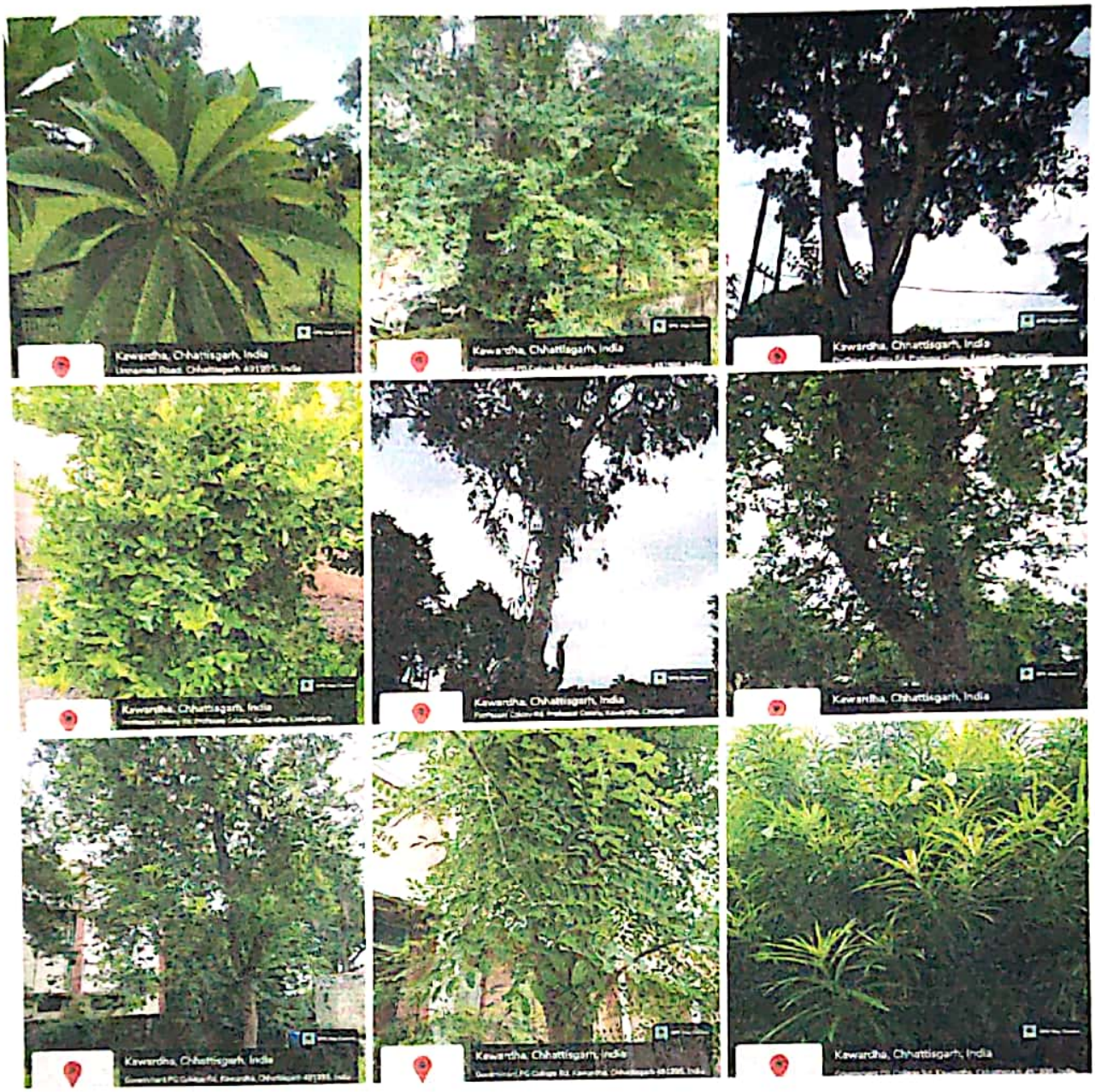


FLORAL DIVERSITY OF GOVT. RAJMATA VIJAYARAJE SINDHIYA KANYA MAHAVIDYALAYA,KAWARDHA

Govt. Rajmata Vijayaraje Sindhiya Kanya Mahavidyalaya,Kawardha, is situated within the geo-position between latitude 20.006480to 20.007718 N and longitude 81.217462 to 81.219264 E in Kawardha, Chhattisgarh India. It encompasses an area of 4.93 acre. The area is immensely diverse with a variety of tree species performing a variety of functions. Most of these tree species are planted in different periods of time through various plantation programmes organised by the authority and have become an integral part of the college. The trees of the college have increased the quality of life, not only the college fraternity but also the people saround of the college in terms of contributing to our environment by providing oxygen, improving air quality, climate amelioration, conservation of water, preserving soil, and supporting wildlife, controlling climate by moderating the effects of the sun, rain and wind. Leaves absorb and filter the sun's radiant energy, keeping things cool in summer. Many animals are dependent on these trees mainly for food and shelter. Flowers and fruits are eaten by monkeys, and nectar is a favorite of birds and many insects. Leaf – covered branches keep many animals, such as birds and squirrels, out of reach of predators. Even individual trees vary their appearance throughout the course of the year as the seasons change.We often. A thick belt of large shady trees in the periphery of the college have found to be bringing down noise and cut down dust and storms. A recent study has revealed that the rich diversity of tree species of about 50 species present in campus.Thus, the college has been playing a significant role in maintaining the environment of the entire surrounding areas. The following are the floral species with whom we are being attached-

Table: List of tree species of Govt. Rajmata Vijayaraje Sindhiya Kanya Mahavidyalaya,Kawardha

