D. K. SHINDE COLLEGE OF EDUCATION GADHINGLAJ

	7.1.5 **Institution is committed to maintenance of cleanliness, sanitation, green cover and providing a pollution free healthy environment**	

Additional information

Green Audit

Website: www.cncvcw.edu.in Ph.No.:(0231) 2535405
CHH.SHAHU INSTITUTE OF BUSINESS EDUCATION & RESEARCH TRUST'S
COLLEGE OF NON-CONVENTIONAL VOCATIONAL COURSES FOR WOMEN
Affiliated to Shivaji University, Kolhapur, Maharashtra, India
University Road, Kolhapur – 416 004
Accredited by NAAC with B++ Grade (4th Cycle)

Dr. R. A. SHINDE
Secretary & Managing Trustee

Ref.No. CNCVCW/2023-24/155 Date: 12/09/2023

Certificate

This is to certify that Green Audit Report for the acedamic year 2022-23 of the **"Dinkarrao K. Shinde College of Education, Gadhinglaj"** has prepared by us based on the documents submitted by the collge and visit conducted by the Auditor.

Report Prepared and Submitted by

Ms. Pooja S. Sarolkar
Lead Auditor
EMS (ISO 14001:2015)
International register of Certificated Auditors (CQI-IRCA)
Certificated No. 22/IN/102387678088

DINKARRAO K. SHINDE COLLEGE OF EDUCATION, GADHINLAJ

GREEN INITIATIVE REPORT

2022-23

Prepared By

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August, 2023

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GREEN INITIATIVE REPORT

1.0: PREAMBLE:

The survival of human race depends upon the surrounding environment. Various environmental factors play critical role in well-being of all living organisms on earth. But in this era of industrialization, we are mainly focusing upon development and economic prosperity and very less attention is provided towards environment. We are continuously over-exploiting the natural resources to raise our standard of living, which in turn leads to environmental degradation. Human activities have led to various kinds of pollution such as air pollution, water pollution, soil pollution etc. This polluted environment leads to the adverse impacts on health of animals, plants and human beings. Along with different kinds of pollution which are faced at local or regional level, we are also facing global issues such as ozone layer depletion and global warming. Now all these things have resulted into increasing world-wide concern about environmental issues.

India is a developing country, which is facing the problem of population explosion. So, there is a burden on available natural resources. This population explosion has resulted in conversion of forest lands for agricultural or residential purpose. It has helped in improving the lifestyle but on the other side it is exploiting the environment. Deforestation has lead to destruction of natural habitats of animals. It has caused extinction of many plants as well as animals.

Along with this, we are also facing the issue of solid waste management. It has lead to soil pollution and groundwater pollution. Areas near cities are often used as solid waste dumping site. People living nearby these areas are facing various health problems and the waste dumping sites can also catch fire sometimes. Industries, commercial areas and residential areas are contributing to the noise pollution as well.

All these anthropogenic activities have caused profound impact on rural areas, urban areas, oceans and forest lands. This indiscriminate development is against principle of sustainable development. After 1970, impacts of these activities were taken into consideration and various conferences were held at international level and many conventions were signed. But still, the problem of environmental degradation is continuously increasing. Therefore, now there is a need of focusing on environment friendly technology. At the same time, we have to reduce the waste generation and switch to reuse and recycling. We should try for sustainable development which will foster the socio-economic prosperity and will secure the life of future generations. For this, efforts should be taken at individual, institutional, national and international level.

GENRAL INTRODUCTION:

The green initiative was first conducted in the United State of America in 1970s.
By 1992, approximately half of the local authorities of UK undertook the green audit completely or partially. The United Nations Conference on Environment and Development (UNCED), which was held at Rio de Janeiro, motivated all the countries to act cautiously to save the earth with sustainable approach. Most of the countries have accepted their national strategy for sustainable development which includes the policy and programmes aimed to promote geo-biodiversity and protect environment. This Rio spirit shows significant progress in most of the countries and they have

changed and upgraded the environmental situation to the possible extent. Some of the Asian countries were also motivated from the summit and played same role within their limits. India is the first country in the world to make environmental audit compulsory. According to gazette notification, all Industries were communicated to submit the reports of the environmental audit to their concerned State Pollution Board, giving details of water, raw materials and energy resources used and products and waste generated by them in their operations from 1992.

Green initiative is a tool to protect the environment by adopting concept of conservation of natural resources.

Sustainable use can be ensured by auditing the use of ecological components. The initiative is known as regular and systematic review and appraisal of the factors and forces that contributes to realization of objectives.

University has conducted a green audit with specific goals as:
1. Identification and documentation of green practices followed by university.
2. Identify strength and weakness in green practices.
3. Analyze and suggest solution for problems identified.
4. Assess facility of different types of waste management.
5. Increase environmental awareness throughout campus
6. Identify and assess environmental risk.
7. Motivates staff for optimized sustainable use of available resources.
8. The long-term goal of the environmental audit program is to collect baseline data of environmental parameters and resolve environmental issue before they become problem.

Objectives:

1. To examine the current practices, which can impact on environment such as of resource utilization, waste management etc.
2. To identify and analyze significant environmental issues.
3. Setup goal, vision, and mission for green practices in campus.
4. Establish and implement Environment Management in various departments.
5. Continuous assessment for betterment in performance in green

BENEFITS OF GREEN INITIATIVETO EDUCATIONAL INSTITUTIONS

There are many advantages of green audit to an Educational Institute:
1. It would help to protect the environment in and around the campus.
2. Recognize the cost saving methods through waste minimization and energy conservation.
3. Empower the organization to frame a better environmental performance.
4. It portrays good image of institution through its clean and green campus.

OBJECTIVE AND SCOPE

The broad aims/benefits of the eco-auditing system would be:
- Environmental education through systematic environmental management approach
- Improving environmental standards
- Benchmarking for environmental protection initiatives
- Sustainable use of natural resource in the campus.
- Financial savings through a reduction in resource use
- Curriculum enrichment through practical experience

• Development of ownership, personal and social responsibility for the College campus and its environment
• Enhancement of College profile
• Developing an environmental ethic and value systems in young people

2.0 ENVIRONMENTAL POLICY:

"Green Campus and Clean Campus"

ENVIRONMENTAL MISSION:

- To persuade people of the value of water and the wise use of it.

- To move toward the efficient use of Energy and Water resources.

- To foster a spirit of conserving energy and utilizing solar energy in diverse industries.

- To develop a buy-back program for electronic waste.

- To raise awareness of tree planting and proper tree care.

