ENERGY AUDIT REPORT

2020-21

Government Rajmohini Devi Girls Post Graduate College, Ambikapur, Surguja, Chhattisgarh

Submitted to

Principal,

Government Rajmohini Devi Girls Post Graduate College, Ambikapur, Surguja, Chhattisgarh

By

Mr. SANJAY VISHWAKARMA

'A' Class Electrical Contractor Sangam, Chowk, Ambikapur Surguja, Chhattisgarh

संजय कुमार विश्वकर्म विद्युत ठेकेदार ला.नं. वर्ग- 01/1777/A

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ACKNOWLEDGEMENT

We express our sincere gratitude to the Principal, Dr. Jyoti Sinha of Govt. R.M.D. Girls P.G. College, Ambikapur, Surguja, C.G., for awarding us the assignment of Energy Audit of their college premises.

We are also thankful to various Head of Departments & other Staff members for helping us during the field measurements.

We hope that the recommendations stated in this report will be useful and worthy of discussions to take things forward to help implementation of energy conservation measures through energy savings. While we have made every attempt to adhere to high quality standards, in both data collection and analysis through the report, we would welcome your suggestions so as to improve upon this report further.

Mr. SANJAY VISHWAKARMA

'A' Class Electrical Contractor Sangam, Chowk, Ambikapur Surguja, Chhattisgarh

> संजय कुमार विश्वकर्मा विद्युत ठेकेदार ला.नं. वर्ग- 01/1777/A

PREFACE

Data collection for energy audit of the Government Rajmohini Devi Girls Post Graduate College, Ambikapur, Campus was conceded by team for the period of 1 July 2020 to 30 June 2021. This audit was over sighted to inquire about convenience to progress the energy competence of the campus. To drop of energy utilization whilst cultivate or humanizing comfort, health and safety were of prime anxiety. This audit required to recognize the mainly energy proficient appliances. Besides, several each day processes concerning common appliances have been provided which facilitate sinking the energy expenditure. 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.

Energy Audit Report of Govt. R.M.D. Girls P.G. College, Ambikapur, Surguja, C.G.

Introduction:

Govt. R.M.D. Girls P.G. College is located in Ambikapur, Surguja, C.G. The College is running with B.Sc. Biology, Mathematics, & Home science, B.A. 3 year's degree program and newly 3 year degree course of B. Com. Added, in which central unified syllabus of U.G.C. has been followed. Under B.A. program the course are foundation course which include basics of English language, Hindi language & Environmental studies, under course of environmental studies, all graduate level student in the first year do project work. Topics related to environmental awareness are given by the concerning faculty. Other courses in B.A. arts program are Hindi literature, History, Sociology, Political science, Economics, Home science. The College has today become one of the premier institutions of the town. The energy audit of Govt. R.M.D. Girls P.G. College, Ambikapur is conducted as per CSPDCL guidelines.

Objectives

- 1. To study present level of Energy Consumption
- 2. To Study Electrical Consumption
- 3. To assess the various equipment/facilities from Energy efficiency aspect
- 4. To study various measures to reduce the Energy Consumption

Audit Methodology:

- 1. Study of connected load
- 2. Study of various Electrical parameters
- 3. To prepare the Report

By observing all the study lack of electricity and huge electricity demands. It is necessary to plan to be self-sufficient in electricity requirement. In the present study, college electricity audit has been done. In this study considered practical laboratory, instrument, Fans, air conditioners, Computers etc are considered in this study. We have studied total saving of electricity and money through energy efficient equipments. Also, it is studied that exact contribution of bulb, fans, computer, instruments etc in the total requirement of electricity. We studied all these mentioned thinks by collecting exactly data form survey.