S.No.	Name of the plant species	Number	Common Name
1	*Alove vera*	26	Ghrikwar
2	*Alstonia scholaris*	1	Chhatim
3	*Annona squamosa*	4	Seetaphal
4	*Azadirachta indica*	2	Neem
5	*Bryophylum pinnatum*	20	Patharchatta
6	*Castanea mollissima*	6	Chinese chestnut
7	*Carissa carandas*	2	Karaunda
8	*Casacabela thevetia*	11	Kaner
9	*Cassia fistula*	1	Amaltas
10	*Catharanthus roseus*	4	Sada suhagan
11	*Chamaecostus cuspidatus*	5	Fiery costus or spiral flag.
12	*Chlorophytum comosum*	7	Spider plant
13	*Chrysanthemum*	12	Sevanti
14	*Citrus limon*	5	Nimbu
15	*Jasminum officinale*	7	Common Jasmime
16	*Curcuma longa*	6	Haldi
17	*Cympogon citrates*	11	Lemon grass
18	*Dalbergia sissoo*	7	Sisam
19	*Demodium glabeltum*	7	Vishnu patty
20	*Dracaena trifasciata*	7	Snake Plant
21	*Epipremnum aureum*	11	Money plant
22	*Eucalyptus grandis*	3	Nilgiri
23	*Euphorbia rosssi*	12	Spurge
24	*Euphorbia tithymaloides*	12	Redbird flower, devil's-backbone
25	*Ficus religiosa*	1	Pipal
26	*Hibiscus rosa sinensis*	11	Gudhal
27	*Jasmine sambac*	13	Mongra
28	*Mangifera indica*	3	Mango
29	*Magnolia champaka*	3	Champa
30	*Melia azedarach*	1	Mahaneem
31	*Millettia pinnata*	4	Karanj
32	*Moringa oleifera*	3	Munaga
33	*Ocimum tenuiflorum*	12	Tulsi
34	*Opuntia*	5	Ganfuni
35	*Pithecellobium dulce*	1	Gnga Imli
36	*Psidium guajava*	6	Amrud
37	*Rosa indica*	13	Gulab
38	*Saraca asoca*	5	Ashok tree
39	*Coleus scutellarioides*	13	Coleus
40	*Asparagus officinalis*	9	Asparagus
41	*Tabernaemontana divaricata*	3	Pinwheel flower,
42	*Thuja standishii*	4	Vidya patti
43	*Tecoma stans*	4	Yellow trumpetbush, yellow bells
44	*Tinospora cordifolia*	6	Giloy
45	*Tradescantia pallid*	11	Purple-heart,
46	*Vaccinium erythrocarpum*	8	Mountain cranberry
47	*Vachellia nilotica*	15	Babul
48	*Zephyranthes minuta*	8	Water lili
49	*Agave attenuata*	7	Fox tail agave
50	*Ziziphus mauritiana*	4	Indian jujube



FAUNAL DIVERSITY IN GOVT. RAJMATA VIJAYARAJE SINDHIYA KANYA MAHAVIDYALAYA,KAWARDHA CAMPUS

Govt. Rajmata Vijayaraje Sindhiya Kanya Mahavidyalaya is located in Kabirdham district of Chhattisgarh, at the Southern bank of river **Sakri**, at the Border of **Maikal** mountain range from which **Bhoramdeo wild life Sanctuary** is very near .Govt. Rajmata Vijayaraje Sindhiya Kanya Mahavidyalaya of Kabirdham district falls in the Tropical climate region, and enjoys monsoon type of climate. The highest temperature is recorded just prior to the onset of monsoon (around late May-June). monsoon rain is low due to rain shadow area, and is principally caused from late June to August by the moisture-laden South-West Monsoon, on striking the Maikal foothills of the north. The climatic condition of the Kawardha district as a whole and Govt. Rajmata Vijayaraje Sindhiya Kanya Mahavidyalaya in particular is very suitable for a wide variedly of flora and fauna to support its rich biodiversity. The faunal Diversity Govt. Rajmata Vijayaraje Sindhiya Kanya Mahavidyalaya campus has been studied and documented as below-

Sr.No.	FAUNAL GROUP	SCIENTIFIC NAMES/COMMON NAMES
1.	Annelides	*Genus Pheretima*
2.	Arachnids	*Genus Araneus,Argiope,Nesticodes, Parasteatoda etc. Hottentotta tumulus, Buthus occitanus*
3.	Insects	*Many species of beetles ,Butterflies,Dragonflies,Damselflies.Mantis, Grass hoppers,Crickets etc.*
4.	molluscs	*Species of Garden Snails ,Slugs, Lymnaea etc.*
5.	Amphibians	*Bufo, Rana,Hyla etc.*
6.	Reptiles	*(Hemidactylus frenatus) ,Podarcis muralis,_Calotes versicolor, Varanus bengalensis, Eutropis carinata, Ptyas mucosa, Bungarus caeruleus, Bungarus fasciatus, Fowlea piscator, Indotyphlops braminus, Amphiesma stolatum Naja naja etc.*
7.	Birds	*House sparrow,Bulbul,Robin,Magpie robin,Crow,Cuckoo, greater coucal, kite,Sun bird, Drango,Hudhud,Grey hornbill etc.*
8.	Mammals	*Squirrels,Langoor,Cat etc.*

FINDINGS:

Govt. Rajmata Vijayaraje Sindhiya Kanya Mahavidyalaya,Kawardha, which was established in the year 2005, has an eco-friendly environment. It has a long legacy of healthy environmental practices including periodic plantation, their preservation and maintenance. Its land use is such that about 95.30% of the total area is occupied by open land and plantation that generates a better and sustainable campus environment.

IQAC-Co-Ordinator
Govt.Rajmata Vijaya Raje
Sindhiya Kanya Mahavidyalay
Kawardha,Kabirdham

Principal
Govt.Rajmata Vijaya Raje
Sindhiya Kanya Mahavidyalaya
Kawardha,Kabirdham(C.G.)

Govt. Rajmata Vijaya Raje Sindhiya Kanya Mahavidyalaya ,

Kawardha , Dist-Kabirdham(Chhattisgarh)

Email:- rvrsgirlscollegekwd@gmail.com website:- http://www.rvrsgirlscollegekawardha.ac.in

INTERNAL QUALITY ASSURANCE CELL (IQAC)

Submitted to:

Dr. B. S. Chauhan
(Principal In Charge)

Editor

Mr. Asit Kumar, Assistant Professor

ENERGY AUDIT REPORT
2019-2020

IQAC-Co-Ordinator
Govt.Rajmata Vijaya Raje
Sindhiya Kanya Mahavidyalay
Kawardha,Kabirdham

Principal
Govt.Rajmata Vijaya Raje
Sindhiya Kanya Mahavidyalaya,
Kawardha,Kabirdham(C.G.)

Govt. Rajmata Vijayaraje Sindhiya Kanya Mahavidyalaya

Energy Audit Assessment Team

Mr. Asit Kumar, Assistant Professor of Zoology,
Mr. Lawan Singh Kanwar, Assistant Professor of Hindi,
Miss. Mausami kulmitra, Guest Lecturer of Mathematics,
Mr. Ved Prakash Sahu,Guest Lecturer of Geography.

PREFACE

In the contemporary scenario, Energy has been identified as a crucial and balancing factor in the Indices for sustainable development. The heavy and unbalanced energy consumption adversely affects energy price and economic growth. The Energy Conservation Act, 2001, defines Energy auditing as "the verification, monitoring and analysis of use of energy including submission of technical report containing recommendations for improving energy efficiency with cost benefit analysis. It facilitates a systematic approach to the energy management in a system, trying to balance the total energy input with its use. It identifies all the energy streams in a system and quantifies the use of energy according to its discrete functions. It is a study to determine how and where energy is used, and to identify methods for energy savings.

CONTENTS

Sl. No.	Titles/Topics	Page No.
1	Introduction	4
2	Objective	4
3	Methodology	4
4	Data Collection	5
5	Data Analysis	5 to 15
6	Major Findings	16
7	Finding with Recommendations	17
8	Conclusion	18

Introduction

Govt.Rajmata Vijaya Raje Sindhiya Kanya mahavidyalaya,Kawardha an institution devoted to meet the needs of higher education especially for girls in Kabirdham District, has attained great heights during past years. The mission of the college is to spread education among the girls of this socially and economically challenged area. This college, having the status of only girls college in the district, has an important role to play in spreading higher Education. Keeping this fact in mind, every effort is being made to establish this college as a 'Role Model College'.

