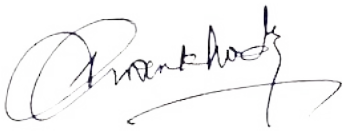
Swami Vivekanand College of Engineering
(Approved by: AICTE, New Delhi • Affiliated to RGPV, Bhopal and DAVV, Indore• Recognised by : DTE Govt. of MP)
Campus : Khandwa Road, Indore-452020 (M.P.) Phone : +91- 07324-405000
• Email : info@svceindore.ac.in • Website : www.svce.vivekanandgroup.com

Declaration

Metric 7.1.3

I declare that all the data, pictures, reports and other information enclosed in the criteria are authentic to the best of my knowledge.

Criteria In-charge



Mr. Vishal Wankhade

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EEPL
Empirical Exergy Pvt. Ltd.

Reg. Off. : 18-E, Sudama Nagar, Indore - 452009
Address : Flat No. 201, Om Apartment, 214, Indrapuri, Bhawarkua, Indore (M.P.)
Phone : 0731-4948831, (+91) 78693 27256
E-mail : eempirical18@gmail.com
Web : www.eeplgroups.com
CIN No. : U74999MP2018PTC045751

Ref No: EEPL/2023-24/C-012 **Date: - 12-06-2023**

GREEN AUDIT CERTIFICATE

This is to certify that Empirical Exergy Private Limited (EEPL) has conducted green audit at **Swami Vivekanand College of Engineering, Khandwa road, Indore (M.P.)** for the academic Year 2022-23

The activities and measures carried out by **Swami Vivekanand College of Engineering, Indore (M.P.)** has been verified and was found to be acceptable. The positive approach of the management towards green campus and sustainable development is highly valued and commendable.

This certificate is being issued on the basis of audit carried out by EEPL.

For- **Empirical Exergy Private Limited**

12/06/2023

Rajesh Kumar Singadiya (Director)
M.Tech (Energy Management), PhD (Research Scholar)
Accredited Energy Auditor [AEA-0284]
Certified Energy Auditor [CEA-7271]
(BEE, Ministry of Power, Govt. of India)
Empanelled Energy Auditor with MPUVN, Bhopal M.P.
Lead Auditor ISO50001:2011 [EnMS] from FICCI, Delhi
Certified Water Auditor (NPC, Govt of India)
Chartered Engineer [M-1699118], The Institution of Engineers (India)
Member of ISHRAE [58150]

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GREEN AUDIT REPORT

CONSULTATION

Swami Vivekanand College of Engineering

Khandwa Road, Indore
Pin-452009
Madhya Pradesh, India

PREPARED BY

EMPIRICAL EXERGY PRIVATE LIMITED
Flat No. 201, OM Apartment,214 Indrapuri Colony, Bhawarkuan,
Indore – 452 001 (M. P.), India0731-4948831, 7869327256
Email ID:eempirical18@gmail.com
www.eeplgroups.com

(2022-23)

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ACKNOWLEDGEMENT

Empirical Exergy Private Limited (EEPL), Indore takes this opportunity to appreciate & thank the **Swami Vivekanand College of Engineering, Indore** for giving us an opportunity to conduct green audit for the Institute.

We are indeed touched by the helpful attitude and co-operation of all faculties and technical staff, who rendered their valuable assistance and co-operation the course of study.

Rajesh Kumar Singadiya

(Director)

M.Tech (Energy Management), PhD (Research Scholar)
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Green Audit Team

The study team constituted of the following senior technical executives from **Empirical Exergy Private Limited,**

- **Mr. Rakesh Pathak**, [Director& Electrical Expert]
- **Mr. Rajesh Kumar Singadiya**[Director & Accredited Energy Auditor AEA-0284]
- **Mrs. Laxmi Raikwar Singadiya** [Energy Engineer]
- **Mr. Charchit Pathak** [Mechanical Engineer]
- **Mr. Mohan Choudhary** [Sr. Technician]
- **Mr. Ajay Nahra**[Sr. Accountant]

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Green Monitoring Committee

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• Email : info@svceindore.ac.in • Website : www.vivekanandgroup.com

SVCE/Prin./2023-24/85 **Date: 08.05.2023**

Circular

Green Campus Committee

Constitution of Committee for Energy/Environment/Green Audit

In the view of environmental impact assessment & procedures for situation requiring urgent action regarding regular assessment of pollution, soil degradation & waste management following Committees are constituted for Environment preservation in the campus w. e. f. date of issue, for three years.

Name of Committee	Name of the members
1. Green Audit:	Dr. Rahul Joshi (Assist. Prof.) Mr. Mahesh K. Patidar (Assist. Prof.) Mr. Rupesh patel (Lab Assist.)
2. Environment Audit:	Ms. Megha Garg (Assist. Prof.) Mr. Brajesh Upadhyay (Assist. Prof.) Ms. Surekha Rathore (Assist. Prof.)
3. Energy Audit:	Mr. Hemendra Khedekar (Head EX.) Mr. Ravindra Sharma (Assist. Prof.) Mr. Balram Kushwah (Electrician)

08/05/2023

Principal (SVCE)

Copy to:

1. Director, SVGI, for information
2. Committee member, for necessary action
3. All staff member, SVGI

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EXECUTIVE SUMMARY

Green Initiatives Taken by Institute

- **CAMPAIGN OF PLANTATION AND GREEN CAMPUS:**
  Institute has around **345** trees in the campus. It is good initiative taken by management for green campus under the campaign of plantation. **It is Appreciable**
- Institute organized plantation programme every year to keep the environment green & balance- **It's Appreciable**

AREAS FOR IMPROVEMENT

- **5 Dust Bin System**

It is recommended that Institute could adopt 5 dust bin system for collection of different types of waste generated in college campus & place dust bin as per requirements at that location, like green waste, dry waste etc.

- **QR Code System on Tree:**

While the world seems to be going digital, people lack the time to read books and process the information they contain. Hence, Institute can provide QR codes on the trees for its information and to exploit the rapidly growing platform for a unique purpose.

- **OTHER SUGGESTIONS & RECOMMNEDATION**

Some of the very important suggestions are:-

- Increase recycling education on campus.
- Increase Awareness of Environmentally Sustainable Development in Institute campus.
- Practice Institutional Ecology- Set an example of environmental responsibility by establishing institutional ecology policies and practices of resource conservation, recycling, waste reduction, and environmentally sound operations.
- Involve All Stakeholders- Encourage involvement of government, foundations, and industry in supporting interdisciplinary research, education, policy formation, and information exchange in environmentally sustainable development.

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- Collaborate for Interdisciplinary Approaches- To develop interdisciplinary approaches to curricula, research initiatives, operations, and outreach activities that support an environmentally sustainable future.
- Increase reduce, reuse, and recycle education on campus.
- Develop a butterfly garden that arouses appreciation towards flora and fauna diversity.
- Name all the trees and plants (Plant DNA barcodes) with its common name and scientific name.
- Arrange training programmes on environmental management system and nature conservation.
- Ensure participation of students and teachers in local environmental issues.
- Renovation of cooking system in the canteen to save gas by installation solar water heater system with heat pump.
- Avoid plastic/thermacol plates and cups in the Institute level or department level functions.

CHAPTER-1
INTRODUCTION

1.1 About Institute

Swami Vivekanand College of Engineering, Indore has glorious history under Swami Vivekanand Group of Institutions. The Swami Vivekanand Group of Colleges is widely known for its commitment to excellence in preparing students to address the current and future needs of society, while performing with Intergrid, compassion, and competence.

SVCE started its journey in the year 2004 with the aim of providing education to students and empowering them so that they can be financially independent, socially conscious, morally upright and emotionally balanced. The Institute is best equipped with excellent infrastructure facilities, combined with the support of academicians, experts from the industry, and other fields to cater to the needs of the student's community. The Institute ensures that you get the best possible support, both academically and socially.

The Institute proudly announces the during past 19 years journey, it has been serving the society by providing excellent environment for education in area of Engineering & Management. It promotes the innovative teaching methodologies to help students gain practical knowledge and better insights about applying the theoretical knowledge. It believes in imparting education along with preparing students for corporate world. With a lush green campus spread over a large areas of located in the heart of the Indore city, the institute is well connected through all means of transport.

Figure:- 1.1 Satellite Image of SVCE , Indore from Google map

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Vision

Swami Vivekanand College of Engineering (SVCE) aspires to create Center of Excellence for continuous learning by providing state-of-art Techno-Management Education to the students and learners, by enhancing the capabilities to be the Techno-Management Thought Leaders.

Mission

The mission of the Swami Vivekanand College of Engineering (SVCE)

1. To import human values and to promote leadership qualities among students.
2. To set up a suitable infrastructure and provide better resources to students and faculties.
3. To encourage academic excellence amongst faculties and students.
4. To impart education based on scientific, moral and value-based foundation to meet the challenges of the technologically advancing global environment.

1.2 About Green Auditing

Eco campus is concepts implemented in many educational institutions, all over the world to make them sustainable because of their mass resource utilization and waste discharge in to the environment.

Green audit means to identify opportunities to sustainable development practices, enhance environmental quality, improve health, hygiene and safety, reduce liabilities achieve values of virtue. Green audit also provides a basis for calculating the economic benefits of resource conservation projects by establishing the current rates of resource use and their associated costs.

Green auditing of **"Swami Vivekanand College of Engineering, Indore"** enables to assess the life style, action and its impact on the environment. This green audit was mainly focused on greening indicators like utilisation of green energy (solar energy) and optimum use of secondary energy sources (petrol and diesel) in the Institute campus, vegetation, and carbon foot print of the campus etc. The aim of green auditing is to help the institution to apply sustainable development practices and to set examples before the community and young learners.

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1.3 Objectives of Green Auditing

The general objective of green audit is to prepare a baseline report on "Green campus" and alternative energy sources (solar energy), measures to mitigate resource wastage and improve sustainable practices.