Department laser	Faa	LED TI BE LIGHT	LED BILBS	a	AC.	Fridg	Comp- uter	Pri nt er	Sc an- nc	Xero X Mach	Proj c- ctor	Borew ell Motor	EXA UST FAN
Principal Office	2	2	1	0	0	0	2	1	1	0	0	0	1
Office	5	5		0	0	0	2	I	1	1	0	0	2
Staff Room	2	2	2	0	0	0	0	0	.0	0	0	0	0
Library	20	20	0	0	0	0	4	2	0	1	0	0	4
Classroom 01	2	2	1	0	0	0	0	0	0	0	0	0	1
Classroom 02	2	2	2	0	0	0	2	2	1	0	0	0	1
Classroom 03	4	2	2	0	0	0	3	0	0	0	1	0	1
Classroom 04	4	2	2	0	0	0	0	0	0	0	0	0	1
Classroom 05	2	2	1	0	0	0	4	1	0	0	0	0	1
Classroom 06	2	2	2	0	0	I	0	0	0	0	0	0	1
Classroom 07	4	4	2	0	0	0	0	0	0	0	I	0	2
Classroom 08	4	4	2	0	0	0	0	0	0	0	1	0	1
Classroom 09	2	2	0	0	0	0	0	0	0	0	0	0	1
Classroom 10	2	2	1	0	0	Ö	2	1	1	0	1	0	1
Classroom 11	4	4	2	0	0	0	0	0	0	0	0	0	1
Classroom 12	2	8	2	0	0	D	2	0	0	0	1	0	2
Classroom 13	4	4	2	0	0	0	0	0	0	0	0	0	1
Classroom 14	4	4	2		0	0	0	0	0	0	0	0	1
ZOOLOGY LAB	4	4	2		0	1	1	1	0	0	0	0	1
Classroom 16	4	4	2	0	0	0	8	1	1	0	0	0	1
PHYSICS LAB	4	4	2	1000	0	0	2	0	0	0	0	0	0
Classroom 18	4	4	2		0	0	0	0	0	0	0	0	0
COMPUTER LAB	4	4		0	2	0	31	1	1	1	1	0	2
Classroom 20	4	4		101	0	0	0	0	0	0	0	0	0
Classroom 21	4	4	-	1	2	0	0	0	0	• 0	0	0	0
Classroom 22	4	4		0	0	0	0	0	0	0	0	0	0
Classroom 23	4	4	2	-	0	O	0	0	0	0	0	0	0
Classroom 24	4	4		and the second	0	0	0	0	0	0	0	0	0
Classroom 25	4	4		0	0	0	2	0	0	0	0	0	0
Classroom 26	4	4	1		0	0	1	0	0	0	0	0	0
Classroom 27	4	4			0	I	5	0	0	0	0	0	0
Classroom 28	4	4	A	N.	0	0	0	0	0	0	0	0	0
Classroom 29	4	4		0	0	0	0	0	0	0	0	0	0
Classroom 30	4	4			0	1	1	1	0	0	1	0	0
Classroom 31	4	4		W.	0	.0	0	0	0	0	0	0	
GALLARY	31	14	-	v.	0	0	0	0	0	0	0	0	0
OUTER	0	4		0	0	0	0	0	0	0	0	1	0
	170	159		0			72		-		7		0
Total Quantity			71	-	2	4		12	6	3		1	
Total Power Consume in '1'	10.2			0		0.6	10	1.8	1.8	2	0.35	0.375	2.3
consumption in month(Watt)	306	120	63	0	50	18	300	54	54	60	10.5	11.25	81

Total Power Requirement of various Equipment

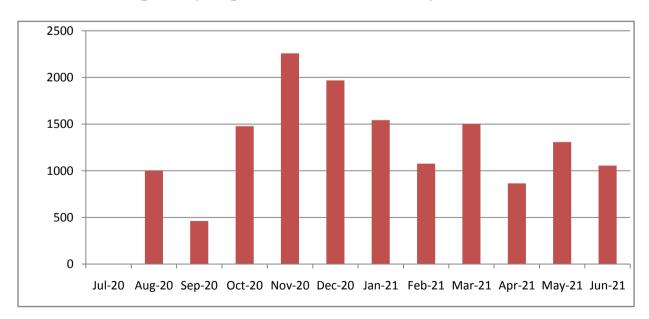
Avg Power Requirement of All Instrument=1167.75 KW in Month

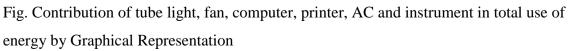
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Sr.No.	Month	Consumption
		Unit(KW)
1	Jun-21	1055
2	May-21	1307
3	Apr-21	865
4	Mar-21	1502
5	Feb-21	1076
6	Jan-21	1543
7	Dec-20	1968
8	Nov-20	2258
9	Oct-20	1478
10	Sep-20	462
11	Aug-20	999
12	Jul-20	0
Total Power Consumpt	14513	
Average Power Consu	1209.41KW	