Govt.Rajmata Vijaya Raje Sindhiya Kanya mahavidyalaya,Kawardha July, 2005. The college is affiliated to Hemchand Yadav University, Durg, C.G. The college is offering Graduate Courses in 13 subjects and Three faculties i.e. Arts, Commerce and Science. The total students' strength of the college is more than 1312.This audit was undertaken in order to verify how effective these steps were, and also to identify loop holes, if any, in the existing practices, along with outlining measures for enhancing energy utilization.

Objectives

The primary objective of any energy audit is determining "ways to reduce energy Consumption per unit of product output or to lower operating costs" .The recommendations of the study will become a basis for future schemes of better energy consumption and preservation throughout the organization.

Specific objectives of the study are:

1. Verify the steps adopted for energy management in the campus
2. Spot the inefficient or inadequate practices, if any
3. Improve the energy preserving measures and methods
4. Identify potential energy saving opportunities
5. Formulate Possible steps and measures to be adopted in the campus

Methodology

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. Method use for Energy audit is a Preliminary Audit. Preliminary audit uses existing data to look extensively at the existing energy consumption patterns and identifies the areas for improvement.

Data collection

Data collection for energy audit of the **Govt.Rajmata Vijaya Raje Sindhiya Kanya mahavidyalaya** Campus was conceded by team for the period of JULY 2019 to JUNE 2020. All data collected from each classroom, laboratory, every room. The work is completed by considering, how much tubes, fan, A.Cs, electronic instruments, etc in each room. How much was participation of each component in total electricity consumption.

For the purpose of this audit, audit groups for specific areas were formed. Data was collected through

1. Inspection and observation (Data of month-wise consumption rate of energy is obtained by CSEB)
2. Identification of energy consumption.
3. Calculations, analysis.
4. Validation.

(NOTE: Data have not been collected from Hostel due to not in use since inception.)

Data analysis

The gathered data was then quantified and separated according to the following criteria:

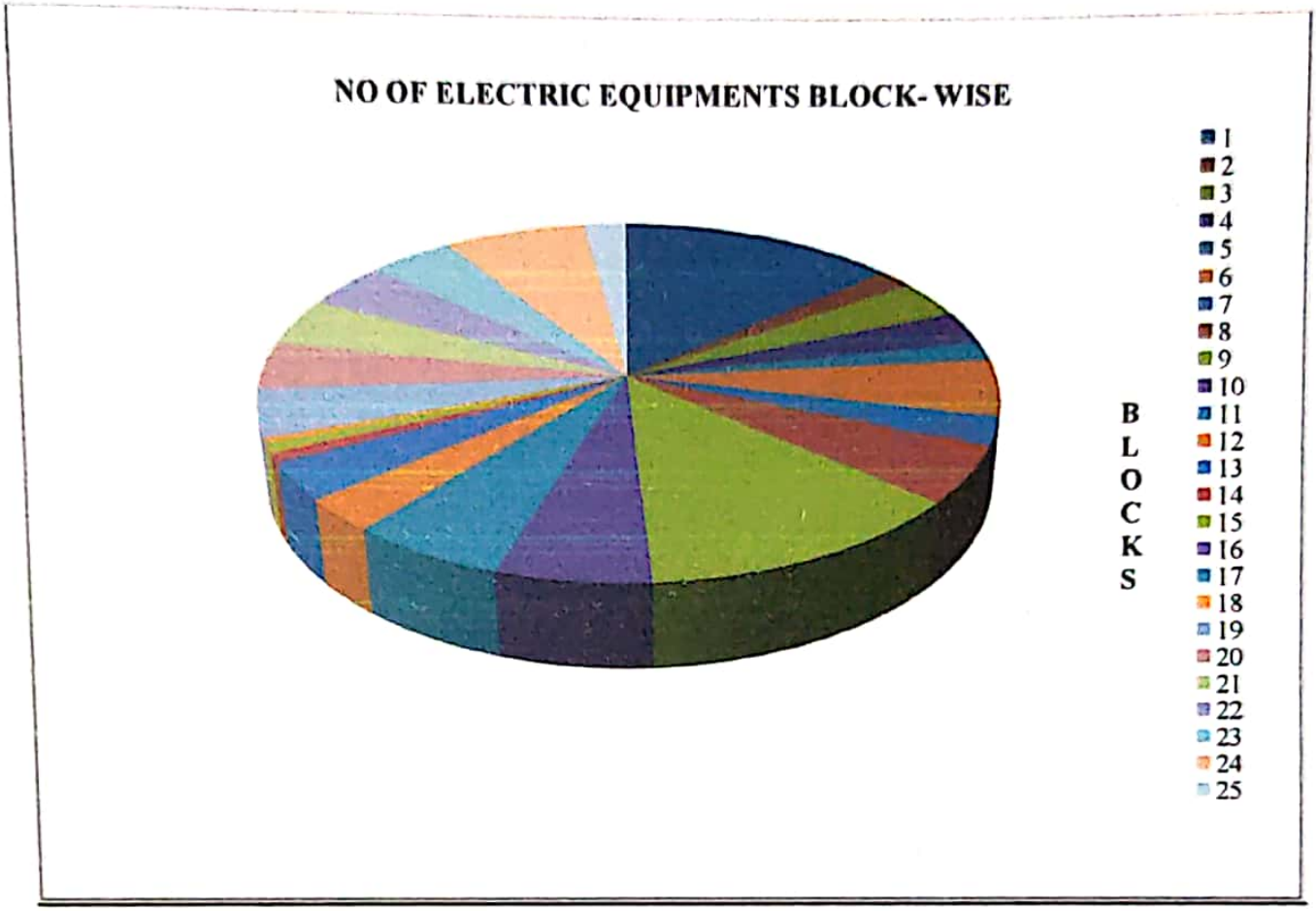
1. Rate of Consumption equipment-wise.
2. Rate of consumption month-wise.
3. Rate of consumption time-wise.
4. Rate of consumption area-wise.