The specific objectives are:

- To inculcate values of sustainable development practices through green audit mechanism.
- Providing a database for corrective actions and future plans.
- To identify the gap areas and suggest recommendations to improve the green campus status of the Institutes

1.4 Audit of Green Energy

According to the **Environmental Protection Agency (EPA)**, green energy provides the highest environmental benefit and includes power produced by solar, wind, geothermal, biogas, low-impact hydroelectric, and certain eligible biomass sources. Green energy can also reduce your carbon footprint and achieve a sustainable lifestyle.

Fig. 1.2 Green campus model

CHAPTER- 2
GREEN CAMPUS

2.1 Green Audit

In the survey, focus has been given on assessment of present status of diversity in form of plants, in Institute campus and efforts made by the Institute authorities for nature conservation. Campus is located in the vicinity of approximately more than 345 trees medicinal herbs ornamental plants. The detail is given below

2.2 List of plants in Institute campus

Institute has **345 Trees** in the campus. This is good initiative taken by management for green campus under the campaign of plantation. **It's Appreciable**

Sr. no.	Tree Category	Botanical and Family Name	Quantity
1	Herbals	TULSHI , ALOVERA , PIPAL , NEEM , HIBUSCUS , LAGUNDI , FICUSMICROCORPA , ACALYPHA , MANGIFERA	55
2	Fruits	MANGO ,GUAVA , ALMONDS , PAPAYA , ZIZIPHUS , TAMARIND , RUBUS COCK BURNIANUS	40
3	Decorations	CHAMELI , COPPER LEAF , ARABIAN JASMINE , PALM TREE , INDONESIAN BAY , AGONUS , SONG OF INDIA , SAGO PLANT , ROSE , CABBAGE PALMS , HARIPRIYA , LAPORTEA	150
4	Others	CASSIA DIDYMOBOTRYA , TANG -GWA WHITE , FIREBUSH , e FLORA , RHODO DENDRON , BOUGAINVILLEA , PREMNA SERRATIFOLIA , CREEPER , IXORA , MELICOPE RUBRA , CANNA TUERCKHEIMIL , RANGOON CREEPER , SPERRY , SPATHODEA CAMPANULATA , TECOMA , BLACK BOARD TREE , AGAVE , ARBORVITAE , SIDEROXLOY , BOUGAINVILLEA GLABRA	100
	Total		**345**

Green campus photograph

Fig.- 1.3 Green campus of SVCE

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Fig.- 1.4 Plantation Programme in institute campus

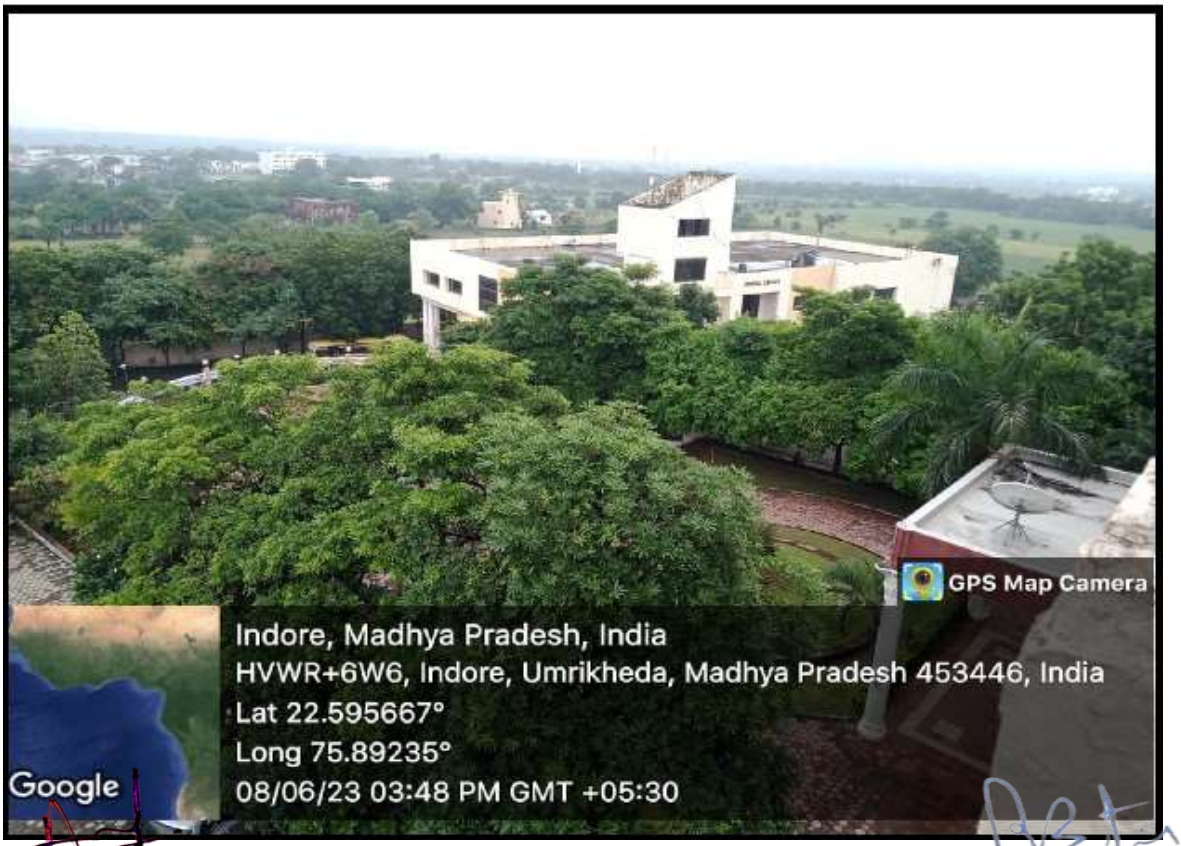

Fig.- 1.5 Green campus of SVCE

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Chapter-03
Carbon Foot print

3.1 About Carbon Foot Print.

Climate change is one of the greatest challenges facing nations, governments, institutions, business and mankind today.

Carbon footprint is a measure of the impact your activities have on the amount of carbon dioxide (CO_2) produced through the burning of fossil fuels and is expressed as a weight of CO_2emissions produced in tonnes.

We focus on consumption in each of our five major categories: housing, travel, food, products and services. In addition to these we also estimate the share of national emissions over which we have little control, government purchases and capital investment.

For simplicity and clarity all our calculations follow one basic method. We multiply a use input by an emissions factor to calculate each footprint. All use inputs are per individual and include things like fuel use, distance, calorie consumption and expenditure. Working out your inputs is a matter of estimating them from your home, travel, diet and spending behaviour.

Although working out our inputs can take some investigation on your part the much more challenging aspect of carbon calculations is estimating the appropriate emissions factor to use in your calculation. Where possible you want this emissions factor to account for as much of the relevant life cycle as possible.

We all have a carbon footprint…

3.2 Methodology and Scope

The carbon footprint gives a general overview of the Institute greenhouse gas emissions, converted into CO_2 -equivalents and it is based on reported data from internal and external systems. The purposes of the carbon indicators are to measure the carbon intensity per unit of product, in addition to showing environmental transparency towards external stakeholders.

The carbon footprint reporting approach undertaken in this study follows the guidelines and principles set out in the "Greenhouse Gas Protocol Corporate Accounting and Reporting Standard" (hereafter referred to as the GHG Protocol) developed by the Greenhouse Gas Protocol Initiative and international standard for the quantification and reporting of greenhouse gas emissions -ISO 14064. This is the most widely used and accepted methodology for conducting corporate carbon footprints. The study has assessed carbon emissions from the Institute Campus.

This involves accounting for, and reporting on, the GHG emissions from all those activities for which the company is directly responsible. The items quantified in this study are as classified under the ISO 14064 standards: The report calculates the greenhouse gas emissions from the Institute.

This includes electricity, as well as emission associated with diesel consumption in the institute vehicle. The emission associated with air travel, waste generation, administration, and marketing related activities has been excluded from the current study. Emissions from business activities are generally classified as scope 1, 2 or 3 areas classified under the ISO 14064 standards.

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3.3 Carbon Emission from Electricity

Direct emissions factors are widely published and show the amount of emissions produced by power stations in order to produce an average kilowatt-hour within that grid region

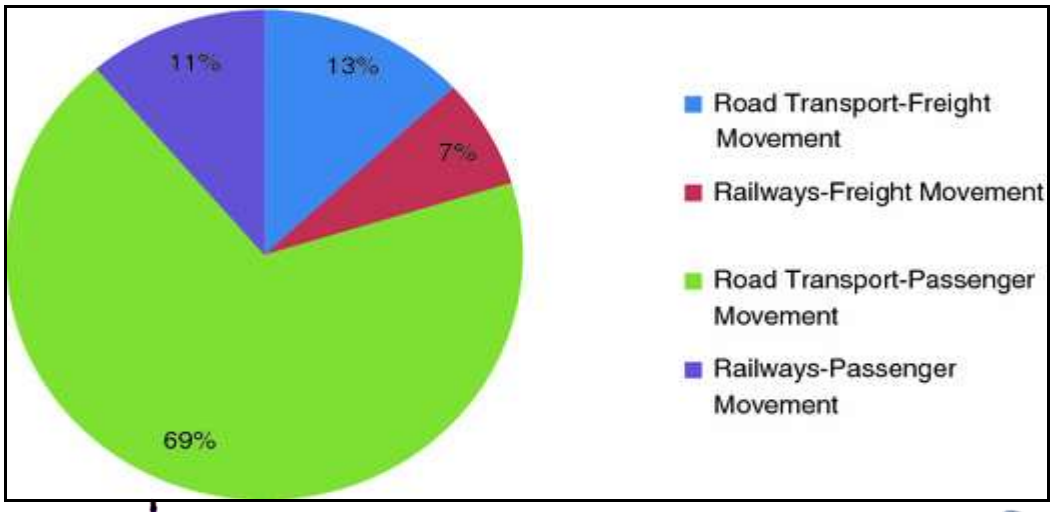
Unlike with other energy sources the carbon intensity of electricity varies greatly depending on how it is produced and transmitted. For most of us, the electricity we use comes from the grid and is produced from a wide variety of sources. Although working out the carbon intensity of this mix is difficult, most of the work is generally done for us.