Power Consumption of Electricity Board

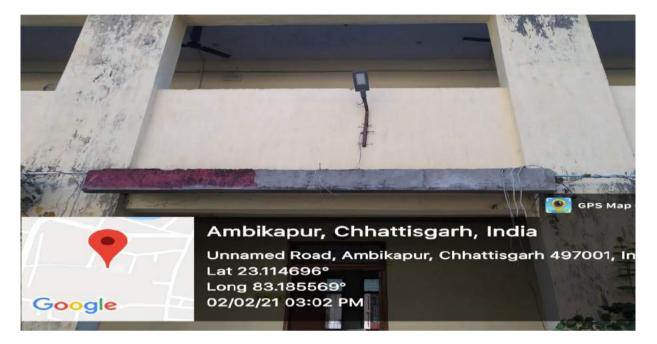
Graphically Representation of Electricity Distribution:-





PHOTOGRAPH OF RENEWABLE ENERGY SOURCES

ENERGY EFFICIENCY EQUIPMENTS



LED Lights



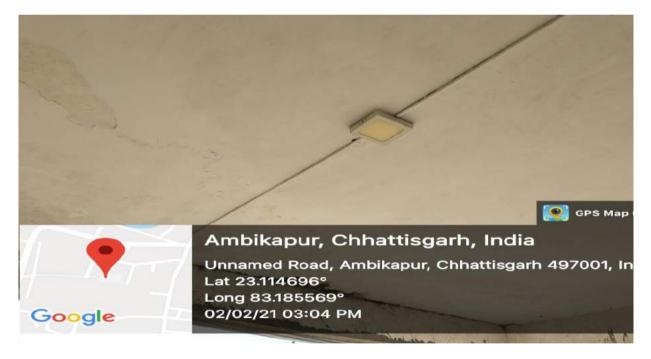
LED Tubelights



Ambikapur, Chhattisgarh, India Unnamed Road, Ambikapur, Chhattisgarh 497001, In Lat 23.114696° Long 83.185569° 02/02/21 03:03 PM

🧕 GPS Map

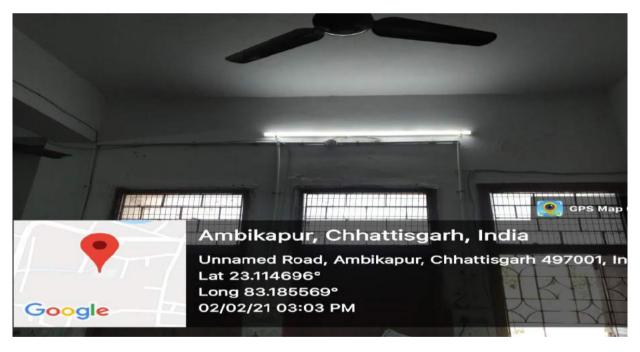
LED Bulb



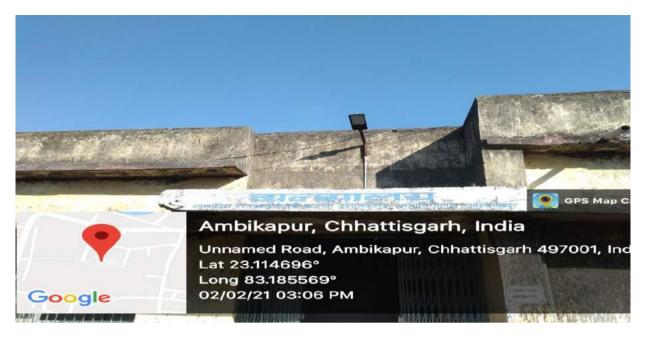
LED Lights



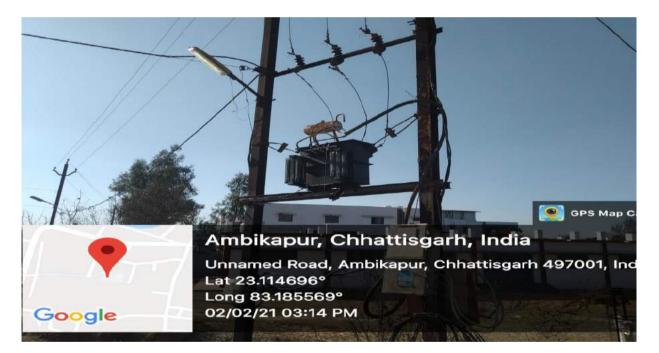
LED Tubelights



LED Tubelights



LED Lights



Electicity Supply in College Campus

Conclusion:

In conclusion, data generated in energy audit are useful for to understand the energy distribution and utilization of college. The college needs an average 1209.41Units/month.