Equipment-data

S.No.		Tube	Bulb	LED tube	Fan	AC	Freeze	Computer	Lcd Proj.	Printer/photocopy	Coolar	Lab equipment	Water Cooler	Water Pump	CC TV Camera	LED TV
1	Corridor	4	15	-	8	-	-	-	-	-	-	-	2	-	4	-
2	Veranda	-	3	-	-	-	-	-	-	-	-	-	-	-	1	-
3	Account Sect.	2	1	-	1	-	-	2	-	2	-	-	-	-	-	-
4	Office	2	1	-	2	-	-	1	-	1	-	-	-	-	-	-
5	Staff room	2	-	-	1	-	-	1	-	-	-	-	-	-	-	-
6	Principal's Chamber	2	3	-	2	-	-	2	-	-	1	-	-	-	1	1
7	Stage	-	3	-	2	-	-	-	-	-	-	-	-	-	1	-
8	Library	4	1	-	4	-	-	1	-	1	-	-	-	-	1	-
9	Computer room	2	2	-	6	-	-	19	-	-	-	-	-	-	1	-
10	Biology Lab	-	-	4	4	-	1	1	-	1	-	3	-	-	-	-
11	Chemistry Lab	4	1	-	5	-	1	1	-	1	-	-	-	-	1	-
12	Geography Lab	2	2	-	2	-	-	1	-	-	-	-	-	-	-	-
13	store	2	2	-	4	-	-	-	-	-	-	-	-	-	-	-
14	Girls Toilet	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	Boys Toilet	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	Girls Toilet 1st Floor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	Common Room	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	Pricipal's room Toilet	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	Class Room 5	4	2	-	4	-	-	-	-	-	-	-	-	-	-	-
20	Class Room 6	4	2	-	4	-	-	-	-	-	-	-	-	-	-	-
21	Class Room 7	2	3	-	4	-	-	-	1	-	-	-	-	-	-	-
22	Class Room 9	4	2	-	4	-	-	-	-	-	-	-	-	-	-	-
23	Class Room 10	4	2	-	4	-	-	-	-	-	-	-	-	-	-	-
24	Hall	-	-	8	8	-	-	-	1	-	-	-	-	-	-	-
25	Building's Outer Area	-	3	-	-	-	-	-	-	-	-	-	-	1	1	-
	TOTAL	49	48	12	69	-	2	29	2	6	1	3	2	1	11	1

The consumption of energy EQUIPMENTS-Wise.

S. N.	Block	NO OF ELECTRIC EQUIPMENTS BLOCK- WISE
1	Corridor	33
2	Veranda	4
3	Account Sect.	8
4	Office	7
5	Staff room	4
6	Principal's Chamber	12
7	Stage	6
8	Library	12
9	Computer room	30
10	Biology Lab	14
11	Chemistry Lab	14
12	Geography Lab	7
13	store	8
14	Girls Toilet	2
15	Boys Toilet	2
16	Girls Toilet 1st Floor	-
17	Common Room	-
18	Pricipal's room Toilet	1
19	Class Room 5	10
20	Class Room 6	10
21	Class Room 7	10
22	Class Room 9	10
23	Class Room 10	10
24	Hall	17
25	Building's Outer Area	5
26	TOTAL	230



Month-wise consumption rate of energy for the year 2019-20

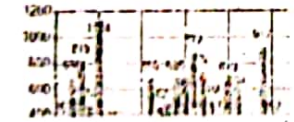
Consumer Information

BP No.: 8004338811
Consumer Name: ,SHRI. PRINCIPAL GOVT.
Address: RAVEN GIRLS COLLEGE VILL - NEAR CHHIPPANI COLONY RAWAREWA (T)