Electricity used in the site is the significant contributors towards GHGs emission from the unit. Electricity used onsite is the most direct, and typically the most significant, a contributor to a unit's carbon footprint. Thus, using an average fuel mix of generating electricity, carbon dioxide intensity of electricity for national grid is assumed to be 0.9613 $KgCO_2/KWh$.

Sr. No.	Year	Total Unit Consumption	Unit	Emission Factor kg CO_2/kWh	Emission Ton CO_2/ year
1	2022-23	57,654	KWh	0.9613	55.42

3.4 Carbon Emission from Vehicles.

In India, it is the third most CO_2 emitting sector, and within the transport sector, road transport contributed more than 90% of total CO_2 emissions (IEA, 2020; Ministry of Environment Forest and Climate Change, 2018) Transportation (29 percent of 2019 greenhouse gas emissions) – The transportation sector generates the largest share of greenhouse gas emissions.



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Greenhouse gas emissions from transportation primarily come from burning fossil fuels for our cars, trucks, ships, trains, and planes.

We have also considered the total GHGs emission done by transportation facilities available on the campus like Cars, ambulances, Buses, etc. We consider the different types of vehicles which are operated on petrol and diesel fuels.

Institute has celebrated the No Car day in the month 22 Sept 2023- I**t's appreciable**.

The institute management shared the carbon emission data.

S.No.	Average Kilometre Travelled by each vehicle per day	Total no. of Buses in Institute per day	Average Kms Travelled	Average Carbon emission by Buses (122 gms per km) in gms	Total Carbon Emission in Kg per day
1	60	15	900	1,09,800	110
2	200	2	400	48,800	49
3	150	1	150	18,300	18
4	85	2	170	20,740	21
5	240	1	240	29,280	29
6	20	3	60	7,320	7
	Average Kilometre Travelled by each vehicle per day	**Total no. of Two wheelers in Institute per day**	**Average Kms Travelled**	**Average Carbon emission by two wheeler (10 gms per km) in gms**	**Total Carbon Emission in Kg per day**
7	40	6	240	2400	2.4
Total scope of Carbon emission saved in a day (Kg)					236

When Vehicle traveling in 12 months in a Year

236 x 12 = 2832 kg/year or **2.83 ton/year**

3.5 Carbon emission from DG sets: -

Institute has One DG sets installed in the campus.

Total diesel consumption in a year in the table: -

Sr. No.	Month & Year	Total Diesel Consumption (Litters)
1	Aug-22	30
2	Sep-22	40
3	Oct-22	30
4	Nov-22	35
5	Dec-22	30
6	Jan-23	40
7	Feb-23	50
8	Mar-23	30
9	Apr-23	40
10	May-23	35
11	Jun-23	40
12	Jul-23	30
Total		**430**

Every litter of diesel fuel contains 720 grams of pure carbon. In an average liquid hydrocarbon burning engine. It can be assumed that about 99 % of the fuel is Oxidized (It is assumed that somewhat less than 01 % will fail to fully oxidize and will be emitted as a particulate of unburned hydrocarbons instead of CO_2.

Calculation of Total CO_2 =

- CO_2 Emissions from a Littre of diesel: 2689.56 grams CO_2/ litter.
- Diesel consumption Aug-2022 to July -2023 = 430 Litters
- 430 x 2689 = 11, 56,270 gram. or **1.15 Ton/year**

3.6 Biomass Calculation and CO_2 Sequestration of the Trees: -

1. Estimation of **A**bove-**G**round **B**iomass (AGB)

$$K= 34.4703 – 8.0671D + 0.6589 D^2$$

Where = K is above-ground biomass.

D is Breast height diameter in (cm)

1 Estimation of **B**elow **G**round **B**iomass (BGB)

$$BGB = AGB \times 0.15$$

2 Total Biomass (TB)

$$TB = AGB + BGB$$

3 Calculation of carbon dioxide Weight sequestered in the tree in Kg.

$$C = W \times 0.50$$

4 Calculate the weight of CO_2 sequestered in the tree per year in Kg.

$$CO_2 = C \times 3.666$$

Where: -

AGB = Above ground biomass.

D = Diameter of tree breast height.

BGB = Below Ground Biomass.

C = Carbon

TB = Total Biomass.

Biomass Calculation of Tree

Sr. no.	Tree Name	Botanical and Family Name	Average Diameter CM (10 to 100)	AGB	BGB	Total	Carbon Storage	Amount of Co2 Sequestered	Total	Total Amount of Co2 Sequestered	Annually Co2 Sequestered amount (Ton/year)
1	Mango Tree	Mangifera	35	583.8	87.6	671.3	335.7	1230.6	**5**	6153	0.08
2	Banyan	FICUSMICROCORPA	40	798.0	119.7	917.7	458.9	1682.2	**12**	20186	0.28
3	Acalypha	Euphorbiaceae	30	403.5	60.5	464.0	232.0	850.5	**21**	17860	0.24
4	Gudhal	HIBUSCUS	48	1211.4	181.7	1393.2	696.6	2553.7	**4**	10215	0.14
5	Jhahrberi	Ziziphus	18	109.2	16.4	125.6	62.8	230.2	**13**	2993	0.04
6	Alovera	canelabra	20	144.7	21.7	166.4	83.2	305.0	**5**	1525	0.02
7	Guava	Psidiumguajava	36	623.9	93.6	717.5	358.7	1315.2	**2**	2630	0.04
8	Palm Tree	Arecaceae	25	257.1	38.6	295.7	147.8	542.0	**21**	11381	0.16
9	Redraspberry	Rubus	40	798.0	119.7	917.7	458.9	1682.2	**22**	37009	0.50
10	Tararind	Fabaceae	12	35.4	5.3	40.7	20.4	74.7	**14**	1046	0.01
11	INDONESIAN BAY	Myrtaceae	26	283.7	42.5	326.2	163.1	598.0	**12**	7175	0.10
12	Peppermint tree	Agonis flexuosa	16	79.2	11.9	91.1	45.5	166.9	**4**	668	0.01
13	Badam	Terminalia Catappa	24	231.9	34.8	266.7	133.3	488.9	**5**	2444	0.03
14	ARABIAN JASMINE	Jasminum sambac	22	185.6	27.8	213.4	106.7	391.2	**11**	4303	0.06
15	Chameli	Jasminum sambac	10	21.7	3.3	24.9	12.5	45.7	**9**	411	0.01

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16	Neem	Azadirachta indica	12	35.4	5.3	40.7	20.4	74.7	**12**	896	0.01
17	Papaya	Carica papaya	26	283.7	42.5	326.2	163.1	598.0	**5**	2990	0.04
18	Hamelia Patens	Firebush	12	35.4	5.3	40.7	20.4	74.7	**5**	373	0.01
19	Burans	Rhododendron	10	21.7	3.3	24.9	12.5	45.7	**11**	503	0.01
20	Champa	Frangipani	12	35.4	5.3	40.7	20.4	74.7	**14**	1046	0.01
21	Pipal tree	Ficus religiosa	45	1046.2	156.9	1203.2	601.6	2205.4	**15**	33081	0.45
22	Rose	Rosa rubiginosa	20	144.7	21.7	166.4	83.2	305.0	**12**	3660	0.05
23	Satavari	Asparagus racemosus	23	208.1	31.2	239.3	119.6	438.6	**10**	4386	0.06
24	Mulberry	Morus	24	231.9	34.8	266.7	133.3	488.9	**9**	4400	0.06
25	Snakebush	Hemiandra pungens	12	35.4	5.3	40.7	20.4	74.7	**17**	1270	0.02
26	Tecoma	Tecoma stans	15	66.2	9.9	76.2	38.1	139.6	**12**	1675	0.02
27	Lajvanti	Mimosa Pudica	26	283.7	42.5	326.2	163.1	598.0	**10**	5980	0.08
28	White Sandalwood	Santalum album	11	27.9	4.2	32.1	16.0	58.8	**13**	764	0.01
29	Setut	Ficus religiosa	13	44.3	6.6	51.0	25.5	93.5	**7**	654	0.01
30	Karoda	Carissa carandas	10	21.7	3.3	24.9	12.5	45.7	**6**	274	0.00
31	Lemon grass	Cymbopogon	16	79.2	11.9	91.1	45.5	166.9	**5**	835	0.01
32	Tecoma	Tecoma stans	20	144.7	21.7	166.4	83.2	305.0	**8**	2440	0.03
33	Oleander	Nerium oleander	22	185.6	27.8	213.4	106.7	391.2	**4**	1565	0.02
34	Mulberry	Morus	23	208.1	31.2	239.3	119.6	438.6	**3**	1316	0.02
35	Tulsi	Ocimum sanctum	12	35.4	5.3	40.7	20.4	74.7	**7**	523	0.01
									345	**194629**	**2.65**

Institute has **345 trees** in the campus. This is good initiative taken by management for green campus under the campaign of plantation.

It's Appreciable.

There is total CO_2 sequestered **2.65** Tons /Year. There are requirements of more plantations to reduce carbon emission share by Institute.

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Total CO_2 Emission by the Institute

Sr. No.	CO_2 Emission by	Total CO_2 Emission ton/year
1	Electricity	55.42
2	DG sets	1.15
3	Vehicle	2.83
Total CO_2 Emission		59.4
CO_2 Emission Neutralized by		
1	Trees	2.65
Total CO_2 Emission		**56.75**

3.7 Other Emissions Excluded

This study did not evaluate the carbon sequestration potential of existing from the staff commuting, food supply, official flights, paper products, water supply, and waste disposal and recycling due to limited data availability. The current study identifies areas where data monitoring, recording and archiving need to be developed for enlarging the scope of mapping of GHGs emission in the future years. Accordingly, a set of tools and record keeping procedure will be developed for improving the quality of data collection for the next year

carbon foot print studies.

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CHAPTER- 4
WASTE MANAGEMENT

4.1 About Waste:

Human activities create waste, and it is the way these wastes are handled, stored, collected and disposed of, which can pose risks to the environment and to public health waste management is important for an eco-friendly campus. In Institute different types of wastes are generated, its collection and management are very challenging.