Suggestion & Recommendation:

- 1. Replace all CFL Tube light using LED Bulb, to save more power.
- 2. Replace CRT monitor using LED or LCD monitor.
- 3. Separate connection of office, Computer Lab and classroom.

Results and Discussion:

As far concerning the energy audit, electricity audit is main concern regarding educational institution. We have collected data by considering the tube light, fan, computer, printer, A.C and instruments. The total required energy is **2258.263KW**. Energy Consumption through all devices is **1209.41 Unit /Month**.

License No.

ENERGY INSPECTION SURVEY & AUDIT REPORT

An inspection survey and an analysis of energy flows for energy conservation are being conducted on **Government Rajmohini Devi Girls Post Graduate College**, **Ambikapur, Surguja, Chhattisgarh**. The college campus has single source of energy. There is no any renewable source of energy found i.e. Solar, Wind power etc. The required load of college building premises is dependent on non-renewable source of power supply provided by Chhattisgarh State Power Distribution Company Limited (CSPDCL). Solar power system might be notable for energy conservation of the Campus. The Solar Energy would be supporting source of power supply during sunny days and enhance the energy conservation. It may also lower the cost of energy used by college campus.

Energy consumption as per actual service load year 2020-21.

As far concerning the energy audit, electricity audit is main concern regarding educational institution. We have collected data by considering the tube light, fan, computer, printer, A.C and instruments. The total required energy is **2258.263KW**. Energy Consumption through all devices is **1209.41 Unit /Month.** This energy audit report is made by reconciling all the electricity bills of the college for the year 2020-21.

Note: Details report is enclosed in separate sheet. Amount for energy consumption is taken as per energy rate of CSPDCL.

Mr. SANJAY VISHWAKARMA 'A' Class Electrical Contractor Sangam, Chowk, Ambikapur Surguja, Chhattisgarh

> संजय कुमार विश्वकर्मा विद्युत ठेकेदार ला.नं. वर्ग- 01/1777/A

Green Audit Report

SESSION 2020-21



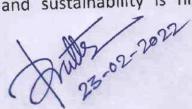
शासकीय राजमोहिनी देवी कन्या स्नातकोत्तर महाविद्यालय अम्बिकापुर(छ.ग)

CERTIFICATE

This is certified that Govt. Rajmohini Devi Girl's P.G. College Ambikapur, Dist-Surguja has conducted detailed Environmental green Audit of their campus session 2020-21 and has submitted necessary data and credentials for strutting. The activities and measures carried out by the college have been verified based on the report submitted and was found to be satisfactory, the efforts taken by the faculty and students towards Environment and sustainability is highly appreciated and commendable.

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Dr. Arnab Banerjee (MEMBER GREEN AUDIT) Environmental Science U.T.D. Sant Gahira guru Vishwavidyalaya Surguja (C.G.)



JOYSTU DUTTA Dr. Jayastu Datta (COORDINATOR AUDIT) H.O.D. Environmental Science U.T.D. Sant Gahira guru Vishwavidyalaya surguja (C.G.)

कार्यालय प्राचार्य, शासकीय राजमोहिनी देवी कन्या स्नातकोत्तर महाविद्यालय

अम्बिकापुर, जिला - सरगुजा (छ॰ग॰)

E-mail ID: ggpgcollege.ambikapur@rediffmail.com

website: http://rmdgirlspgcollege.ac.in

क्रमांक.<u>६.५.९.</u>/ आडिट/ 2021 कॉलेज कोड: 3402 प्रति,

- अम्बिकापुर, दिनांक:22/02/ 202
- (1) डॉ॰ जयस्तु दत्ता
 विभागाध्यक्ष
 पर्यावरण विज्ञान विभाग
 यू॰टी॰डी॰ संत गहिरा गुरु विश्वविद्यालय अम्बिकापुर
- (2) डॉ॰ अर्नब बैनर्जी पर्यावरण विभाग यू॰टी॰डी॰ संत गहिरा गुरु विश्वविद्यालय अम्बिकापुर