For effective implementation of the Environmental Policy, the College has constituted Environmental forum. The structure of the forum is given in below:

1. IQAC Coordinator – Dr.T.Y. Patel
2. Faculty Member- Sou S.E. Powar
3. Faculty Member- Dr.B.D. Patil
4. Student Representative – Sandeep Mohite
5. Student Representative- Ankita Sanjay Patil

COLLEGE PROFILE:

Dr. A. D. Shinde, Director & Managing Trustee of the SIBER Institute has established this college in the name of his father Mr. Dinkarrao K. Shinde, the then educationistand social reformer of his time. Late Dinkarrao K. Shinde was born in 4th Oct. 1901. He has passed his vernacular final and stood first in Karveer Sansthan.

Mr. D. K. Shinde was known as Dinkar Master as he has done a lot for backward community,established a school for them in Kasba Nool nearby Gadhinglaj at the age of nineteenth. The quotation by him is apt. "I am a teacher, and the teacher doesn't build the houses but build thepersonality of students."

Being a well-known educationist he has established Shivaji Boarding in Gadhinglaj for the students who were far away from Gadhinglaj and made food and other facilities available.

He has done a lot for untouchable, opened the doors of temple, established post office, bazaar,

roads pools, free medical checkup, justice for poor established a co-operative society for the upliftment of poor.

Such a multidimensional personality died in 4th Oct. 1960. So the name given to this college is apt and significant.

VISION

To be a school that prospective teachers choose first.

MISSION

1. To provide student teachers with teachers education and training in general, especially those form and surrounding western Maharashtra, which is primarily rural.

2. To instill confidence in and inspire staff members to effectively meet the demands of the student-teacher community and society at large.

3. To give teachers access to resources and training to improve their abilities.

4. To best prepare the student teachers for the challenges they will face in the future.

GOALS & OBJECTIVES OF THE INSTITUTION

1. To support extracurricular activities for students overall development.
2. To reinforce national values through a variety of extracurricular, co-curricular and curricular programmes.
3. To promote awareness of and educate pupils about current social issues, such as the campaign and energy conservation.
4. Planning events that promote woman's empowerment by preventing sexual harassment and educating people about women's rights.
5. To improve physical infrastructure.
6. To ensure that the trainee is conscious of the digital environment.
7. To instruct the student in a variety of cutting-edge teaching.

NAME AND ADDRESS OF COLLEGE:

Name of college:	Dinkarrao K. Shinde College of Education,Gadhinglaj
Address	Mal Maruti kadgaon Rode Gadhinglaj Po- Gijavane Tal – Gadhinglaj Dist – Kolhapur
Pin:	416502
Website:	http://www.dksg.co.in
Status of the institution:	Non aided
Type of institution:	
a. By gender	Co.Education
b. By shift	Regular
Sources of funding:	
a. Date of establishment of the college:	1990
b. University to which the college is affiliated:	Shivaji University Kolhapur
Details of UGC recognition:	
Under section	
a. 2 (f)	15/09/2016
b. 12 (B)	15/09/2016

COURSE OFFERED BY COLLEGE:

Sr. No.	Programme level	Name of programme
1.	UG	B.Ed.

Table No. 1: Number of students enrolled during last two years

Year	Male	Female	Total admissions
22 - 23	15	40	55

Table No. 2: Total strength of students and staff on campus during the last years

Year	Students	Teaching staff	Non – Teaching Staff	Total
22-23	55	6	6	67

COLLEGE ORGANOGRAM:

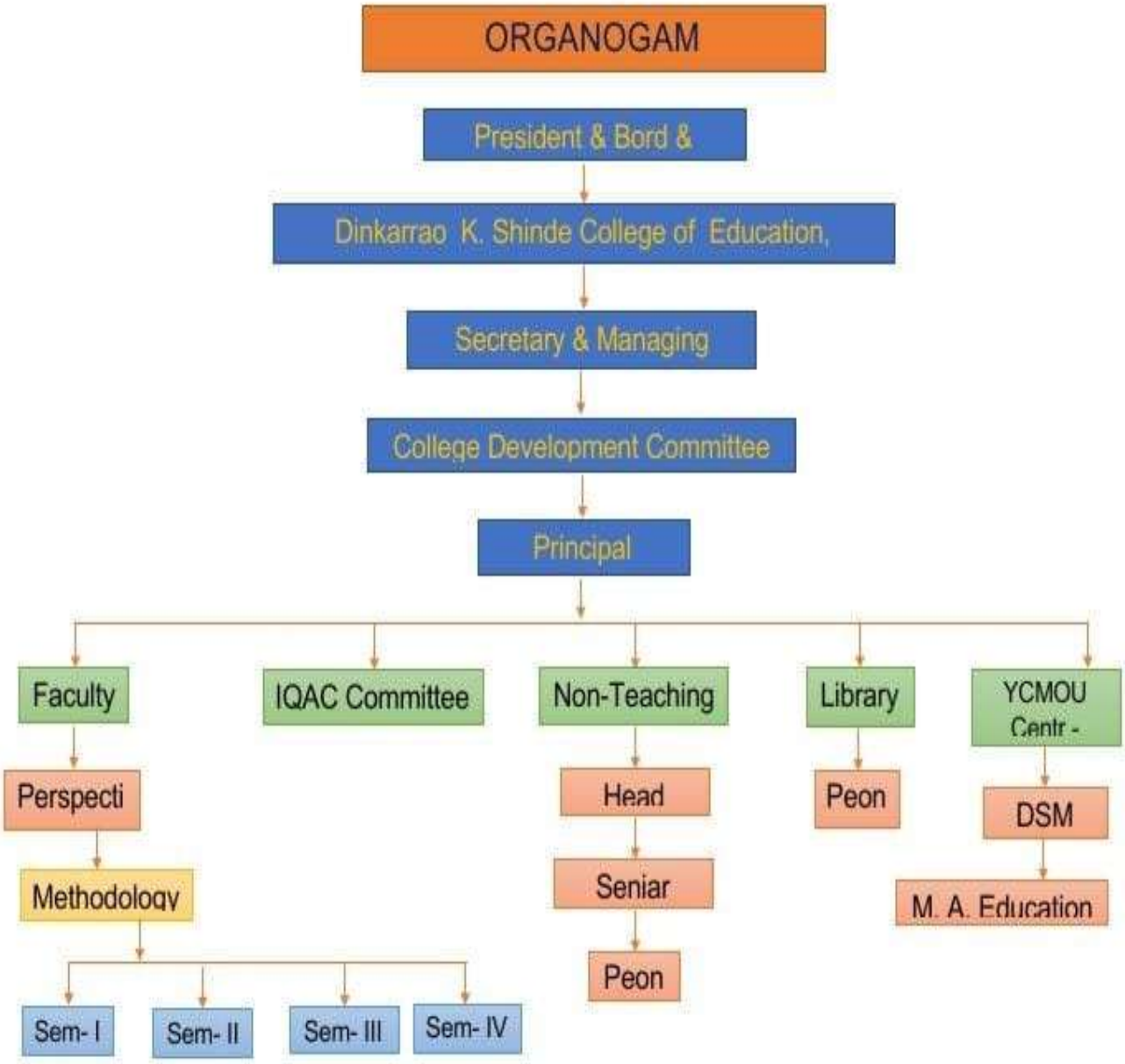

Figure 1: Organogram of the College

3.0 THE SCOPE OF THE GREEN INITIATIVE IS DEFINED IN TERMS OF:

3.1. Geographical Location of the College Campus
3.2. Its Environmental Aspects.

3.1. GEOGRAPHICAL LOCATION OF THE COLLEGE CAMPUS

3.1.2. DETAILS OF AREA:

Table no. 3 Location of the campus and area in sq. mts.is given below:

Location	Urban
D.K.Shinde college of Education Gadhinglaj	Rural

Geographical details of the college area

Latitude (N)	Longitude (E)	Elevation (m) MSL
16.2264^0 N	74.3500^0 E	623 m

3.1.3 LAND USE PATTERN OF COLLEGE:

Table No.4: Land use pattern of college

Land use pattern	Area (m^2)
Total area	28300 sq. m
Area occupied by buildings	2326.74 sq. m
Ground	8400 sq. m
Garden area	184.94 sq. m
Open space	17416.32 sq. m

Figure No. 2: Location of the college area is shown on Google Earth map

3.2 SCOPE OF GREEN INITIATIVE IN TERMS OF ENVIRONMENTAL ASPECTS:

3.2.1. Energy Conservation: Energy conservation is the effort made to reduce the consumption of energy by using less of an energy service. This can be achieved either by using energy more efficiently (using less energy for a constant service) or by reducing the amount of service used

3.2.2. Use of Renewable Energy: Renewable energy is useful energy that is collected from renewable resources, which are naturally replenished on a human timescale, including carbon neutral sources like sunlight, wind, rain, tides, waves, and geothermal heat.

3.2.3 Efforts for Carbon Neutrality: carbon-neutral (or carbon neutrality) is the balance between emitting carbon and absorbing carbon emissions from carbon sinks.

3.2.4 Plantation: It is usually large group of plants and especially trees under cultivation

3.2.5 Water Management: Water management is the control and movement of water resources to minimize damage to life and property and to maximize efficient beneficial use.

3.2.6 Hazardous Waste management: Hazardous waste management involves reducing the number of hazardous substances produced, treating hazardous wastes to reduce their toxicity, and applying sound engineering controls to reduce or eliminate exposures to these wastes.

3.2.7 E-Waste Management: E-waste or Waste Electrical and Electronic Equipment are loosely discarded, surplus, obsolete, broken, electrical or electronic devices

3.2.8 Quality of water, air and noise: Water quality describes the condition of the water, including chemical, physical, and biological characteristics, usually with respect to its suitability for a particular purpose such as drinking or swimming.

3.3:Energy Audit

Introduction

Energy audit is an inspection, survey and analysis of energy flows for energyconservation in building or a system to reduce the amount of energy input intothe system without adding a negative impact on the output. Energy audits aremeans to understand the flow of energy starting from the source to its final use.

As per the Energy Conservation Act, 2001, Energy auditing is the verification, monitoring and analysis of use of energy including submission oftechnical report containing recommendations for improving energy efficiencywith cost benefit analysis and an action plan to reduce energy consumption.

Green audits are assigned to criteria 7 of the National Assessment and Accreditation Council, which is a self-governing organization that provides various institutions with grades based on their criteria for accreditation.

Essentially requirement for an Energy Audit is a part of the criteria 7 and is vital to the

accreditation process. This accreditation provides a college with anopportunity to present itself as an esteemed institution without impeccable values, infrastructural advantage and endless opportunities it could provide itsstudents.

Need for Energy Audits:

Energy audits help analyse and determine good institutional practices; whether they are eco-friendly or sustainable. With the world constantly changing, development, unfortunately, results in large-scale utilization of natural resources. Now natural resources are not just used for the supply of products. Energy, water are all basic commodities that are used generously by all. With the threat of depleting resources looming over our heads, it is imperative to determine how much we use and where we waste resources toensure efficient usage. Energy audits provide opportunities to determine the same and help the organization to reflect, improve and expand their processesand shift to clean green resource utilization. Apart from this, it helps instilconsciousness among people as part of the institution towards the environment and sustainable resource utilization.

Goals of Energy Auditing:

- Identification of strengths and weaknesses in green practices.
- Analyze and suggest solutions for problems identified.
- Identify and assess environmental risk.
- Motivate staff for optimal sustainable use of available resources.
- Increase environmental awareness throughout the campus.
- Collect baseline data of environmental parameters and prepare plans forissues before they become problems.

Objectives of Energy Audit:

- Analyze current practices and determine their impact on theenvironment.
- Identify and analyze significant environmental issues.
- Continuous assessment for better environmental performance.
- Establish and implement a green energy strategy in the campus andsensitize the faculty and students.

Benefits to Educational Institutions:

- Improve the energy utilization within and outside the campus premises.
- Help recognize cost-effective green strategies that enable conservation ofenergy.
- Empower people linked to the organization to move towards conscious environmental thinking and practice.
- It helps improve the image and builds a positive impression of theinstitution for its green and clean resource use.

3.3.1 ENERGY POLICY:

A key component of the College Sustainability Program is energy conservation. Listed below are several guidelines that are intended to manage and reduce energy consumption on all college campus. These guidelines should be followed by all faculty, staff, administration, and students. The Energy usage Policy of college is to manage energy in such a systematic way to minimize its impact on the environment. It will help us to embed efficiency and environmental awareness into our everyday activities, thus helping us to realize our responsibilities and commitment to conservation of natural resources and to limit its usage.

Policies:

- To assess source energy usage and measure its impact on the environment.
- To install photovoltaic solar panels for the generation of alternate energy.
- To install LED bulbs in the whole campus to save energy.
- To develop systematic waste management mechanism.
- To develop rainwater harvesting unit.
- To undertake tree plantation drive.
- To monitor and respond to emerging environmental and energy issues. To strengthen our employees' and students' environmental knowledge and skills to improve our own environmental performance.

3.3.2 ENERGY CONSUMPTION:

Electricity is used for illuminating the rooms, fans, computers, Laboratory equipment, and pumps and for cooling rooms (AC).

Number of rooms under use in college: 15

Details of various sources of energy consumption units are given in table No.5.

Table No.5: Sources of Energy Consumption

Sr.No.	Energy sources	Electricity/generator/solar lamps
a.	No. of Computers	39
b.	No. of Laptop	1
c.	No. of tube lights	10
d.	Number of LED bulbs/Tube	152
e.	No. of CFC bulbs	15
f.	No. of UPS	39
g.	No. of fans	76
h.	No. of generators	1
i.	Electric pumps of 5 HP	1
j.	No. of smart T.V.	1
k.	No.of printers and Xerox machine	5

3.3.3 ENERGY REQUIREMENT: sanctioned load (6.00 kw)

Electricity supplied from the Maharashtra State Electricity Board is the main source energy for the activities on the campus. In addition to the regular supply, energy consumed (KW) during the last year is shown in tabular as well as graphical form.