Solid waste can be divided into three categories: bio-degradable, non-biodegradable and hazardous waste. A bio-degradable waste includes food wastes, canteen waste, wastes from toilets etc. Non-biodegradable wastes include what is usually thrown away in homes and schools such as plastic, tins and glass bottles etc. Hazardous waste is waste that is likely to be a threat to health or the environment like cleaning chemicals, acids and petrol.

Unscientific management of these wastes such as dumping in pits or burning them may cause harmful discharge of contaminants into soil and water supplies, and produce greenhouse gases contributing to global climate change respectively. Special attention should be given to the handling and management of hazardous waste generated in the Institute. Bio-degradable waste can be effectively utilized for energy generation purposes through anaerobic digestion or can be converted to fertilizer by composting technology. Non-biodegradable waste can be utilized through recycling and reuse. Thus, the minimization of solid waste is essential to a sustainable Institute. The auditor diagnoses the prevailing waste disposal policies and suggests the best way to combat the problems.

Table 4.1 Different types of waste generated in the Institute Campus.

Sr. No.	Types of Waste	Particulars
1	Solid wastes	Damaged furniture, paper waste, paper plates, food wastes etc.
2	Plastic waste	Pen, Refill, Plastic water bottles and other plastic containers, wrappers etc.
3	E-Waste	Computers, electrical and electronic parts etc.
4	Glass waste	Broken glass wares from the labs etc.
5	Chemical wastes	Laboratory waste etc.
6	Bio-medical Waste	Sanitary Napkin etc.

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4.2 Waste management Practices adopted by the Institute

Institute has a different type of waste generated like paper, Plastic, dust and wet waste. The Institute provided dust been near classroom office, laboratories staffroom and collect the waste material at the end of the day. The waste (Especially dry material) is collected in a big dustbin which is provided at every floor and the next day collected Municipal Corporation for further processing.

Fig. 4.1 -Waste collection dust bin in Institute campus

Fig. 4.2- Recommended 5 Dust Bin waste collection System

Recommendation:

It is recommended that adopt the 5 Bin Waste Collection System for collect different type of waste generated in Institute premises & place dust bin as per requirements.

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4.3 Waste Collection Points:

Audit team also visited various departments, canteen, and residential area, to find out waste generation area and waste collection points for further improvement. Details are given in the table

Table 4.2: Details of Waste collection Dust bin system

Sr.no.	Location	No. of dust bins
1	Engg Block First Floor	1
2	Engg Block Second Floor	1
3	Admin Block	1
4	Canteen	1
5	Exam Control Room	1
6	Library	1
	Total	**6**

4.4 Kitchen waste management

Fig. 4.3– Organic compost formation machine

Observation- College adopt good policy to use kitchen waste material for formation of organic compost- **It's appreciable**

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CHAPTER- 5
Air Quality Measurement

5.1 Air Quality Measurement

Green audit team was conducted air monitoring survey in Institute campus. Details are given in table.

Table 4.3 Details of air quality in institute campus

Sr. No.	Location	PM2.5	PM10	CO_2
1	Principal Office	20	80	1417
2	Vice Principal office	29	75	487
3	Administration office	28	110	622
4	Director's office	27	125	980
3	Admission office	27	68	585
4	Faculty Cabin	26	79	475
5	Class Room	28	82	525
6	Library	29	67	598
7	Exam Control Room	35	86	467
8	Account Dept.	24	87	712
9	Scholarship Dept.	28	69	538
10	MBA Block	25	73	420
11	Admin Reception	26	77	583

Fig.- 5.1 Air quality measurement

Observation:-

- $PM_{2.5}$ value is higher side. The 24-hour concentration of $PM_{2.5}$ is considered unhealthy when it rises above **35.4µg/m^3**
- PM_{10} value is acceptable range. It should below **155µg/m ^{3}**
- CO_2 value is acceptable range. It should be below **1000 ppm**.

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CHAPTER- 6
RECOMMENDATIONS AND SUGGESTIONS

6.1 QR Code Systems

While the world seems to be going digital, people lack the time to read books and process the information they contain. Hence, Institute can be provided QR codes on the trees for its information and to exploit the rapidly growing platform for a unique purpose.

Fig: 6.1 QR Code System for plants

These codes can give students all the information they need to know about the tree — from its scientific name to its medicinal value. They only need to put their smart-phones to use. QR codes to them, making it easier for everybody to learn about a plant or a tree at the tip of their fingers," If any app generating a QR code, which is available for free on the online stores, can be used to avail the information of the trees.

- **Eco-restoration programmes**
  - Frame long-term eco-restoration programmes for replacing exotic Acacia plantations with indigenous trees and need of the hour is to frame a holistic campus development plan.

6.2 Other Suggestions

Some of the very important suggestions are: -

- Increase recycling education on campus.
- Increase Awareness of Environmentally Sustainable Development in Institute campus.

- Practice Institutional Ecology- Set an example of environmental responsibility by establishing institutional ecology policies and practices of resource conservation, recycling, waste reduction, and environmentally sound operations.
- Involve All Stakeholders- Encourage involvement of government, foundations, and industry in supporting interdisciplinary research, education, policy formation, and information exchange in environmentally sustainable development.
- Collaborate for Interdisciplinary Approaches- To develop interdisciplinary approaches to curricula, research initiatives, operations, and outreach activities that support an environmentally sustainable future.
- Increase reduces, reuse, and recycle education on campus.
- Develop a butterfly garden that arouses appreciation towards flora and fauna diversity.
- Name all the trees and plants (Plant DNA barcodes) with its common name and scientific name.
- Arrange training programmes on environmental management system and nature conservation.
- Renovation of cooking system in the canteen to save gas by installation solar water heater system with heat pump.
- Establish a procurement policy that is energy saving and eco-friendly.

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END OF THE REPORT

THANKS

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EEPL
Empirical Exergy Pvt. Ltd.

Reg. Off. : 18-E, Sudama Nagar, Indore - 452009
Address : Flat No. 201, Om Apartment, 214, Indrapuri, Bhawarkua, Indore (M.P.)
Phone : 0731-4948831, (+91) 78693 27256
E-mail : eempirical18@gmail.com
Web : www.eeplgroups.com
CIN No. : U74999MP2018PTC045751

Ref No: EEPL/2023-24/C-011 **Date: - 12-06-2023**

ENVIRONMENTAL AUDIT CERTIFICATE

This is to certify that Empirical Exergy Private Limited (EEPL) has conducted environmental audit at **Swami Vivekanand College of Engineering, Khandwa road, Indore (M.P.)** the academic Year 2022-23.

The activities and measures carried out by **Swami Vivekanand College of Engineering, Khandwa road, Indore (M.P.)** has been verified and was found to be acceptable. The positive approach of the management towards sustainable development is highly valued and commendable.

This certificate is being issued on the basis of audit carried out by EEPL.

For- **Empirical Exergy Private Limited**

12/06/2023

Rajesh Kumar Singadiya (Director)
M.Tech (Energy Management), PhD (Research Scholar)
Accredited Energy Auditor [AEA-0284]
Certified Energy Auditor [CEA-7271]
(BEE, Ministry of Power, Govt. of India)
Empanelled Energy Auditor with MPUVN, Bhopal M.P.
Lead Auditor ISO50001:2011 [EnMS) from FICCI, Delhi
Certified Water Auditor (NPC, Govt of India)
Chartered Engineer [M-1699118], The Institution of Engineers (India)
Member of ISHRAE [58150]

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KHANDWA ROAD, INDORE

Environment Audit Report

CONSULTATION

Swami Vivekanand College of Engineering

Khandwa Road, Indore
Pin-452009
Madhya Pradesh, India

PREPARED BY

EMPIRICAL EXERGY PRIVATE LIMITED

Flat No. 201, OM Apartment, 214 Indrapuri Colony,
Bhawarkuan, Indore – 452 001 (M. P.), India
0731-4948831, 7869327256
Email
ID:eempirical18@gmail.com
www.eeplgroups.com

(Academic Year 2022-23)

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CONTENT

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ACKNOWLEDGEMENT

Empirical Exergy Private Limited (EEPL), Indore takes this opportunity to appreciate & thank the management of **Swami Vivekanand College of Engineering, Indore** for giving us an opportunity to conduct environment audit for the institute. We are indeed touched by the helpful attitude and co-operation of all faculties and technical staff, who rendered their valuable assistance and co-operation during the environment audit.

Rajesh Kumar Singadiya

(Director)

M.Tech (Energy Management), PhD (Research Scholar)
Accredited Energy Auditor [AEA-0284]
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Green Monitoring Committee

Swami Vivekanand College of Engineering

(An ISO 9001:2008 Certified Institute)

(Approved by: AICTE, New Delhi • Affiliated to RGPV, Bhopal and DAVV, Indore • Recognised by : DTE Govt. of MP)
Campus : Khandwa Road, Near Old Toll Naka, Indore-452020 (M.P.) Phone : +91- 07324-405000
• Email : info@svceindore.ac.in • Website : www.vivekanandgroup.com

SVCE/Prin./2023-24/89 **Date: 08.05.2023**

Circular

Green Campus Committee

Constitution of Committee for Energy/Environment/Green Audit

In the view of environmental impact assessment & procedures for situation requiring urgent action regarding regular assessment of pollution, soil degradation & waste management following Committees are constituted for Environment preservation in the campus w. e. f. date of issue, for three years.