विषय:- महाविद्यालय का ग्रीन-आडिट करने बावत |

शासकीय राजमोहिनी देवी कन्या स्नातकोत्तर महाविद्यालय अम्बिकापुर का सम्पूर्ण परिसर हरीतिमा-युक्त है | विविध प्रकार के पेड़-पौधों की उपस्थिति में परिसर का वातावरण प्राण-वायु से भरपूर स्वास्थ्य-प्रद, उत्प्रेरक एवं आहलादक है |ग्रीन-आडिट के द्वारा इसकी वस्तुगत उपयोगिता प्रकाशित हो सकेगी |

(डॉ॰ जर

शासकीय सिंग् किन्या शासकीय सिंग किन्या रनातकोत्तर महाविद्यालय अम्बिकापुर

जिला - सरगुजा (छ.ग.)

अतः कृपया महाविद्यालय का ग्रीन-आडिट करने का कष्ट करें |

3

महाविद्यालय में लगे पेड़-पौधों के प्रकार तथा सूची-

ör. No.	Plant Name	Habbit	Uses
1	Tulsi	Shrub	Medicine
2	karanj	Tree	Medicine
3	sheesham	Tree	Medicine
4	dahu(Mapple)	Tree	Medicine
5	custard apple	Shrub	Fruit
6	tamarind	Tree	Fruit / Medicine
7	mollshri	Tree	Show plant
8	sinduri	Tree	Other uses
9	amla	Tree	medicine
10	gulmohar .	Tree	Ornamental
11	neem	Tree	Medicine
12	khamhar	Tree	Timber
13	harsingar	Shrub	Flower
14	khajoor	Tree	Fruit
15	ashok	Tree	Timber
16	palm tree	Tree	Ornamental
17	cycus	Tree	Ornamental
18	croton	Shrub	Ornamental
19	cactus	Herb	Ornamental
20	guawa	Tree	Fruit
21	berries(jamoon)	Tree	Fruit
22	cashewnut	tree	Fruit
23	bamboo	Herb	Other uses
24	papaya	Tree	Fruit
25	eukeliptas	Tree	medicine
26	ber	Tree	Fruit
27	amaltash	Tree	medicine
28	gulaichi	Tree	Ornamental
29	peepal	Tree	Other uses
30	semal	Tree	Timber
31	dahaliya	Tree	flower
32	marigold	herb	flower
33	bauhinia	Shrub	Ornamental
34	ferns	Herb	Ornamental
35	gudhal of different varieties	Shrub -	Ornamental
36	jarbera	Herb	Ornamental
37	moghara	Herb	Ornamental
38	Rose	Shrub	Flower
39	chandani	Herb	Ornamental
40	dagarmalli	Tree	Ornamental



41	curry leaves	Tree	Spice
42	Giloy	Herb	Medicine
43	Kamini	Shrub	Medicine
44	Sada bahar	Herb	Medicine
45	Alovera	Herb	Medicine
46	Pudina	Herb	Medicine
47	Harra	Tree	Medicine
48	Amla	tree	Medicine
49	Mahua	Tree	Medicine
50	Satmuli	Herb	medicine
51	Lily	Herb	Flower
52	Makoi	Herb	medicine
53	Dhatura	Herb	medicine
54	Oak	Herb	medicine
55	Sunflower	Herb	Flower
56	Genda	Herb	Flower
57	Chhota gokhru	Herb	Medicine
58	amaltas	Tree	Timber
59	Kachnar	Tree	Medicine
60	Gulmohar	Tree	Flower
61	Coriander	Herb	spice
62	Brahmi	Herb	Medicine
63	Touch me not	Herb	Flower
64	Shisham	Tree	Medicine
65	Amrud	Tree	Medicine
66	Bel	Tree	Medicine
67	Jamun	Tree	Medicine
68	Imli	Tree	Medicine
69	Areca palm	Tree	fruit
70	Sal	Tree	Timber
71	Spider plant	Herb	Show plant
72	Arjun	Tree	Medicine
73	Mango	Tree	Fruit
74	Babool	Tree	Medicine
75	Snake plant	Herb	Show plant
76	Datura	Herb	Medicine
77	Turmeric	Herb	Medicine
78	Zinger	Herb	Medicine
79	Kapok(samal)	Tree	Fiber
80	Orchid	Herb	Medicine
81	Lemon grass	Herb	Medicine
81		Herb	Medicine
82		Shrub	Medicine
83		Tree	Fruit
84		Tree	Medicine
85		Tree	Show plant
86		Tree	Flower