Electricity supplied from the Maharashtra State Electricity Board is the main source energy for the activities on the campus. In addition to the regular supply, energy consumed (KW) during the last year is shown in tabular as well as graphical form.

Table No. 6: Energy consumption during the Year 2022-23
Consumer No-255010029081

Month	Consumption (In units)
January 23	234
February 23	281
March 23	250
April 23	297
May 23	314
June 22	278
July 22	483
August 22	253
September 22	242
October 22	250
November 22	215
December 22	254
Average	**3350**

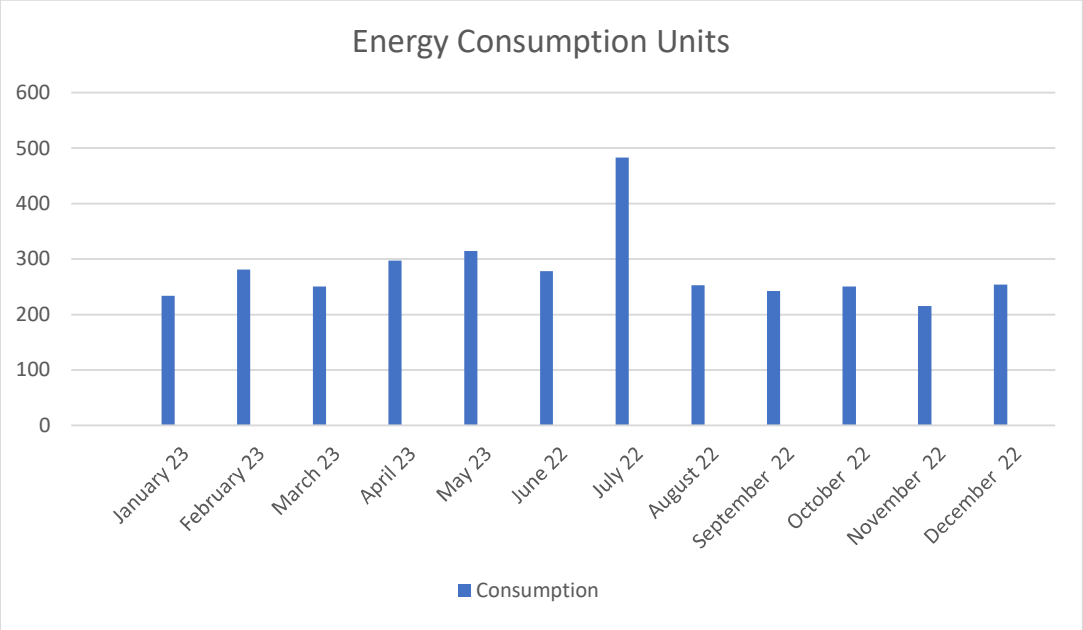

Figure 3: Graphical representation of energy consumption during 2022-23

Energy conservation measures taken up by the College:

From the energy consumption pattern, it is found that there was increase of energy consumption in month of July as compared other months. Thereafter, energy consumption is gradually decreasing in November. Maximum energy requirement was 483 units during month of July and minimum 215 units was in November, in energy consumption during the last year is mainly switching over the use of LED bulbs in place high energy consuming 40-Watt tube lights.

The requirement is met from the Maharashtra Electricity Board. College is aware of environmental impacts of consumption of conventional energy supplied by MSEB. Hence, college has adopted following measures to minimize the energy consumption.

1. Switching over to the use of LED bulbs as a replacement to conventional high energy consumption bulbs
2. College has encouraged use of e-mail instead of sending notices and faxing documents.
3. Most of the fans carry three stars rating of electrical appliances.
4. Increased use of flat-screen LCD monitors rather than CRT monitors
5. Awareness amongst students was carried out and accordingly sign boards are displayed at strategic locations for conservation of energy and students positively responding.

3.3.4 EFFORTS FOR CARBON NEUTRALITY:

Thinking about carbon footprints is a simple way of thinking about ways to reduce environmental pollution. By reducing our carbon footprints, each one of us can contribute to making the earth a safer, better place to live. Estimates suggest that almost half of our carbon footprint is due to electricity and 17% is due to lighting alone.

Carbon footprint is the amount of Green House Gases like carbon dioxide, methane, nitrous oxide emissions emitted by a building, organization etc. It relates to the amount of greenhouse gases we are producing in our day-to-day lives through burning fossil fuels for electricity, heating, transportation etc.

At Shripatrao Chougule College, carbon footprint for indoor lighting in office building is considered. The performance of the building by using LED lights reduces the building carbon foot print. The carbon foot print is for –

1. Incandescent Light
2. CFL
3. LED Lights

Electricity:

By and large, half of our carbon footprint is due to electricity and 17 % is due to lighting alone. Electricity in turn can be produced by coal, natural gas, petroleum, and other. Electricity is produced from different sources and how much GHG released is shown is shown in table no. 7.

Table No. 7: Electricity produced from different sources

Source	**Million metric tons of CO_2 emission for 1 year**	**Electricity generation (Billion kWh) for 1 year**
Coal	1788	1882
Petroleum	106	119
Natural gas	337	562
Other	14	22
Non fossil fuels	None	1106
Total	**2245**	**3621**

Since close to 2245 million metric tons of CO2 emitted by total electricity generation per year. A single kilowatt-hour of electricity will generate 619 grams of CO2 emissions.

1. Incandescent Light

Incandescent lamp is a source of light which produce light when the filament is being heated. It can release 80% electrical energy converted into heat energy. We can calculate how much CO2 will be emitted by 40-watt incandescent bulb.

Power Consumption- 40 watts

- Operation per day- 10 hours
- Power Consumption per annum-146000 watt
- Electricity per hour (kwh) - 0.04 (1 kWh=619g CO2 can be released)
- Lighting Carbon Emission per year/lamp (146*619g) -90.3 kg.

A single 40 watts incandescent bulb will generate 90.3 kilograms of CO2 for every year. The reduction of carbon footprint is none for this lamp.

2. Compact Fluorescent Light

CFL produce less heat and more visible light compare than incandescent lamp. We can calculate how much CO2 will be emitted by 14-watt incandescent bulb.

Power Consumption- 14 watts

- Operation per day- 10 hours
- Power Consumption per annum-51100 watt
- Electricity per hour (kwh) – 0.014 (1 kWh=619 g CO2 can be released)
- Lighting Carbon Emission per year/lamp- (51.1*619g) - 31.6 kg.

A single 14 watts CFL lamp will generate 31.6 kilograms of CO2 for every year. The reduction of carbon footprint is none for this lamp. CFL contains harmful mercury which creates mercury emission. Estimated suggestion led lights only will reduce our carbon foot print over than other lights.