Name of Committee	Name of the members
1. Green Audit:	Dr. Rahul Joshi (Assist. Prof.) Mr. Mahesh K. Patidar (Assist. Prof.) Mr. Rupesh patel (Lab Assist.)
2. Environment Audit:	Ms. Megha Garg (Assist. Prof.) Mr. Brajesh Upadhyay (Assist. Prof.) Ms. Surekha Rathore (Assist. Prof.)
3. Energy Audit:	Mr. Hemendra Khedekar (Head EX.) Mr. Ravindra Sharma (Assist. Prof.) Mr. Balram Kushwah (Electrician)

08/05/2023

Principal (SVCE)

Copy to:

1. Director, SVGI, for information
2. Committee member, for necessary action
3. All staff member, SVGI

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Environment Audit Team

The study team constituted of the following senior technical executives from **EmpiricalExergy Private Limited,**

- **Mr. Rakesh Pathak**, [Director& Electrical Expert]
- **Mr. Rajesh Kumar Singadiya** [Director & Accredited Energy Auditor AEA-0284]
- **Mrs. Laxmi Raikwar Singadiya** [Chemical Engineer]
- **Mr. Charchit Pathak** [Mechanical Engineer]
- **Mr. Praveen Puniyasa** [Jr. Technician]
- **Mr. Ajay Nahra,** [Sr. Accountant & admin]

EXECUTIVE SUMMARY

The executive summary of the environment audit report furnished in this section briefly gives the identified water conservation measures that can be implemented in a phased manner to water conservation and increase the productivity of the institute.

INICIATIVE TAKEN BY INSTITUTE

RAINWATER HARVESTING SYSTEM

- Institute has "Rainwater Harvesting System" in institute campus for maintaining ground water level. This system saves about 70 to 80 % of roof top rain water of the building**.-Its Appreciable**
- Installation of water over flow sensors on tank pipe for saving of water in the institute.- **Its Appreciable**
- Institute installed organic compose formation machine to use kitchen waste to keep environment healthy & clean- **It's Appreciable**
- Institute organized plantation programme every year to keep the environment balance- **It's Appreciable**
- Institute installed Grid connected rooftop Solar PV System of 50 KWp capacity & in year 2022-23 generated solar power around **38%** of consumption- **It's Appreciable**

WATER SPRINKLER SYSTEM

- Institute Install Water Sprinkler System in Lawn area. It will be reduced water consumption of Institute Campus- **It's Appreciable**

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AUDIT RECOMMENDATION

- **FRESH WATER MONITORING SYSTEM:**

  Installation of Sensor based Taps in wash room & drinking points to save water.

- **WASTE WATER TREATMENT PLANT**

  There is requirement to install Sewerage Treatment Plant (STP) for waste water generatedfrom various activities in the campus.

  All waste water generated from above activity is collected in separate tank and it should be treated in propose STP Plant

- **DRIP WATER IRRIGATION SYSTEM FOR GARDENING.**

  Use drip water irrigation system for gardening.

- **USE EFFICIENT WATER TAPS**

  Water saving taps either reduce water flow or automatically switch off to help save water.So, it is highly recommended to install efficient water taps in the campus to reduce fresh water consumption.

- **USE EFFICIENT URINAL FIXTURE**

  At present institute have conventional urinals in the washroom area. Replacing these inefficient fixtures with water sense labeled flushing urinal can save between 0.5 to 04 Liter per flush without sacrificing performance. Installing water saving flushing urinal will not only reduce water use in facilities but also save water pumping cost on water bills.

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CHAPTER-1
INTRODUCTION

1.1 About Institute

Swami Vivekanand College of Engineering, Indore has glorious history under Swami Vivekanand Group of Institutions. The Swami Vivekanand Group of Colleges is widely known for its commitment to excellence in preparing students to address the current and future needs of society, while performing with Intergrid, compassion, and competence.

SVCE started its journey in the year 2004 with the aim of providing education to students and empowering them so that they can be financially independent, socially conscious, morally upright and emotionally balanced. The Institute is best equipped with excellent infrastructure facilities, combined with the support of academicians, experts from the industry, and other fields to cater to the needs of the student's community. The Institute ensures that you get the best possible support, both academically and socially.

The Institute proudly announces the during past 19 years journey, it has been serving the society by providing excellent environment for education in area of Engineering & Management. It promotes the innovative teaching methodologies to help students gain practical knowledge and better insights about applying the theoretical knowledge. It believes in imparting education along with preparing students for corporate world. With a lush green campus spread over a large areas of located in the heart of the Indore city, the institute is well connected through all means of transport.

Figure 1.1: - Satellite image of SVCE, Indore from Google Map

Vision

Swami Vivekanand College of Engineering (SVCE) aspires to create Center of Excellence for continuous learning by providing state-of-art Techno-Management Education to the students and learners, by enhancing the capabilities to be the Techno-Management Thought Leaders.

Mission

The mission of the Swami Vivekanand College of Engineering (SVCE)

1. To import human values and to promote leadership qualities among students.
2. To set up a suitable infrastructure and provide better resources to students and faculties.
3. To encourage academic excellence amongst faculties and students.
4. To impart education based on scientific, moral and value-based foundation to meet the Challenges of the technologically advancing global environment.

1.2 About Environment Auditing

Water audits can be a highly valuable tool for institute in a wide range of ways to improve their energy, environment and economic performance. While reducing wastages and operating costs. Water audits provide a basis for calculating the economic benefits of water conservation projects by establishing the current rates of water use and their associated cost.

1.3 Objectives of Environment Audit

The general objective of water audit is to prepare a baseline report on water conservation measures to mitigate consumption, improve quality and sustainable practices.

The specific objectives are:

- To monitor the water consumption and water conservation practices.
- To assess the quantity of water, usage, quantity of waste water generation and their reduction within the college.

1.4 Target Areas of Environment audit

This indicator addresses water sources, water consumption, irrigation, storm water, appliances and fixtures aquifer depletion and water contamination are taking place at unprecedented rates. It is therefore essential that any environmentally responsible institution should examine its water use practices.

1.5 Methodology followed for conducting Environment audit

Step 1: Walk through survey

- Understanding of existing water sourcing, storage and distribution facility.
- Assessing the water demand and water consumption areas/processes.
- Preparation of detailed water circuit diagram.

Step 2: Secondary Data Collection

- Analyze historic water use and wastewater generation
- Field measurements for estimating current water use
- Metered & unmetered supplies.
- Understanding of "base" flow and usage trend at site
- Past water bills
- Waste water treatment scheme & costs etc.

Step 3: Site Environment Audit Planning (based on site operations and practices)

- Preparation of water flow diagram to quantify water use at various locations
- Wastewater flow measurement and sampling plan

Step 4: Conduction of Detailed Environment Audit & Measurements

- Conduction of field measurements to quantify water/wastewater streams
- Power measurement of pumps/motors
- Preparation of water balance diagram
- Establishing water consumption pattern
- Detection of potential leaks & water losses in the system
- Assessment of productive and unproductive usage of water
- Determine key opportunities for water consumption reduction, reuse & recycle.

Step 5: Preparation of Environment Audit Report

- Documentation of collected & analyzed water balancing and measurement details
- Projects and procedures to maximize water savings and minimize water losses.
- Opportunities for water conservation based on reduce/recycle/reuse and recharge.

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CHAPTER- 2
WATER CONSUMPTION AND WASTE WATER SOURCES

2.1 Details of Fresh Water source:

The main source of freshwater is Tankers come from outside the institute. The freshwater is mainly used fordrinking, housekeeping, gardening, lab activity. Details of the fresh water are given in table2.1

Table: 2.1 Details of Fresh water sources

Sr. No.	Sources	Tanker Capacity (Lt)	No. of Tanker/day
1	Fresh Water supply by Tanker	7000	6

Fig. 2.1 Fresh water supply by outside Tankers

Observation: -

- There is one source of fresh water supply by Tankers in campus.

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2.2 Water Accounting System

Fig. 2.2 Fresh water pumping station

Observation:-

Environment audit team observes that there are required water meter on water pumping system. So it is recommended to install water flow meter on water pumping side to quantify the fresh water consumption per day.

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2.3 Water Storage Capacity in Institute Campus

There are different type of water tanks available in institute for water storage like, RCC tank and PVC tanks.

Table 2.2 - Water storage tanks in Institute campus

Sr. No.	Location	No. of Tank	Tank Capacity	Material
1	Under Ground Main Tank	1	90,000 Liters	RCC
2	UG block	1	2000 Liter	Syntax
3	MBA block	1	2000 Liter	Syntax
4	Canteen	1	1000 Liter	Syntax
5	Admin Block	1	2000 Liter	Syntax
	Total	**5**	**97,000 Liters.**	

Fig: - 2.3 Main underground Water Storage Tank in Institute campus

Observation:- It is observed that underground RCC main tank of institute capacity 90,000 Liters.

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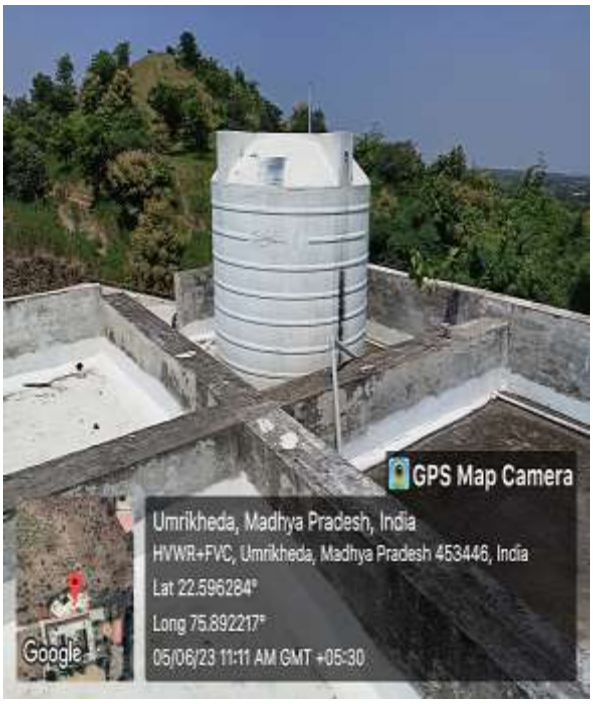
Photographs of water storage tanks in institute campus



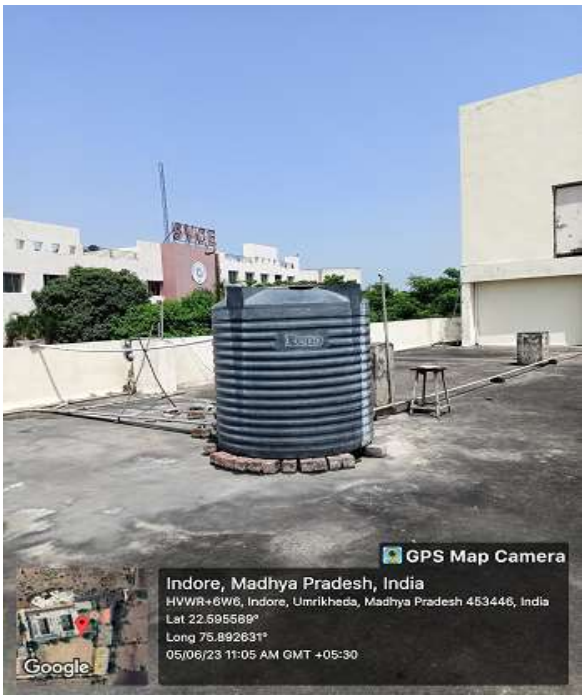


Fig - 2.4 Water Storage Tanks in Institute campus

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2.4 Fresh water Distribution Layout in Institute

Environment Audit team studies the water sources and prepared water distribution flow system in the campus.