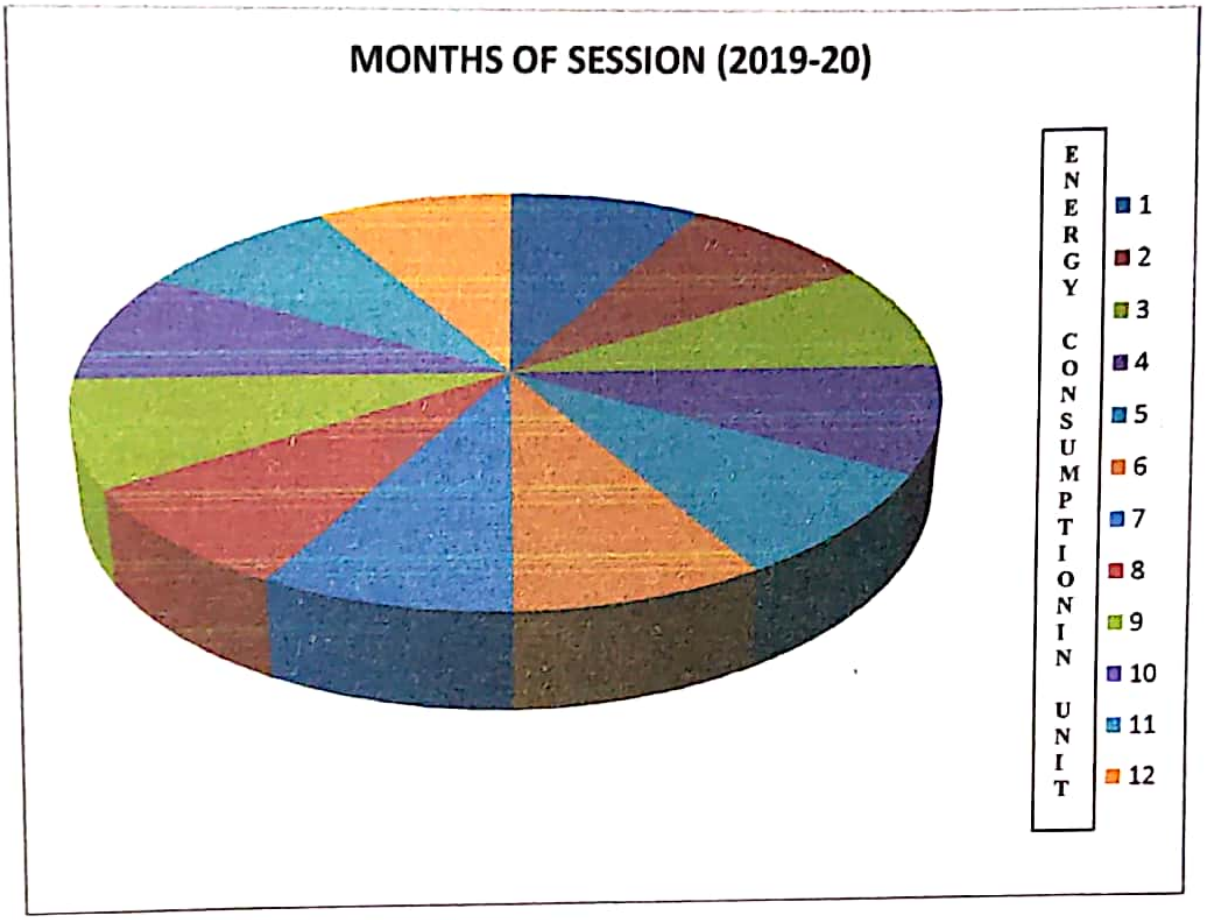
Bill Information

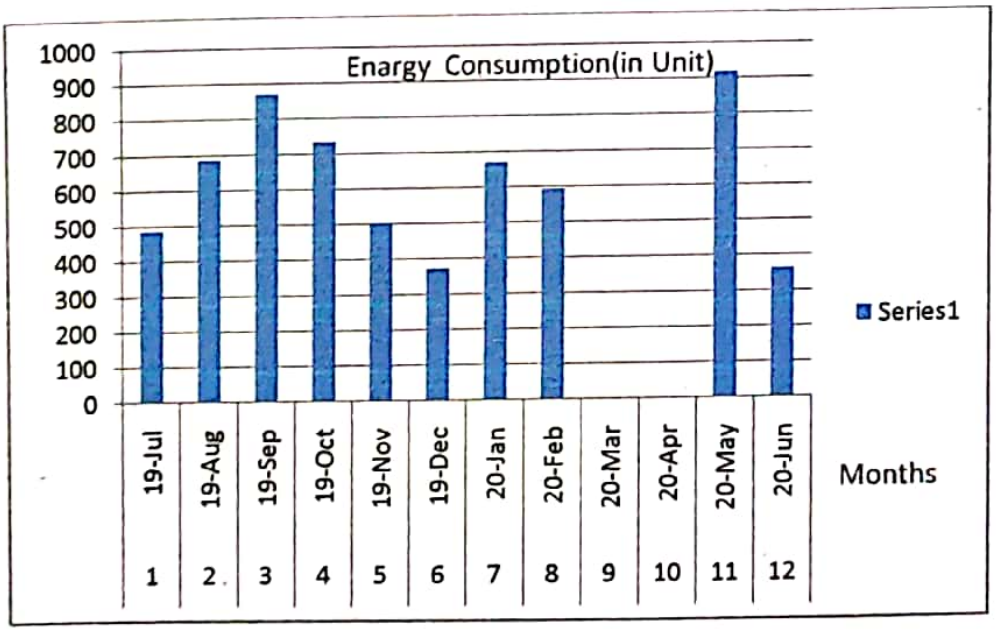
Bill Month	Date of Issue	Current Reading	Previous Reading	Consumption	Energy Charge	Fixed Charge	Duty	Cess	Meter Rent	LT/HT	FCA	Additional SD	Rebate	Misc Charge	Average Adjustment	Previous Arrears	Demand Adjustment	Surcharge	Net Bill
Jul-2020	05-Aug-2020	8069	7839	230	1495.00	360.00	0.00	0.00	35.00	0.00	73.46	0.00	0.00	0.00	-0.75	2107.15	0.00	0.00	4070
Jun-2020	06-Jul-2020	7839	7476	363	2359.50	360.00	0.00	0.00	35.00	0.00	134.91	0.00	0.00	0.00	7.15	591.64	0.00	0.00	2500
May-2020	04-Jun-2020	7476	6559	917	1550.00	720.00	0.00	0.00	35.00	0.00	107.00	0.00	0.00	0.00	4.34	4665.34	0.00	0.00	9730
Apr-2020	06-May-2020	6559	6559	0	4354.00	480.00	0.00	0.00	35.00	0.00	0.00	0.00	0.00	0.00	5.34	-3.66	0.00	0.00	4870
Mar-2020	26-Mar-2020	6559	6559	0	4354.00	480.00	0.00	0.00	35.00	0.00	0.00	0.00	0.00	0.00	6.34	-3.87	0.00	0.00	5990
Feb-2020	05-Mar-2020	6559	5975	584	4947.80	720.00	0.00	0.00	35.00	0.00	267.41	0.00	0.00	0.00	6.34	-3.87	0.00	0.00	7810
Jan-2020	07-Feb-2020	5975	5375	600	6445.40	960.00	0.00	0.00	35.00	0.00	355.13	0.00	0.00	0.00	6.34	-3.87	0.00	0.00	8390
Dec-2019	08-Jan-2020	5375	4375	1000	8470.00	960.00	0.00	0.00	35.00	0.00	443.10	0.00	0.00	0.00	6.34	-3.87	0.00	0.00	9910
Nov-2019	08-Dec-2019	4932	4430	502	4115.00	960.00	0.00	0.00	35.00	0.00	233.80	0.00	0.00	0.00	6.34	-3.87	0.00	0.00	5740
Oct-2019	07-Nov-2019	4430	3696	734	7115.20	960.00	0.00	0.00	35.00	0.00	156.43	0.00	0.00	0.00	6.34	-3.87	0.00	0.00	8290
Sep-2019	08-Oct-2019	3696	2524	1172	8531.80	960.00	0.00	0.00	35.00	0.00	197.71	0.00	0.00	0.00	6.34	-3.87	0.00	0.00	9740
Aug-2019	09-Sep-2019	2824	2139	685	3278.40	163200.00	0.00	0.00	0.00	0.00	-70.72	0.00	0.00	0.00	6.34	173753.28	0.00	2606.30	179860
Aug-2019	09-Sep-2019	2824	2139	685	3278.40	163920.00	0.00	0.00	35.00	0.00	177.58	0.00	0.00	0.00	-3.22	0.70	0.00	0.00	173753
Jul-2019	08-Aug-2019	2139	1656	483	2485.80	720.00	0.00	0.00	35.00	0.00	75.40	0.00	0.00	0.00	6.34	4.50	0.00	0.00	4820
Jun-2019	08-Jul-2019	1656	1194	462	3762.30	720.00	0.00	0.00	35.00	0.00	-4.62	0.00	0.00	0.00	-4.50	1.92	0.00	0.00	4510
May-2019	10-Jun-2019	1194	40395	695	3762.30	720.00	0.00	0.00	35.00	0.00	-4.85	0.00	0.00	-4.23	1.92	0.00	0.00	0.00	3770
Apr-2019	09-May-2019	40395	40395	0	1435.00	480.00	0.00	0.00	35.00	0.00	0.00	0.00	0.00	-1500.00	5.77	0.00	0.00	68.77	120
Mar-2019	08-Apr-2019	40395	40395	292	1841.80	480.00	0.00	0.00	35.00	0.00	23.36	0.00	0.00	0.00	7.28	2379.51	0.00	71.31	4840
Feb-2019	04-Mar-2019	40395	40395	292	1841.80	480.00	0.00	0.00	35.00	0.00	11.68	0.00	0.00	0.00	5.13	4.73	0.00	35.62	2420
Jan-2019	04-Feb-2019	40395	40395	292	1841.80	480.00	0.00	0.00	35.00	0.00	11.68	0.00	0.00	0.00	-4.73	-0.05	0.00	0.00	2370
Dec-2018	03-Jan-2019	40395	40200	195	1196.75	480.00	0.00	0.00	35.00	0.00	7.80	0.00	0.00	0.00	9.95	134.10	0.00	0.00	1860
Nov-2018	05-Dec-2018	40200	39066	1134	8265.30	480.00	0.00	0.00	35.00	0.00	45.36	0.00	0.00	0.00	-1.62	0.00	0.00	49.86	8880
Oct-2018	07-Nov-2018	39066	38597	469	3418.85	480.00	0.00	0.00	35.00	0.00	18.87	0.00	0.00	0.00	6.97	0.00	0.00	93.09	3570
Sep-2018	07-Oct-2018	38597	37778	819	5971.95	480.00	0.00	0.00	35.00	0.00	54.99	0.00	0.00	0.00	8.02	0.68	0.00	0.00	6340
Aug-2018	05-Sep-2018	37778	37090	688	4719.60	480.00	0.00	0.00	35.00	0.00	13.76	0.00	0.00	0.00	-0.68	41.54	0.00	0.00	5270
Jul-2018	07-Aug-2018	37090	36723	367	2710.55	480.00	0.00	0.00	35.00	0.00	-7.34	0.00	0.00	0.00	-0.78	-2.73	0.00	0.00	3290