3. LED Lights

LED lights consumes low power and energy efficient over than other lights. Not even a single point we can't compare led lights with other lighting. We can calculate how much CO2 will be emitted by 8-watt LED lamp -

- Power Consumption- 8 watts
- Operation per day- 10 hours
- Power Consumption per annum-29200 watt
- Electricity per hour (kwh) – 0.008 (1 kWh=619 g CO2 can be released)
- Lighting Carbon Emission per year/lamp (29.2 *619g) - 18 kg.

A building's carbon footprint from led lighting can be reduced by 68%.

- Reduction in Carbon Footprint (tons)-0.122(12.28 kg)

The 8-watt LED equivalent will only be responsible 18 kilograms of CO2 over the same time span.

Table No. 8: Carbon foot prints

	Incandescent Bulb	LED light
Power Consumption(watt)	40	8
Electricity(kwh)	0.04	0.008
Hours of Operation Per Day	10	10
Carbon Emissions (tons) per year/lamp	0.903	0.18
Reduction in Carbon Footprint (tons) / lamp	--	0.12

- LED light can reduce our carbon footprint by 0.12 tons per year.
- Led light does not contain mercury; it is a big benefit for this lamp.
- Incandescent, it is 5.8 mg from power plant.

The 8-watt LED equivalent will only be responsible 18 kilograms of CO2 over the same time span.

Based on above comparisons, LED emerges as the BEST option to reduce carbon footprint.

At Shripatrao Chougule College, all together there are 37 rooms (including, class rooms, offices, labs etc.) 195 LED lamps.

Details of CO_2emitted from these lights is given in table 9.

Light	**No. of bulbs**	**CO_2 emitted per lamp / year**	**Total CO_2 emitted per year**
LED (Tubes)	89 of 9 watts	20.25kg	1802.25
LED (Bulbs)	9 of 20 watts	45 kg	405
LED (Bulbs)	54 of 24 watts	54 kg	2916
		Total	**5123.25 kg**

Early college has using conventional tube lights of 40 W which emits 91kg of CO2 per year (91* 156=14,196) against which by converting conventional LED bulbs, we are reducing CO2 emission by 9,072.75 kg (14,196-5,123.25= 9,072.75 kg).
CO2 emitted from utilizing all types of bulbs per year is 5123.25 kg/yr. Presently, College has taken initiative to replace Incandescent bulbs and CFL bulbs by LED. During the last year energy consumption of LED bulbs against the total energy requirement has been decreased. This has shown substantial reduction in the C02 emission per year. If all 152 bulbs are replaced by 8-Watt LED bulbs, CO2 emitted per year would be 152 x 18 kg = 2736

kg / year. This means college can reduce CO2 by 2387.25 kg / year (5123.25 kg-2736 kg). It is suggested to replace all bulbs by LED bulbs in a phase manner. Further, all the fans should be replaced in phased manner energy efficient five-star rating fans.

3.4 PLANTATION:

The college campus area is 28328 sq.m. Total number of plants as on 2021-22 is about 195. Details of plantation with respect to Botanical name, local name and quantity is given table no. 10.

DETAILS OF PLANTATION IN COLLEGE:

Table no. 10: List of Plants in campus area

Sr. No.	Name of species	Family	Common name
1.	*Mangifera indica* L.	Annacardiaceae	Mango
2.	*Ficus religiosa*	Mulberry	Moraceae
3.	*Ficus benghalensis*	Moraceae	Banyan Fig
4.	*Syzygium cumini*	Myrtaceae	black plum
5.	*Ficus racemosa*	fig or mulberry	cluster fig
6.	*Delonix regia*	Fabaceae	Royal Poinciana
7.	*Magnolia champaca*	Apocynaceae	Frangipani
8.	*Nerium oleander*	Apocynaceae	Rose Laurel
9.	*Leucaena leucocephala*	Fabaceae	Lead Tree
10.	*Artocarpus heterophyllus*	Moraceae	jackfruit
11.	*Tectona grandis*	Lamiaceae	Teak
12.	*Tamarindus indica*	Fabaceae	Tamarind tree
13.	*Azadirachta indica*	Meliaceae	miracle tree
14.	*Annona squamosa*	Annonaceae	Sugar Apple
15.	*Daemonorops draco*	Arecaceae	Golden Cane Palm

16.	*Biological Species*	Fabaceae	wattles or acacias
17.	*Bauhinia racemosa*	Fabaceae	Bauhinia variegate
18.	*Pyrus*	Fabaceae	European Pear,
19.	*Pongamia pinnata*	Tamarind	Pongamia pinnata
20.	*Tamarindus indica*	Moringaceae	Madras Thorn
21.	*Moringa oleifera*	Phyllanthaceae	Moringa
22.	*Phyllanthus acidus*	mahogany	Star Gooseberry
23.	*Cedrela*	Boraginaceae	Spanish cedar
24.	*Cordia obliqua*	Boraginaceae	Clammy Cherry
25.	*Margo*	French origin	
26.	*Senna siamea*	Fabaceae	Kassod
27.	*Fabaceae*	Dalbergia	Dalbergia sissoo,
28.	*Elaeocarpus ganitrus*	Elaeocarpaceae	laeocarpus ganitrus
29.	*Senegalia catechu*	Fabaceae	Cutch tree
30.	*Grevillea robusta.*	Proteaceae	southern silky oak
31.	*Helleborus*	Melanthiaceae	Lenten rose
32.	*Nuytsia floribunda*	Araucariaceae	Western AustralianChristmas
33.	*Eucalyptus*	myrtle	Nilgiri, Rainbow Eucalyptus,
34.	*Melia azedarach*	Meliaceae	Melia azedarach
35.	*Hamelia patens*	Rubiaceae	Firebush
Total Tree – 328			