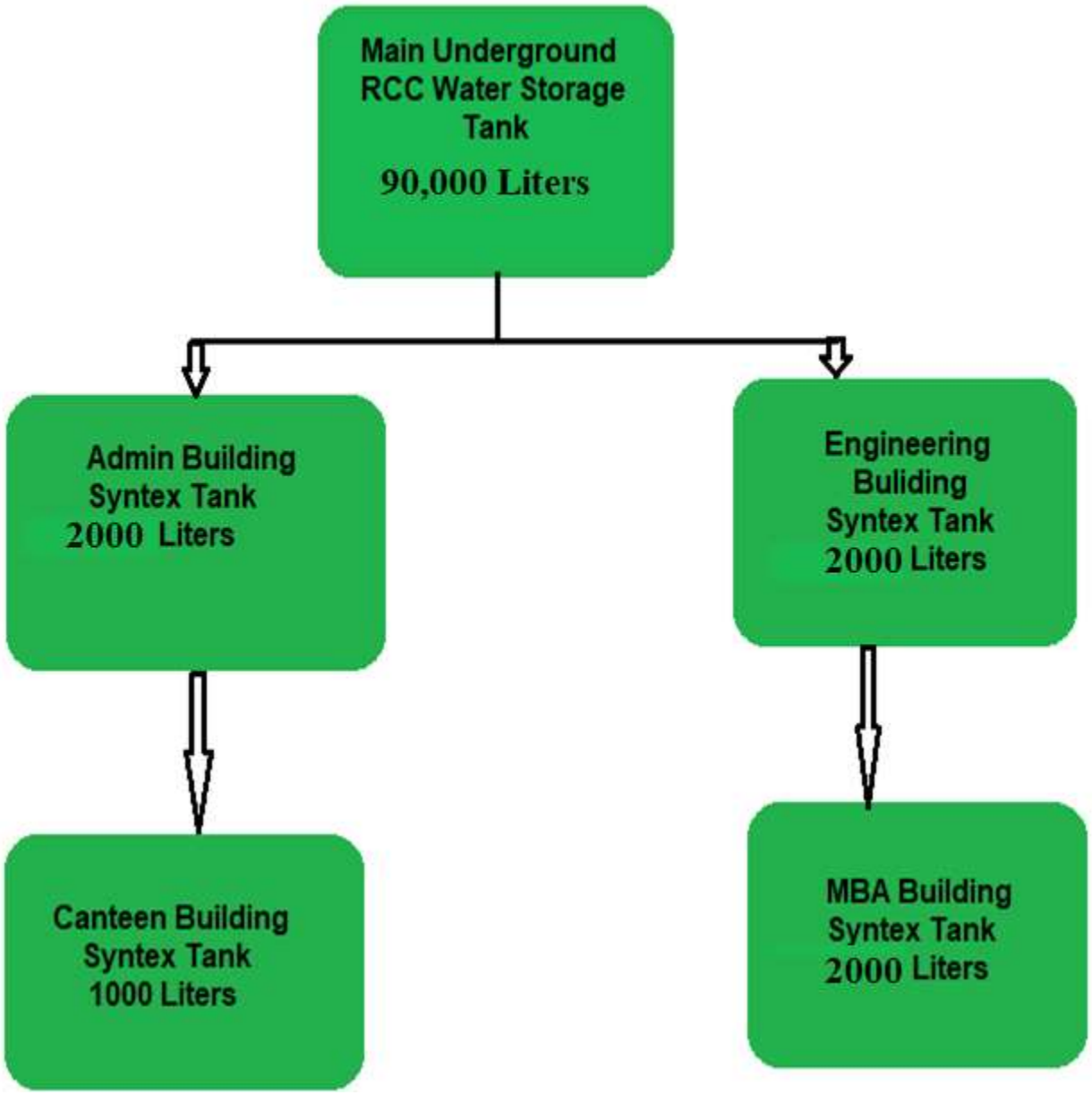

Fig: - 2.5 Layout of Water distribution system in Institute campus

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2.5 Water Use Areas in The Campus

Water is preliminary used for drinking, domestic, gardening and lab activity. Audit team visited various departments and buildings to determine water consuming equipments. The details of washroom, toilet and service water taps are given in table

Table: 2.3 Details of washroom and uses taps in various areas

Sr. No.	Location	Urinals	Fresh Taps	Toilets Taps	Hand wash
1	MBA Ground Floor	8	4	4	3
2	MBA First Floor	4	4	2	2
3	MBA Second Floor	4	4	2	2
4	Engg Block Ground Floor	12	-	12	14
5	Engg Block First Floor	10	12	10	7
6	Engg Block Second Floor	10	11	20	5
7	Canteen	4	9	6	6
8	Admin Building Ground Floor	8	2	8	8
9	Admin Building First Floor	8	-	8	8
10	Admin Building Second Floor (Library)	1	-	1	1
	Total	**69**	**46**	**73**	**56**

Observation:-

- There are 69 urinals, 46 Water taps with 73 Toilets taps with 56 hand washing.

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2.6 Details of water coolers & drinking points in Institute campus

Table: 2.4 Details of water cooler in the campus

Sr. No.	Location	No of Water Cooler	Drinking Points
1	Admin Block	1	1
2	Engg Block Ground Floor	1	-
3	Engg Block First Floor		3
4	Engg Block Second Floor		3
5	MBA Block (1,2 & 3 Floor)	-	3
6	Canteen	1	2
7	Workshop	1	1
	Total	**4**	**13**

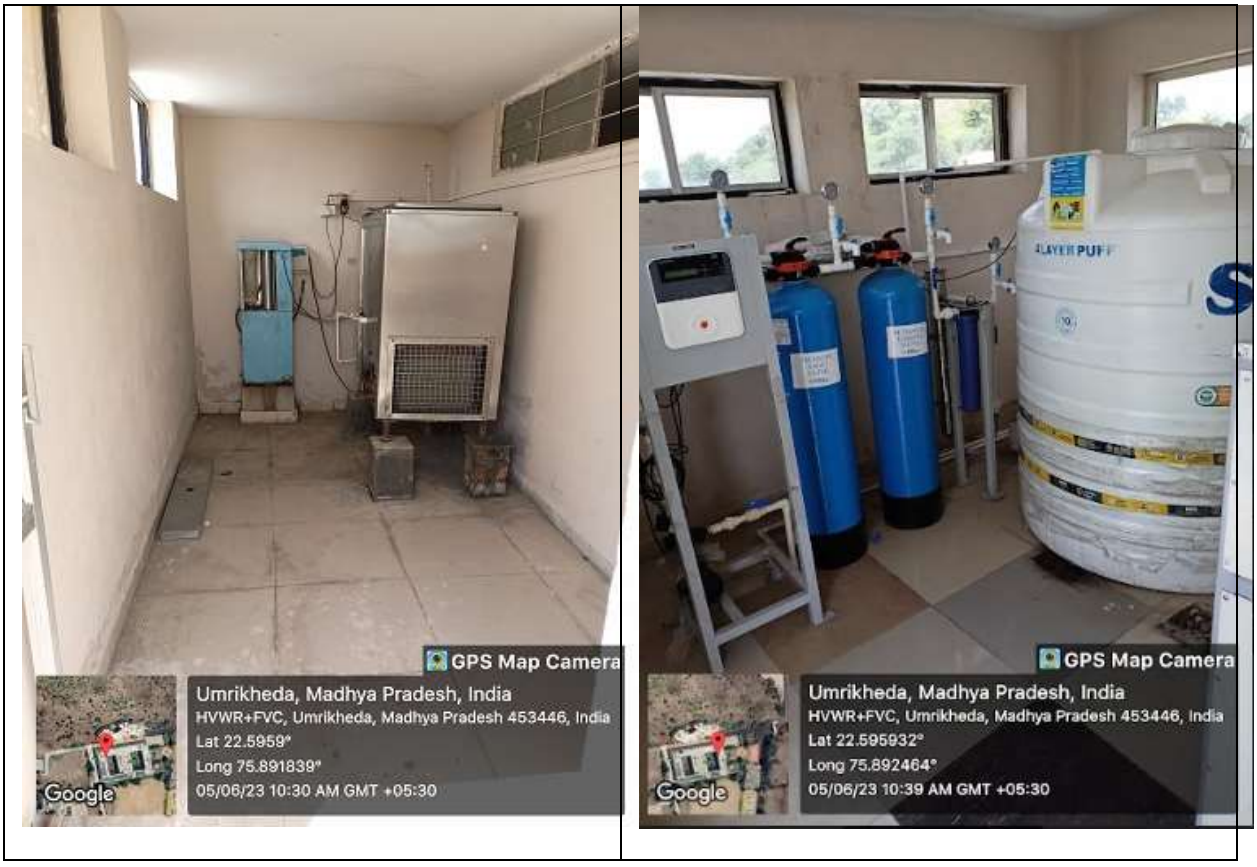

Fig: - 2.6 Water Filters for drinking water in Institute campus

Observation: -

- It is observed that there are centralized RO systems for drinking water requirement in Engg. Block & separate water cooler for Admin block, canteen, workshop.