88	Khamhar	herb	Timber
89	Jungalee jalebi	Tree	medicine
90	Christmas tree	Tree	Show plant
91	Anar	Tree	Medicine
92	Gular	Tree	Fruit
93	Kalmegh	Herb	Medicine
94	Banyan	Tree	Fruit
95	Bakayan	tree	Medicine

Total no. of plant sp. =95

Total no. of tree = 245

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Total no. of medicinal plant sp. = 42

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PRINCIPAL Bowt.Girls College Ambikapu Distt.-Surguja (C.G.)

कार्यालय नगर पालिक निगम, अम्बिकापुर जिला सरगुजा (छ.ग.) राजमोहनी गर्ल्स कॉलेज परिसर में लगाये गये पौधें की सूची :--

क्र.	दिनांक	पौधो का नाम	मात्रा
1	31.07.2015	करंज पौधा	86 नग
2	31.07.2015	नीम पौधा	40 नग
3	31.07.2015	केसिया सामिया पौधा	35 नग
4	16.07.2016	सीता फल पौधा	16 नग
5	16.07.2016	जामुन पौधा	20 नग
6	16.07.2016	काजु पौधा	15 नग
7	16.07.2016	मुनगा पौधा	25 नग
8	20.07.2017	बांस	50 नग
9	21.07.2017	जामुन पौधा	20 नग
10	21.07.2017	सफेद सीरस पौधा	50 नग
11	21.07.2017	केसिया सामिया पौधा	50 नग
12	21.07.2017	आंवला पौधा	50 नग
13	21.07.2017	इमली पौधा	20 नग
14	21.07.2017	सीता फल पौधा	20 नग
15	21.07.2017	मुनगा पौधा	50 नग
16	21.07.2017	करंज पौधा	10 नग
17	21.07.2017	नीम पौधा	20 नग
18	21.07.2017	गुलमोहर पौधा	20 नग
19	21.07.2017	हर्रा पौधा	10 नग
20	21.07.2017	बहेरा	10 नग
21	29.07.2017	केसिया सामिया पौधा	30 नग
22	29.07.2017	सीता फल पौधा	30 नग
23	29.07.2017	जामुन पौधा	30 नग
24	29.07.2017	अमरूद पौधा	30 नग
25	29.07.2017	आंवला पौधा	30 नग
26	15.06.2018	नीम पौधा	10 नग
27	03.08.2018	आंवला पौधा	15 नग
28	03.08.2018	जामुन पौधा	15 नग
29	03.08.2018	कटहल पौधा	7 नग
30	06.08.2018	जामुन पौधा	30 नग

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क्र.	दिनांक	पाधो का नाम	मात्रा
31	06.08.2018	करंज पौधा	40 नग
32	06.08.2018	आंवला पौधा	
33	06.08.2018	शीशम पौधा	30 नग
34	06.08.2018	जामुन पौधा	30 नग
35	06.08.2018	अर्जुन पौधा	20 नग
36	07.08.2018	करंज पौधा	<u>20 नग</u>
37	07.08.2018	जामुन पौधा	70 नग
38	07.08.2018	आंवला पौधा	30 नग
39	12.07.2020	करंज पौधा	50 नग
40	15.07.2020	अर्जुन पौधा	400 नग
41	15.07.2020	अमलतास पौधा	30 नग
42	15.07.2020	नीम पौधा	37 नग
43	15.07.2020	गुलमोहर पौधा	28 नग
44	15.07.2020	जामुन पौधा	24 नग
45	15.07.2020	आंवला पौधा	13 नग
46	15.07.2020	डह् पौंधा	20 नग
47	15.07.2020	अशोक पौधा	18 नग
48	15.07.2020	पपीता	08 नग
49	15.07.2020		02 नग
	10.01.2020	सतवन कुल पौधा	10 नग

Binley PRINCIPAL Bowl Girls College Antibicapur DistL-Surguja (C.G.)