Consumption History



Sr.No.	MONTHS OF SESSION 2019-20	ENERGY CONSUMPTION(IN UNIT)
1	JULY-2019	488
2	AUGUST-2019	685
3	SEPTEMBER-2019	872
4	OCTOBER-2019	734
5	NOVEMBER-2019	502
6	DECEMBER-2019	373
7	JANUARY-2020	670
8	FEBRUARY-2020	594
9	MARCH-2020	0
10	APRIL-2020	0
11	MAY-2020	917
12	JUNE-2020	363



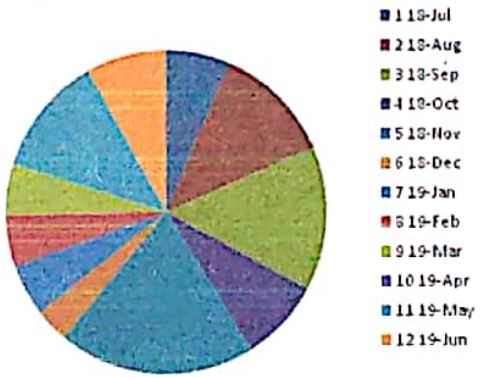


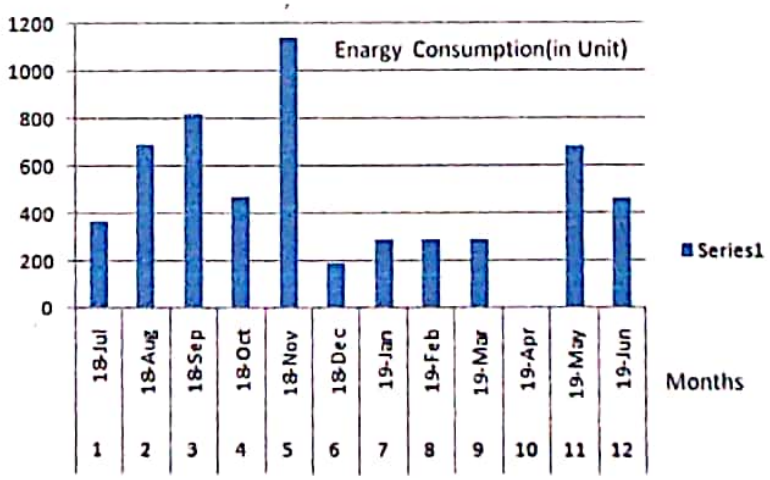
BillMonth	Pre - MR	Cur - MR	Max De	Units	Energy Charge	Duty	Meter Rent	Prev. Arrears	Surcharge	Payment Date
2015/04	13,474	14,063	0	589	4,101.00	517	25	98.19	82.58	08.06.2015
2015/05	14,063	14,524	0	461	3,036.75	384	25	113.4	65.46	02.07.2015
2015/06	14,524	14,893	0	369	2,637.15	332	25	151.59	59.22	20.07.2015
2015/07	14,893	15,205	0	312	2,218.20	280	25	-4.52	50.73	20.08.2015
2015/08	15,205	15,757	0	552	4,083.60	514	35	-7.8	83.98	23.09.2015
2015/09	15,757	16,466	0	709	5,543.70	691	35	-1.28	109.1	27.10.2015
2015/10	16,466	17,046	0	580	4,344.00	542	35	148.81	88.15	24.11.2015
2015/11	17,046	17,515	0	469	3,372.15	422	35	119.34	71.08	31.12.2015
2015/12	17,515	18,126	0	611	4,632.30	585	35	90.86	95.52	22.01.2016
2016/01	18,126	18,626	0	500	3,600.00	456	35	-2.27	75.92	25.02.2016
2016/02	18,626	19,231	0	605	4,576.50	579	35	102.45	93.26	30.03.2016
2016/03	19,231	19,890	0	659	5,078.70	641	35	122.83	102.11	13.04.2016
2016/04	19,890	20,505	0	615	5,701.50	684	35	0.33	108.48	25.05.2016
2016/05	20,505	20,959	0	454	4,004.10	480	35	146.98	79.75	22.06.2016
2016/06	20,959	21,451	0	492	4,351.80	522	35	107.82	85.64	14.07.2016
2016/07	21,451	21,895	0	444	3,912.60	470	35	-4.18	78.12	17.08.2016
2016/08	21,895	22,510	0	615	5,701.50	712	35	101.98	112.36	22.09.2016
2016/09	22,510	23,348	0	838	8,176.80	1,033.00	35	152.42	157.7	
2016/10	23,348	23,946	0	598	5,512.80	699	35	10,873.74	268.26	17.11.2016
2016/11	23,946	24,491	0	545	4,924.50	623	35	4.29	99.92	21.12.2016
2016/12	24,491	25,109	0	618	5,734.80	725	35	134.29	114.2	25.01.2017
2017/01	25,109	25,864	0	755	7,755.50	939	35	149.07	144.32	
2017/02	25,864	26,442	0	573	5,290.80	687	35	9,962.75	253.13	17.03.2017
2017/03	26,442	27,240	0	798	7,732.80	1,001.00	35	-3.15	153.09	12.04.2017
2017/04	27,240	27,904	0	664	6,892.80	827	35	-4.08	128.51	25.05.2017
2017/05	27,904	28,593	0	689	7,194.68	863	35	168.46	136.2	
2017/06	28,593	29,187	0	594	6,047.55	726	35	9,261.64	250.47	19.07.2017
2017/07	29,187	29,634	0	447	4,375.88	511	35	-0.41	83.93	24.08.2017
2017/08	29,634	30,253	0	619	6,349.43	749	35	107.39	119.12	21.09.2017
2017/09	30,253	31,039	0	786	8,365.95	950	35	160.13	148.4	02.11.2017
2017/10	31,039	31,722	0	683	7,122.23	807	35	201.27	128.81	28.11.2017
2017/11	31,722	32,279	0	557	5,600.78	640	35	-0.59	102.18	13.12.2017
2017/12	32,279	32,787	0	508	5,009.10	572	35	1.83	92.62	17.01.2018
2018/01	32,787	33,378	0	591	6,011.33	703	35	3.89	111.14	16.02.2018
2018/02	33,378	33,939	0	561	5,649.08	660	35	-0.34	105.06	20.03.2018
2018/03	33,939	34,787	0	848	9,114.60	1,069.00	35	3.98	162.81	10.04.2018
2018/04	34,787	37,745	0	2,958	34,149.15	4,013.00	35	3.86	577.6	
2018/05	37,745	38,011	0	266	2,503.35	295	35	39,277.03	630.68	
2018/06	36,077	36,723	0	-1,688	-20,780.63	-2,439.00	0	48,685.55	362.18	
2018/06	38,011	38,411	0	400	3,840.00	454	35	43,656.55	706.12	13.07.2018
2018/07	36,723	37,090	0	367	2,340.55	0	41.3	-3.73	42.76	29.08.2018
2018/08	37,090	37,778	0	688	4,719.60	0	41.3	43.54	79.06	14.09.2018
2018/09	37,778	38,597	0	819	5,761.05	0	41.3	0.68	95.07	24.10.2018
2018/10	38,597	39,066	0	469	3,018.55	0	41.3	93.09	53.59	27.11.2018
2018/11	39,066	40,200	0	1,134	8,265.30	0	41.3	49.66	132.48	02.01.2019
2018/12	40,200	40,395	0	195	1,196.75	0	41.3	134.1	27.9	16.01.2019
2019/01	40,395	40,395	0	292	1,841.80	0	41.3	-0.05	35.62	20.02.2019
2019/02	40,395	40,395	0	292	1,841.80	0	41.3	40.35	35.69	
2019/03	40,395	40,395	0	292	1,841.80	0	41.3	2,450.82	71.49	24.04.2019
2019/04	40,395	40,395	0	0	1,435.00	0	35	68.77	5	21.05.2019
2019/05	40,395	1,194	0	685	3,388.00	0	35	0	56.58	18.06.2019
2019/06	1,194	1,656	5	462	3,762.20	0	35	1.92	67.72	19.07.2019
2019/07	1,656	2,139	5	483	3,985.80	0	35	4.5	72.31	21.08.2019
2019/08	2,139	2,824	685	685	9,620.00	0	35	0.7	2,606.30	
2019/08	2,139	2,824	5	0	-3,728.40	0	0	1,76,359.58	101.31	03.10.2019
2019/09	2,824	3,696	6	872	8,551.40	0	35	0.46	146.17	22.10.2019
2019/10	3,696	4,430	6	734	7,116.20	0	35	4.57	124.23	14.11.2019
2019/11	4,430	4,932	6	502	4,613.70	0	35	2.2	86.17	20.12.2019
2019/12	4,932	5,305	6	373	3,230.50	0	35	4.7	64.94	16.01.2020
2020/01	5,305	5,975	6	670	6,445.40	0	35	0.4	117.09	18.02.2020
2020/02	5,975	6,559	5	584	4,947.80	0	35	-3.87	89.8	17.03.2020
2020/03	6,559	6,559	0	0	4,354.00	0	35	-3.66	72.38	
2020/04	6,559	6,559	0	0	4,354.00	0	35	4,365.34	146.02	19.04.2020