List of Planted Medicinal Plants

List of Medicinal Plants growing in campus

Sr. No.	Botanical Name	Family	Common name	Plant part used	Medicinal Uses
1	Ocimum tenuiflorum	ıceae	Ocimum sanctum	leaves, stem, flower, root, seeds and even whole plant	Skin problems, insect bites, heart disease.
2	Aloe barbadensis miller	eae	Gwar Patha or Ghrit Kumari'	leaves	Skin conditions, burns, frostbite, rashes,
3	Sandalwood	aceae	Chandan, Srigandha	Heartwood, bark	Antipyretic, antiseptic, antiscabetic, and diuretic properties
4	Hibiscus rosa	ıceae	Chinese hibiscus	flowers, leaves, roots.	Treat hypertension, cholesterol production, cancer progression.
5	Amla	ınthaceae	Emblica officinalis Gaertn	fruit, seed, leaves, root, bark and flowers.	Anti-diabetic, hypolipedemic, anti-microbial, anti-inflammatory, antioxidant, hepatoprotective and anti-emetic activities
6	Justicia adhatoda	haceae	Malabar nut	leaves, roots, flowers, and bark	Cough, colds, asthma
7	Mangoturmeric	ginger	Curcuma amada	root	Appetizer, alexteric, antipyretic,
8	Aegle marmelos	Rutaceae	Bilva or Sriphal	fruit, leaf, root, bark, and seed	Treating fever, nausea, vomiting, swellings, dysentery, dyspepsia, seminal weakness
9	Cymbopogon citratus	Poaceae	Lemongrass	leaves	Improve digestion, nausea and menstruation problems
10	Asparagus officinalis	asparagus	sparrow grass	root	Remedy for schistosomiasis and tuberculosis.
11	Musaceae	Musaceae	Apple of paradise	flowers	Hysteria, epilepsy, leprosy, fevers, hemorrhages, acute dysentery and diarrhea
12	Nyctanthes arbor-tristis	Oleaceae	night jasmine	leaves and flowers	fevers, cough, arthritis, worm infestation
13	Prunus dulcis	Rosaceae	erminalia catappa	seed	lower cholesterol and regulate blood sugar
14	Catharanthus	Apocynaceae	periwinkle	leaves	cancer and diabetes
15	Pandanus odorifer	Pandanaceae.	screw pine	Leaves,Root, flowers	Rheumatism, headache, anorexia, indigestion activities

6	Justicia adhatoda	Acanthaceae	Malabar nut	leaves, roots, flowers, and bark	Cough, colds, asthma
7	Mango turmeric	ginger	Curcuma amada	root	Appetizer, alexteric, antipyretic,
8	Aegle marmelos	Rutaceae	Bilva or Sriphal	fruit, leaf, root, bark, and seed	Treating fever, nausea, vomiting, swellings, dysentery, dyspepsia, seminal weakness
9	Cymbopogon citratus	Poaceae	Lemongrass	leaves	Improve digestion, nausea and menstruation problems
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Plate No: 1 Plantation cover


प्लास्टिक
मुक्त परिसर
GPS Map Camera

3.5 WATER AUDIT:

Water plays a key role in every environmental system. Water is an amazing material with unique properties that affect life on earth. The earth holds the same water in the same quantity as it did when it was formed. The earth's water continuously circulates from the ocean to the atmosphere, then to the land and back. The atmospheric water cycle helps us to get a regular supply of fresh water every year. Thus, fortunately the worlds freshwater supply is continually collected, purified, recycled and distributed in the earth's hydrological cycle. Water is so integral to life that we frequently take it for granted. Freshwater is an irreplaceable resource that we are managing poorly. Despite its importance, water is one of our most poorly managed resources. Even if the CSIBER Institute gets assured good amount of rainfall, the water is not retained in the ground due to the limitations like topographical features and seasonal rains. hence regulation of water cycle by nature is proper In the area covered by build structures and roads, the rainwater does not percolate into the ground. Hence water conservation measures should be adopted.

3.5.1 WATER CONSUMPTION:

The institute has one water connection of Gadhinglaj Municipal Corporation. The water is used for domestic consumption and for drinking purpose after filtration. The Institute have 4 tanks, 1 of 10,000liters and 3 of 1000 liters capacity used for domestic consumption in washrooms, gardening and drinking water.

3.5.2 QUALITY OF WATER:

College is committed to provide good quality of water by installing water filter system. Water supplied by the corporation is tested for various physic-chemical and microbiological parameters from the filter system. Water supplied by the to the students after filter/ RO system is moderately hard (Hardness is 120 mg/l) whereas, the highest desirable limit is 100 mg/l. Most Probable Number (MPN) is 0 / 100 ml. as against the recommended W.H.O standard of 0 / 100ml. Hence, filtered water is suitable for drinking. Copy of the analysis report is displayed on the filter as information to the students.

RO system

Plate No. 2 Drinking Water Quality Report

CSIBER Trust's

CHHATRAPATI SHAHU INSTITUTE OF BUSINESS EDUCATION AND RESEARCH (CSIBER), KOLHAPUR

An Autonomous Institute under UGC, New Delhi and Shivaji University, Kolhapur

College with Potential for Excellence (CPE) IInd Phase

Reaccredited by NAAC with 'A+' Grade

DEPARTMENT OF ENVIRONMENT MANAGEMENT

Dr. S. P. Rath, Director | Late Dr. A. D. Shinde, Founder, CSIBER Trust | Dr. R. A. Shinde, Secretary & Managing Trustee

Ref. No. : CSIBER/Envt./ 27 | Date: 08/09/2023

WATER ANALYSIS REPORT

Name of the party : D. K. Shinde B.Ed, College, Gadhinglaj

Sample collected by : Party

Nature of sample : Drinking Water

Sample collected on : 02/09/2023

Sample received on : 02/09/2023

Sr. No.	Parameter	Value	Indian Standards for Drinking Water (IS:10500:2012)	
			Requirement (Acceptable Limits)	Permissible Limits (in the absence of Alternative Sources)
1	pH	7.05	6.5-8.5	No relaxation
2	Total Hardness	36.00	200.00	600.00
3	Calcium	9.60	75.00	200.00
4	Magnesium	2.92	30.00	100.00
5	Chlorides	25.56	250.00	1000.00
6	MPN/100ml	00	00	00

NOTE: All values unless otherwise stated are in mg/l; except pH.
MPN: Most Probable Number of Coliform Bacteria

Analysed by
(Mr. V. B. Kadam)
(Lab. Assistant)

Checked by
(Mr. R. B. Hunashal)
(Lab. Assistant)

Note: This analytical report cannot be used for legal purpose.
Address: University Road, Kolhapur- 416 004.
Website: www.siberindia.edu.in , email: hodenvt@siberindia.edu.in, Contact: 0231-535706/2535707

WATER CONSERVATION:

Clean, fresh water is a limited resource. With all the severe droughts happening in the world, the limited supply of fresh water is becoming one of our most precious resources. Every person on earth needs water to survive. Without it, many of us would get sick and even result in death. While almost 70% of the Earth is made up of water, many parts of the world suffer from clean water shortage. Conserving water is important because it keeps water pure and clean while protecting the environment. Conserving water means using our water supply wisely and be responsible. As every individual depends on water for livelihood, we must learn how to keep our limited supply of water pure and away from pollution. Keeping our water supply safe and pure will protect the water for the generations to come.

Many believe that our water supply infinite. However, our supply is quite the opposite. It is important that we must not pollute your water as many do not realize just how important and scarce water is. Humans are not the only species on Earth that requires water for survival. In fact, every species on this planet needs water to live and survive. Without water, the aquatic life will stand no chance of survival. It is highly important that we save water that is essential to our sustainability.

EFFICIENT USE OF WATER:

Enormous amounts of water is wasted, without reason, through leaking taps and open taps waste. In many cities, more than half the available supply is lost through these leakages and rotting of pipelines. In Institute campus instruction boards are displayed at every washroom to avoid wastage of water. Students are instructed to close the taps when they are not in use. Taps and pipelines are regularly checked for leakages and repaired if needed. Leaking taps are immediately replaced by new handy taps.