रिधान अधीक्षक नगर पालिक निकम् अभिकापुर

महाविद्यालय परिसर में पौधरोपण क्रार्यक्रम

शासकीय राजमोहिनी देवी कन्या महाविद्यालय अम्बिकापुर के परिसर पौधरोपण अभियान के तहत् महाविद्यालय परिसर में दिनांक 12.07.2020, एवं 15.07.2020 पौधरोपण का क्रार्यक्रम आयोजित किया गया है।

क्रंमाक	दिनांक	पौधे का नाम	मात्रा
1	12.07.2020	करंज पौधा	40 नग
2	15.07.2020	अर्जुन पौधा	30 नग
3	15.07.2020	अमलतास पौधा	37 नग
4	15.07.2020	नीम पौधा	28 नग
5	15.07.2020	गुलमोहर पौधा	24 नग
6	15.07.2020	जामुन पौधा	13 नग
7	15.07.2020	डहु पौधा	18 नग
8	15.07.2020	अशोक पौधा	08 नग
9	15.07.2020	पपीता पौधा	02 नग
10	15.07.2020	सतवन पौधा	10 नग
11	15.07.2020	ऑवला पौधा	20 नग

करंज पौधारोपण



महाविद्यालय परिसर में पौधरोपण क्रार्यक्रम



















पपीते का पौधरोपण



अन्य गतिविधियां



जाएंगे, वहां भी इस कोयक्रम प्या कुलपति की उपस्थिति में कन्या महाविद्यालय में स्वच्छता अभियान

अंबिकापुर । पौधारोपण करते कुलपति अशोक सिंह 🏾 नईदुनिया

सिन्हा के अतिरिक्त महाविद्यालय के सभी अधिकारियों एवं कर्मचारियों एवं स्वयंसेविकाएं उपस्थित रहे।

अंबिकापुर (नईदुनिया प्रतिनिधि)। देवी कन्या राजमोहिनी शासकीय महाविद्यालय में स्वच्छता पखवाड़ा मनाया गया जिसके तहत राष्ट्रीय सेवा योजना इकाई के स्वंयसेविकाओं द्वारा गोद ग्राम सांडवार के मंदिर परिसर की सफाई की गई। इसके साथ ही ग्राम पंचायत हर्राटिकरा के प्राथमिक स्वास्थ्य केन्द्र परिसर की सफाई करते हुए आस-पास के लोगों को स्वच्छता का संदेश दिया गया। स्वच्छता पखवाड़ा का समापन काफी उत्साहपूर्ण एवं सराहनीय रहा। संत गहिरा गुरु विश्वविद्यालय सरगुजा के कुलपति डा. अशोक सिंह एवं कुल सचिव विनोद एकक की उपस्थिति में महाविद्यालय परिसर में पौधारोपण किया गया। इस कार्यक्रम में प्राचार्य डा. ज्योति



पर्यावरण जागरूकता हेतु छात्राओं ने ऑनलाइन पोस्टर्स का किया प्रदर्शन



- संवाद्दाता-

अम्बिकापुर 03 दिसम्बर 2020 (घटती-घटना)। शासकीय राजमोहिनी देवी कन्या स्नात्कोत्तर महाविद्यालय अम्बिकापुर की एमएससी आहार एवं पोषण की छात्राओं ने ऑनलाइन पर्यावरण जागरूकता हेतु पोस्टर्स बनाये। पोस्टर्स के माध्यम से छात्राओं ने वृक्ष लगाने वृक्ष न काटनेजल बचाने वर्षा का जल एकत्रित करने प्रदूषण रोकने बिजली बचाने सोलर ऊर्जा का उपयोग करने ईंधन बचाने रीसाइक्लिंग करने की सलाह दी।रेखा पैंकरा रिया दुबे अगिस्ता टोप्पो अरुणा तिर्की सरस्वती किरण कश्यप प्रवीना किरण राजवाड़े योता आदि छात्राओं ने पोस्टर्स तैयार किये।