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2.7 Fresh water uses for gardening:

The one of major contribution from fresh water consumption is watering for other plants in Institute campus. There is good potential for water saving by adopts "Automatic Watering 360 adjustable misting nozzle irrigation Dripper's system for plants. Adjustable drip irrigation tools to provide different amounts of water depending on the water requirements of different plants. The drip speed can be set as for indoor and outdoor plants.

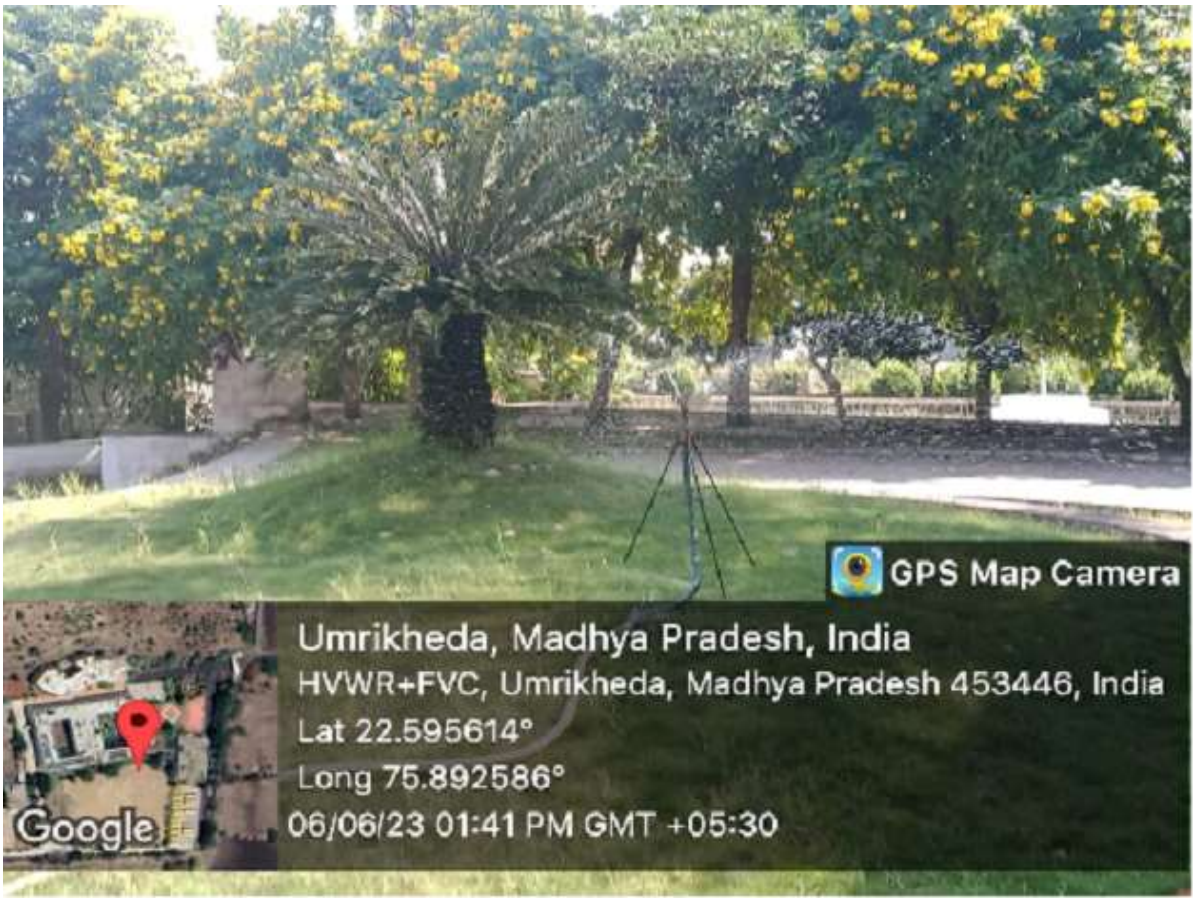

Fig: - 2.7 Sprinkler system for gardening

Observation:-

- It is observed that there is sprinkler water supply system for plant**.**

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2.8 Waste Water Generation sources: -

At present waste water generated from various blocks Engg. MBA, Admin, canteen & other activity likewashrooms, hand wash etc.

Table: 2.5 Details of water cooler in the campus

Sr. No.	Location	Type of water used	Water Consuming activities
1	Admin Block	Fresh Water	Drinking and other uses
2	Engg. Block	Fresh Water	Drinking and other uses
3	MBA Block	Fresh Water	Drinking and other uses
5	Canteen	Fresh Water	Drinking, domestic and other activities
6	Ground + Other	Fresh Water	For Gardening Purpose

Some Photo Graphs of waste water generation source

Wash Basin

Urinals

Fig: - 2.8 Waste water generation sources

Observation:-

- It is observed that all waste water is drain in to environment without any treatment of waste water. So, it is recommended installing STP for all waste water generated in the campus.

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2.9 Kitchen Waste Management policy

Fig. 2.9- Kitchen waste organic compost formation machine

Observation- College installed organic compost formation machine using kitchen waste to keep environment clean & eco-friendly- **Its appreciable**

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CHAPTER- 3
RAIN WATER HARVESTING SYSTEM

3.1. Rain Water Harvesting Systems

The rainwater harvesting is a technique to capture the rainwater when it precipitates, storethat water for direct use or charge the groundwater and use it later.

There are typically four components in a rainwater harvesting system:

- Roof Catchment
- Collection
- Transport
- Infiltration or storage tank and use.

If rainwater is not harvested and channelized its runoffs quickly and flow out through storm- water drains. For storm-water management the recharge pits, percolation pits and porous trenches are constructed to allow storm water to infiltrate inside the soil.

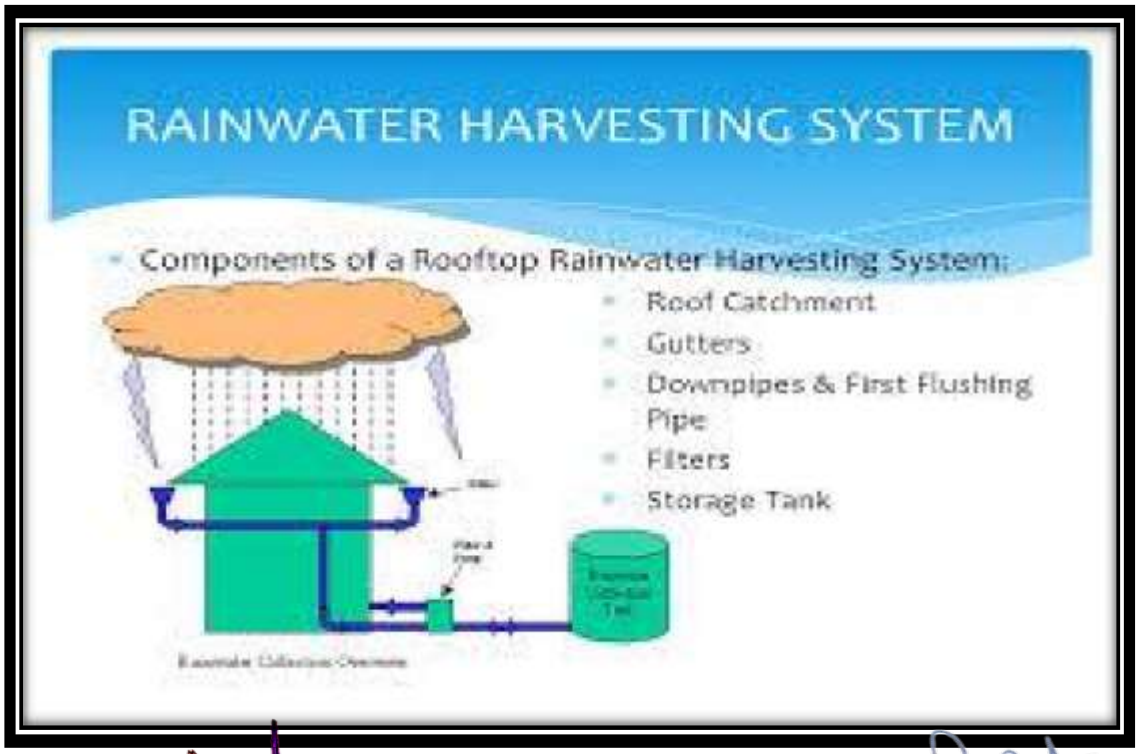

Figure: - 3.1 Rooftop rainwater harvesting system

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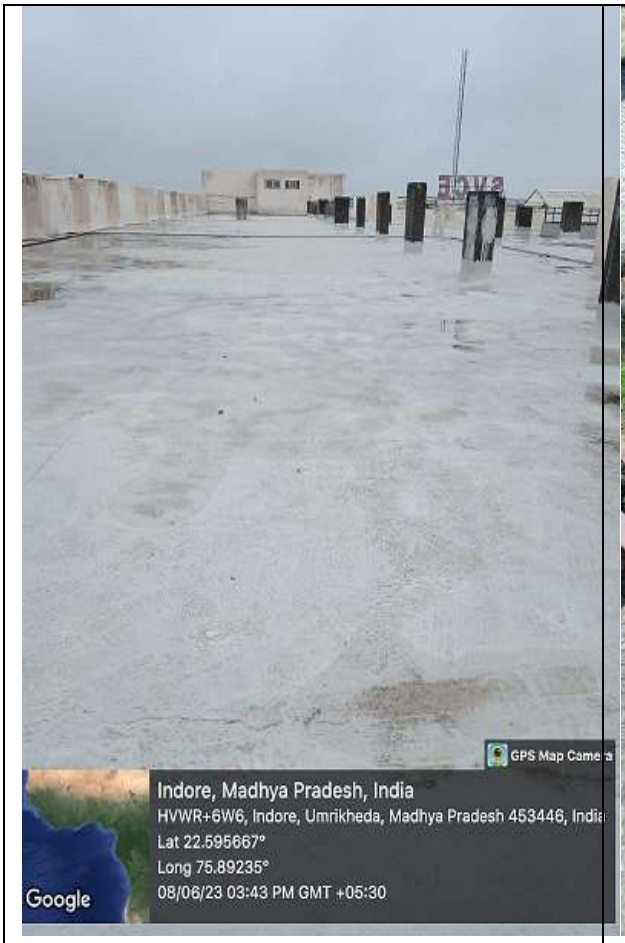
3.2 Rain Water harvesting storage in Institute

Various types of Buildings like Admin Block, Engg. Block MBA Block, etc. Rain Waterharvesting system is installed. **It is Appreciable**



Rooftop Rain Water Harvesting

Rain water storage tank

Figure: - 3.2 Components of a rooftop rainwater harvesting system

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END OF THE REPORT

THANKS

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EEPL
Empirical Exergy Pvt. Ltd.