3.5.3 WATER MANAGEMENT:

Demand Analysis of water requirement: Residential based population on the campus and off the campus is given table No.12.

Table No. 12: Population strength on campus

Year	Students	Teaching staff	Non – Teaching Staff	Total
22-23	105	6	6	117

During the past year maximum strength of population on degree college campus was in the117.

College is by and large non-residential based. Water requirement for drinking and other purposes (Wash room, Plantation etc.) is calculated at the rate of 10 lit per person per day. Based on this assumption water demand analysis is given in table No. 13.

Table No. 13: Water demand Analysis

Type	**Total Number of People**	**Requirement of water**	**Total Requirement of water**
Non-Residential	117	@ 10 lit / day	1170 lit / day
Plantation activity			5000 lit / day
Total			**6170 lit / day**

On an average requirement of water per day is about 6170 lit / day. This demand is met through supply of water from municipality throughout the year. However, one RO water purifiers are placed in college campus, for the students and staff.

Considering high rainfall in the area, college should make efforts for rainwater harvesting.

3.6 WASTE MANAGEMENT:

WASTE WATER DISPOSAL METHOD:

Total water demand for domestic consumption on college campus is 1170 lit / day. By and large, it is assumed that 30 % waste water is generated during college hours i.e., 1170 lit / day ÷ 0.3= 3900 litre/day. Out of 3900 liters waste water generated, part of this domestic waste water is disposed off to septic tank.

Table No. 14. No of Toilets Campus

Sr. No	**No of WCs + Urinals**		**Total**
	Male	**Female**	
1	3	3	6

During the last year average strength of student and staff on campus is 117. Ratio of number of people and WCs and urinals is 1:19.5

Male: 23 Female students: 44

Ratio of WCs+ Urinals for Male: 1:7.66
Ratio of WCs + urinals for Female – 1: 14.66

As per the WHO guidelines they should be 1: 30 for male and 1: 20 for female. However, for all practical purpose, minimum requirement should be at least 1: 30 for female and 1: 40 for male.

Waste water is disposed of through septic tanks.

3.6.1 HAZARDOUS WASTE MANAGEMENT:

Hazardous waste is a waste that make it potentially dangerous or harmful human health or environment. The universe of hazardous waste is large and diverse. Hazardous waste can be liquid, solids or contained gases. There is no such hazardous waste on the campus. Some of the action taken for cleaning campus is given below:

-

- The campus has been declared as plastic free zone
- The College aims to make the campus plastic-free by avoiding non-biodegradable products such as plastic glasses, cups, plates and straws in the Institute canteen and instructing students to avoid bringing plastic materials.
- Bins are placed in different parts of the campus for the segregation of plastic, paper and food waste.
- The college aims for an ecofriendly campus and to make this a reality, the use of ecofriendly bags and files are encouraged.
- The staff and students have taken the initiative to take up campus cleaning programme through extension activities.
- Students are trained to use paper bags and a promotion of the same is held.
- The campus is also declared tobacco free and smoking free zone.

3.6.2 SOLID WASTE MANAGEMENT:

As a policy matter College has banned usage plastic bags on the campus. College has taken precautions to collect solid waste through dust bins. The dustbins are helpful to maintain clean atmosphere sanitate ion of college campus. Dustbins are placed on various places. Each classroom carries one recycled dustbin. The main aim of using dustbins is to clean the campus, to collect waste material and to create awareness of cleanliness among the students. Solid waste collected is segregated into degradable and non-degradable

3.6.3 PAPER WASTE MANAGEMENT:

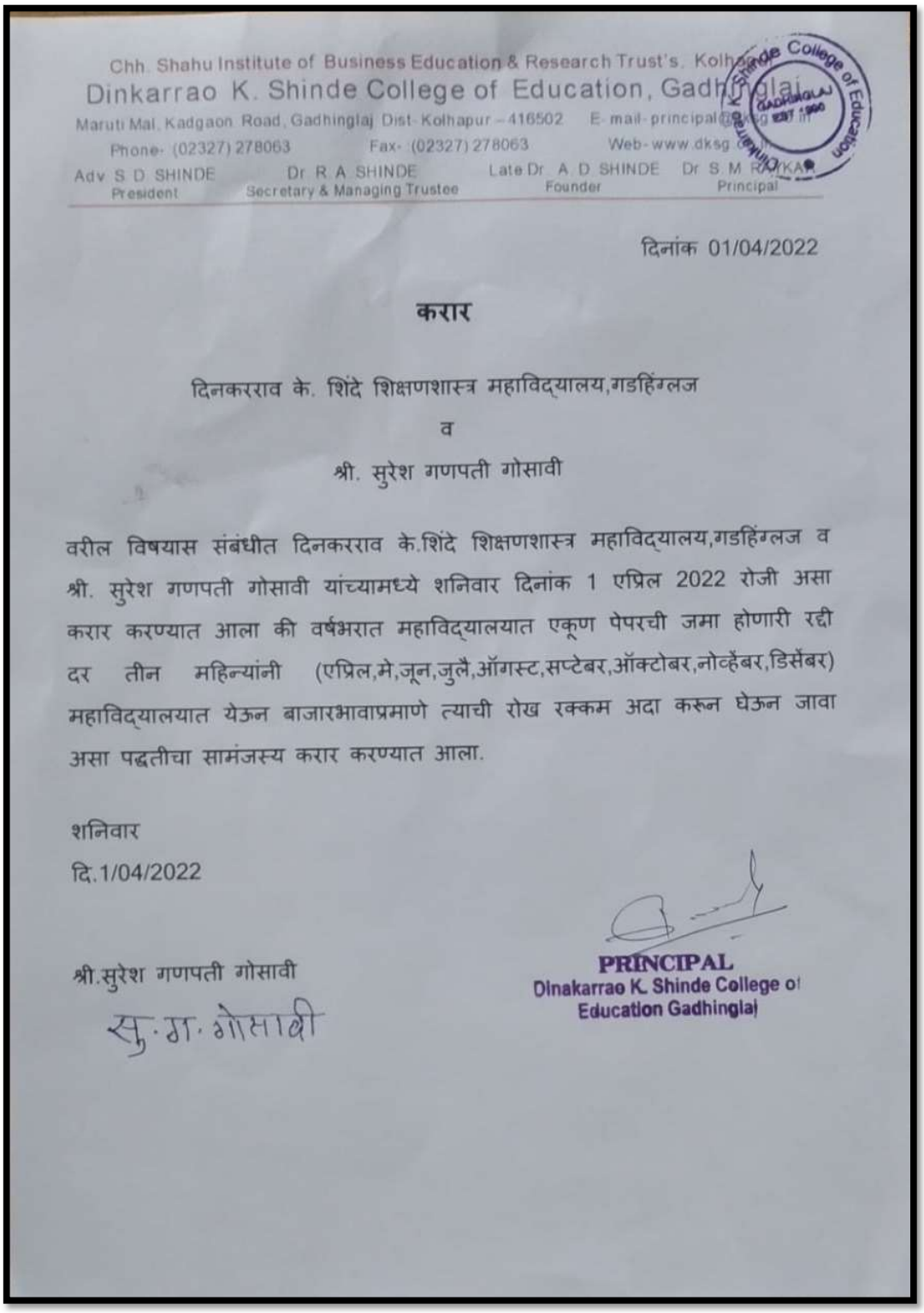
Major part of the solid waste generated at the college campus is a paper. Though paper is biodegradable material, it is having good potential of recycling thus will help in conserving the resources and trees indirectly. Institute follows the green practice like use