Table:- Data collected from CSEB.

Month-wise consumption rate of energy for the year 2018-19

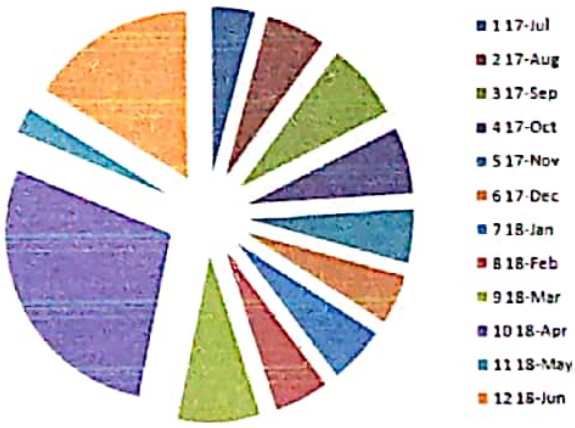
Sr.No.	MONTHS OF SESSION 2018-19	ENERGY CONSUMPTION(IN UNIT)
1	Jul-18	367
2	Aug-18	688
3	Sep-18	819
4	Oct-18	469
5	Nov-18	1134
6	Dec-18	195
7	Jan-19	292
8	Feb-19	292
9	Mar-19	292
10	Apr-19	0
11	May-19	685
12	Jun-19	462

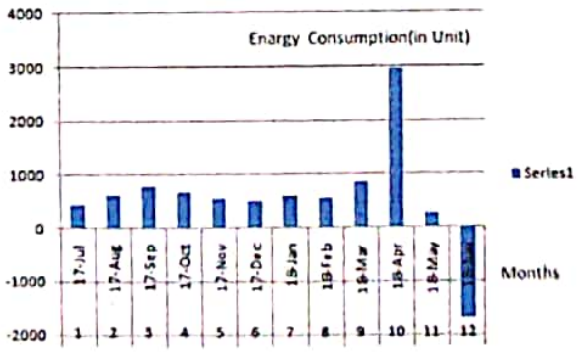




Month-wise consumption rate of energy for the year 2017-18

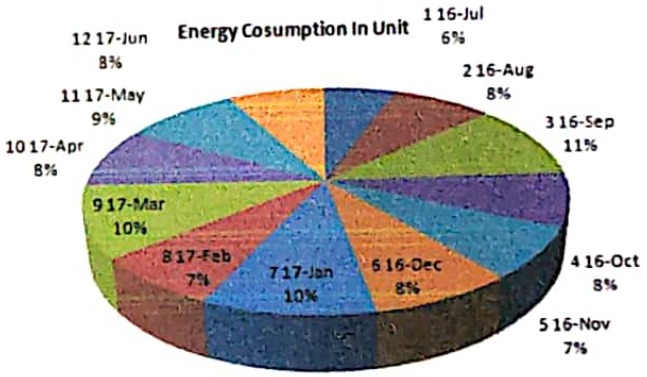
Sr.No.	MONTHS OF SESSION 2017-18	ENERGY CONSUMPTION(IN UNIT)
1	Jul-17	447
2	Aug-17	619
3	Sep-17	786
4	Oct-17	683
5	Nov-17	557
6	Dec-17	508
7	Jan-18	591
8	Feb-18	561
9	Mar-18	848
10	Apr-18	2958
11	May-18	266
12	Jun-18	-1688

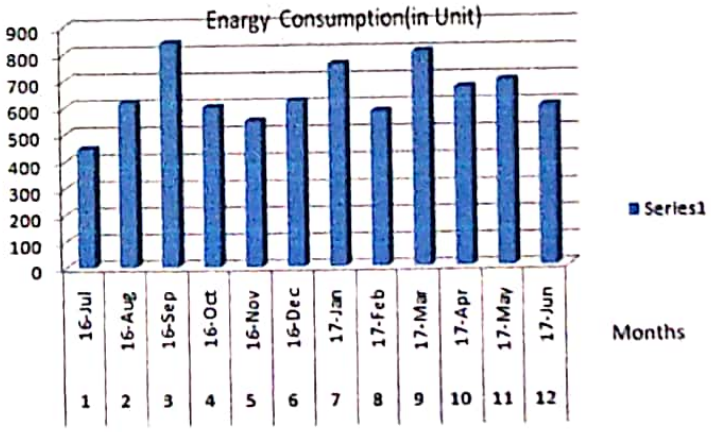




Month-wise consumption rate of energy for the year 2016-17

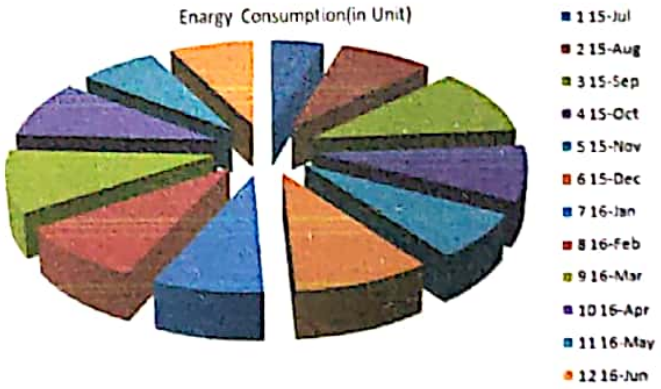
SR.NO.	MONTHS OF SESSION 2016-17	ENERGY CONSUMPTION(IN UNIT)
1	Jul-16	444
2	Aug-16	615
3	Sep-16	838
4	Oct-16	598
5	Nov-16	545
6	Dec-16	618
7	Jan-17	755
8	Feb-17	578
9	Mar-17	798
10	Apr-17	664
11	May-17	689
12	Jun-17	594

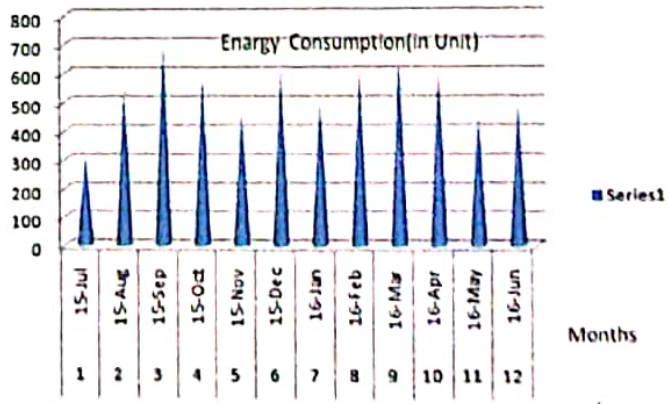




Month-wise consumption rate of energy for the year 2015-16

SR.NO.	MONTHS OF SESSION 2015-16	ENERGY CONSUMPTION(IN UNIT)
1	Jul-15	312
2	Aug-15	552
3	Sep-15	709
4	Oct-15	580
5	Nov-15	469
6	Dec-15	611
7	Jan-16	500
8	Feb-16	605
9	Mar-16	659
10	Apr-16	615
11	May-16	454
12	Jun-16	492





MAJOR FINDINGS

Establish energy consumption in the organization from the quantitative analysis of the gathered data, the following findings have been reached.

1. The Computer room record the highest consumption based on total equipments in the block .
2. The Class rooms records the highest rate of consumption.
3. In Session 2019-20 the month of MAY-20 shows the peak while the month of JUNE-20 shows least consumption of energy, no use of energy in March-April 2020 due to Lock Down Period.
4. In Session 2018-19 the month of NOVEMBER-18 shows the peak while the month of DECEMBER-18 shows least consumption of energy due to winter season.
5. In Session 2017-18 the month of APRIL-18 shows the peak while the month of JUNE-18 shows negative consumption of energy due to over and wrong billing by CSEB in previous months.
6. In Session 2016-17 the month of MARCH-17 shows the peak while the month of JULY-16 shows least consumption of energy.
7. In Session 2015-16 the month of SEP-15 shows the peak while the month of JULY-15 shows least consumption of energy.
8. After analyzing above data of different session, we can say that it is not possible to identify the month of the highest and lowest consumption in a year. The fault in billing system of CSEB makes energy audit very tough task.
9. The time slots in the Afternoon record the highest consumption on a normal working day.

(A)Identify easiest areas of attention

Based on the physical observation and the analysis of data collected, certain areas have been identified as areas of attention.

1. Old wiring cables in many parts of the campus leading to loss of energy.
2. Old water pipelines in several parts of the campus leading to waste of wter hence Ultimate loss in energy.
3. Use of incandescent bulbs,Old Fan, and tubes in certain rooms.
4. Institute is not using Renewable energy resources like solar panels etc.
5. Running of Electric equipments when not in use.

(B)Estimate the Scope for Saving

The study could identify a large scope for saving energy in the campus, including-

1. Updating of technologies in laboratory equipment.
2. Replacing old electrical cables and pipelines.
3. Replacing incandescent bulbs and tubes with LEDs.
4. Ensuring even lighting facilities in rooms.
5. Use of Solar panels as a main source of lighting, especially common areas.

(C)Identify immediate areas of improvement

Based on the study, certain areas were identified as requiring immediate improvement. These are-

1. Replacing incandescent bulbs and tubes with LEDs.
2. Repairing and updating laboratory equipment.
3. Encouraging students and staff to switch off electrical instrument.

Finding and recommendation of the Audit

SR.NO.	FINDINGS	RECOMMENDATIONS
1.	The electrical wiring of many buildings was found to be old and inefficient.	Replace old electrical cables with new Ones.
2.	There seem to be a lack of judicious use of power among students and staff. During the study, it was found that lights, fans and computers were kept on working mode in many rooms, without a single person present.	Students and staff should be exhorted Constantly to use energy judiciously. Posters and pamphlets should be distributed and notices about saving energy should be posted at major points of use.
3.	Many Departments still use incandescent bulbs causing heavy power loss.	Incandescent bulbs should be replaced with LEDs.
4.	The entire power requirement is met from the CSEB line.	Solar panels should be installed in key areas of the campus, and loads for common areas and grounds should be met from these.
5.	Refrigerators and Electric equipments used in many rooms uses obsolete technology and hence cause power loss.	Gadgets and equipment's should be repaired and/or replaced with latest ones to save energy.

Final Recommendation - A training /lecture for both students and staff to awareness for the need of energy conservation. If everyone ensures switching off lights, fans and electrical instrument that are not in use, roughly 10% of energy saving is possible. The scope for non-conventional energy should be utilized.

Conclusion

The opportunities lie in the use of existing renewable energy technologies, greater efforts at energy efficiency and the dissemination of latest technologies. As is known, energy auditing is an on-going process, a part of a larger procedure to ensure long- term sustainable development.
We have enlisted credible solutions based on the outcome of our analysis of data, and our recommendations, which can be implemented totally in the campus in order to ensure minimizing energy waste and maximizing energy potential.

IQAC-Co-Ordinator
Govt.Rajmata Vijaya Raje
Sindhiya Kanya Mahavidyalay
Kawardha,Kabirdham

Principal
Govt.Rajmata Vijaya Raje
Sindhiya Kanya Mahavidyalaya,
Kawardha,Kabirdham(C.G.)