of one-sided paper, paperless activities like e-mailing all notices instead of printingit of paper, putting the information on what's app groups are also practiced in the college to reduce the use of paper. Thus, Reduce, Reuse and Recycle, 3 R principles of solid waste management are followed in the Institute for waste management.

Table No. 15 List of Dustbins

Sr. No.	Type of Waste	No. of Dustbins
1	E-waste	01
2	Wet waste	01
3	Dry waste	15
Total		**17**

Plate No. 3 Waste Management Certification



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Adv S D SHINDE President | Dr R A SHINDE Secretary & Managing Trustee | Late Dr A D SHINDE Founder | Dr S M RAJKAR Principal

दिनांक 01/04/2022

करार

दिनकरराव के. शिंदे शिक्षणशास्त्र महाविद्यालय,गडहिंग्लज

व

श्री. सुरेश गणपती गोसावी

वरील विषयास संबंधीत दिनकरराव के.शिंदे शिक्षणशास्त्र महाविद्यालय,गडहिंग्लज व श्री. सुरेश गणपती गोसावी यांच्यामध्ये शनिवार दिनांक 1 एप्रिल 2022 रोजी असा करार करण्यात आला की वर्षभरात महाविद्यालयात एकूण पेपरची जमा होणारी रद्दी दर तीन महिन्यांनी (एप्रिल,मे,जून,जुलै,ऑगस्ट,सप्टेबर,ऑक्टोबर,नोव्हेंबर,डिसेंबर) महाविद्यालयात येऊन बाजारभावाप्रमाणे त्याची रोख रक्कम अदा करून घेऊन जावा असा पद्धतीचा सामंजस्य करार करण्यात आला.

शनिवार
दि.1/04/2022

श्री.सुरेश गणपती गोसावी
सु.ग.गोसावी

PRINCIPAL
Dinakarrao K. Shinde College of Education Gadhinglaj

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Adv. S. D. SHINDE President | Dr. R. A. SHINDE Secretary & Managing Trustee | Late Dr. A. D. SHINDE Founder | Dr. S. M. RAYKAR Principal

दिनांक 5/01/2023

करार

दिनकरराव के.शिंदे शिक्षणशास्त्र महाविद्यालय,गडहिंग्लज.

व

सार्थक कंप्युटर गडहिंग्लज.

वरील विषयासंबंधीत दिनकरराव के. शिंदे शिक्षणशास्त्र महाविद्यालय, गडहिंग्लज व माजी विद्यार्थी श्री. संजय लक्ष्मण निकम (सार्थक इलेक्ट्रॉनिक गडहिंग्लज) यांच्यामध्ये गुरुवार दिनांक 5 जानेवारी 2023 रोजी असा करार करण्यात आला की महाविद्यालयात खराब झालेल्या इलेक्ट्रॉनिक वस्तूचा कचरा महाविद्यालयात वेळोवेळी येऊन पुनर्वापरासाठी घेऊन जावा अशा पद्धतीचा सामंजस्य करार करण्यात आला.

गुरुवार
दि.05/01/2023

श्री. संजय लक्ष्मण निकम
Received Sign

PRINCIPAL
Dinakarrao K. Shinde College o
Education Gadhinglaj

3.7 GREEN INITIATIVES PROGRAMME:

College has initiated large number of Environmental awareness programme through college and NSS. Activities are given due publicity through local newspapers. Some of the high lights are given below**:**

Table No. 17: List of some activities during the year 2022-23

Sr.No.	Title of Activity	Date	Number of participants	
			Students	Teacher
1	आझादी का अमृतमहोत्सव	8/8/2022	50	12
2	मतदार जनजागृती	9/8/2022	50	12
3	स्वच्छता मोहीम	11/8/22	50	12
4.	नेत्रदान जाणीव जागृती	13/8/2022	50	12
5.	जागतिक साक्षरता दिन	08/9/2022	50	12
6.	संविधान दिन	26/11/2022	50	11
7.	राष्ट्रीय विज्ञान दिन			
8.	ग्राम स्वच्छता अभियान व अंधश्रद्धा निर्मुलन	8/4/2022	87	12
9.	जागतिक पर्यावरण दिन	5/6/2022	80	10
10	सामाजिक समस्या मार्गदर्शन कार्यक्रम	24/6/2022	75	11

Plate No. 4 Activities during 2022-23

Environmental Protection Rally

Plant distribution in Shivraj College

Azadi Ka Amrit Mahotsav

Cleanliness campaign

Campus cleanliness and tree plantation on the occasion of Environment Day

Gram Swachhta Mission Bekanal

3.8 ENVIRONMENT AWARENESS TAGS:

Environmetal awareness is having an understanding of the environment, the impact of human behaviour on it and the importance of its protection. Hence,college has taken some Environmental awareness measures. College has prepared following tags related to environment:

1. Plastic free campus
2. Turn off light and fans when leaving the classroom
3. Save water

Plate No. 7 Environment Awareness Tags

FINDINGS AND SUGGESTIONS:

After a thorough analysis of green practices and environmental aspects of college the audit team has come with following findings and suggestions.

FINDINGS:

- The college campus strictly follows green practices. All students, staff and faculty members participate actively in keeping campus clean and green.
- Though the campus is small the college has tried to keep it green by planting trees and landscaping in the premises.
- Solid waste segregation and management is followed in the premises.
- Drinking water quality is maintained as per the standards by frequent water quality analysis at Environment laboratory.
- Large windows provided for natural ventilation reducing power consumption.

4.0 SUGGESTIONS FOR IMPROVEMENT:

College has taken good number of green initiatives for the protection of environment. However, for getting better results following suggestions may be considered by the college in phased manner.

1. As there is sufficient place for storage water and roof top area more efforts be made for rainwater harvesting so that water consumption can be reduced to save electrical energy.
2. It is recommended to construct underground storage tank for storing harvested water
3. A solar system should be installed to meet the entire energy requirement in a phased manner.
4. Efforts be made for plantation of native medicinal plants.

Overall, the performance of Institute is good in green initiative front and can take somemore green initiatives for sustainable future.