Reg. Off. : 18-E, Sudama Nagar, Indore - 452009
Address : Flat No. 201, Om Apartment, 214, Indrapuri, Bhawarkua, Indore (M.P.)
Phone : 0731-4948831, (+91) 78693 27256
E-mail : eempirical18@gmail.com
Web : www.eeplgroups.com
CIN No. : U74999MP2018PTC045751

Ref No: EEPL/2023-24/C-010 **Date: - 12-06-2023**

ENERGY AUDIT CERTIFICATE

This is to certify that Empirical Exergy Private Limited (EEPL) Indore M.P. has conducted energy audit at **Swami Vivekanand College of Engineering, Khandwa road, Indore (M.P.)** for the academic Year 2022-23.

The activities and measures carried out by **Swami Vivekanand College of Engineering, Indore (M.P.)** have been verified and were found to be acceptable. The positive approach of the management towards saving energy is highly valued and commendable.

This certificate is being issued on the basis of audit conducted by EEPL.

For- **Empirical Exergy Private Limited**

12/06/2023

Rajesh Kumar Singadiya (Director)
M.Tech (Energy Management), PhD (Research Scholar)
Accredited Energy Auditor [AEA-0284]
Certified Energy Auditor [CEA-7271]
(BEE, Ministry of Power, Govt. of India)
Empanelled Energy Auditor with MPUVN, Bhopal M.P.
Lead Auditor ISO50001:2011 [EnMS) from FICCI, Delhi
Certified Water Auditor (NPC, Govt of India)
Chartered Engineer [M-1699118], The Institution of Engineers (India)
Member of ISHRAE [58150]

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ENERGY AUDIT REPORT

CONSULTATION REPORT

Swami Vivekanand College of Engineering

Khandwa Road, Indore
Pin-452009
Madhya Pradesh, India

PREPARED BY

EMPIRICAL EXERGY PRIVATE LIMITED

Flat No. 201, OM Apartment, 214 Indrapuri Colon,
Bhawarkuan, Indore – 452 001 (M. P.), India
0731-4948831, 7869327256
Email ID:eempirical18@gmail.com
www.eeplgroups.com

(2022-23)

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ACKNOWLEDGEMENT

Empirical Exergy Private Limited (EEPL), Indore (M.P) takes this opportunity to appreciate & thank the management of **Swami Vivekanand College of Engineering, Indore** for allowing us to conduct an Energy Audit for the institute.

We are indeed touched by the helpful attitude and co-operation of all faculties and technical staff, who rendered their valuable assistance and co-operation during the audit.

Rajesh Kumar Singadiya

(Director)

M.Tech (Energy Management), PhD (Research Scholar)
Accredited Energy Auditor [AEA-0284]
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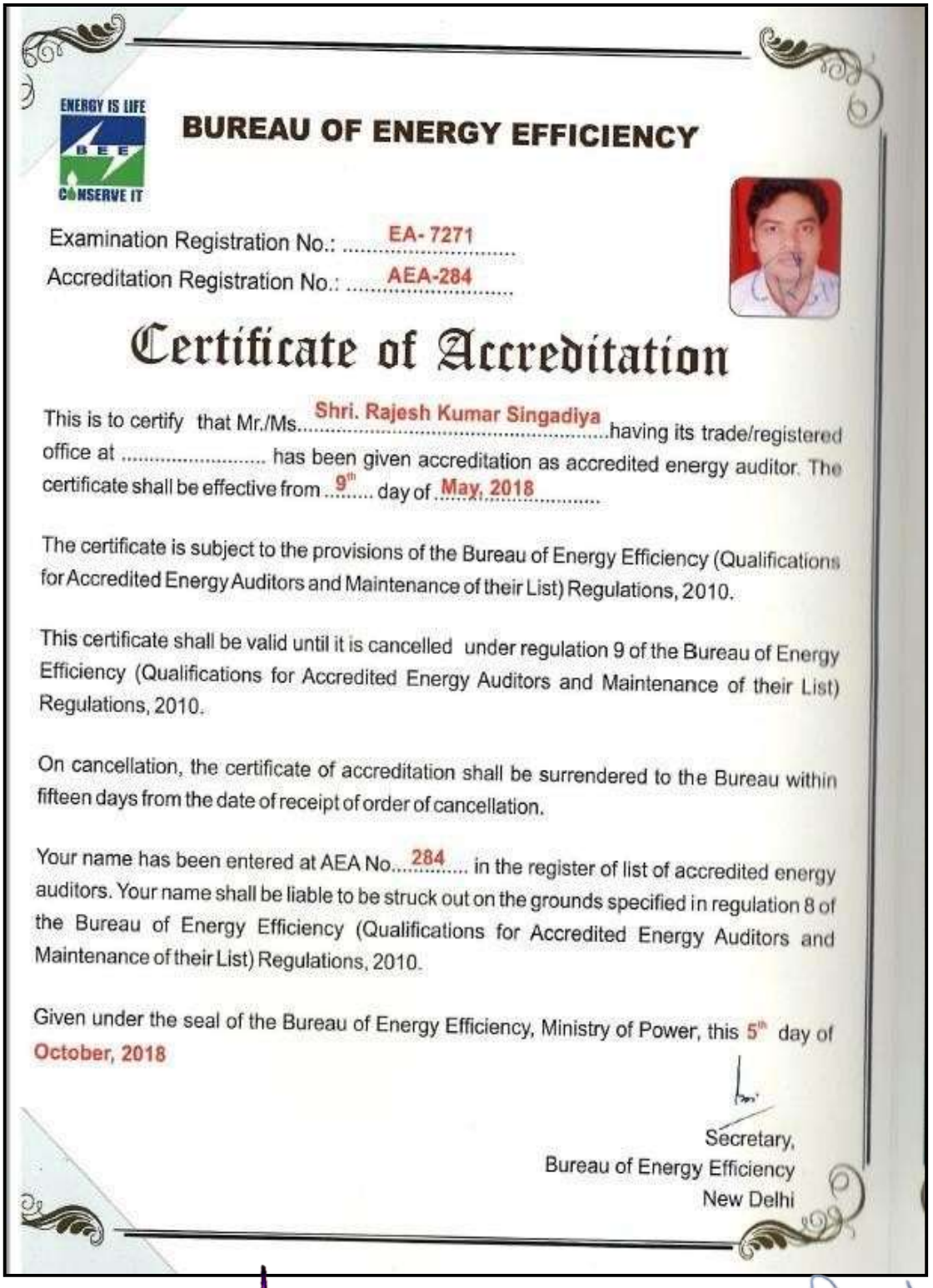
Certificate of Accreditation



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BEE
CONSERVE IT

BUREAU OF ENERGY EFFICIENCY

Examination Registration No.: EA- 7271
Accreditation Registration No.: AEA-284

Certificate of Accreditation

This is to certify that Mr./Ms. Shri. Rajesh Kumar Singadiya having its trade/registered office at ..... has been given accreditation as accredited energy auditor. The certificate shall be effective from 9th day of May, 2018

The certificate is subject to the provisions of the Bureau of Energy Efficiency (Qualifications for Accredited Energy Auditors and Maintenance of their List) Regulations, 2010.

This certificate shall be valid until it is cancelled under regulation 9 of the Bureau of Energy Efficiency (Qualifications for Accredited Energy Auditors and Maintenance of their List) Regulations, 2010.

On cancellation, the certificate of accreditation shall be surrendered to the Bureau within fifteen days from the date of receipt of order of cancellation.

Your name has been entered at AEA No. 284 in the register of list of accredited energy auditors. Your name shall be liable to be struck out on the grounds specified in regulation 8 of the Bureau of Energy Efficiency (Qualifications for Accredited Energy Auditors and Maintenance of their List) Regulations, 2010.

Given under the seal of the Bureau of Energy Efficiency, Ministry of Power, this 5th day of October, 2018

Secretary,
Bureau of Energy Efficiency
New Delhi

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Energy Audit Team

The study team constituted of the following senior technical executives from **Empirical Exergy Private Limited,**

- **Mr. Rajesh Kumar Singadiya** [Director & Accredited Energy Auditor AEA-0284]
- **Mr. Rakesh Pathak**, [Director & Electrical Expert]
- **Mrs. Laxmi Raikwar Singadiya** [Chemical Engineer]
- **Mr. Charchit Pathak** [Asst.Project Engineer]
- **Mr. Ajay Nahra,** [Sr. Accountant & admin]
- **Mr. Praveen Puniyasa** [Jr. Technician]

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EXECUTIVE SUMMARY

The executive summary of the Energy audit report furnished in this section briefly gives the identified Energy conservation measures and other recommendations during the project that can be implemented in a phased manner to conserve Energy and increase productivity inside the institute campus.

INICIATIVE TAKEN BY INSTITUTE

- Institute installed 129 LED bulbs for power saving- **It's Appreciable**
- Institute installed Grid connected rooftop Solar PV System of 50 KWp capacity & in year 2022-23 generated solar power around **38%** of consumption- **It's Appreciable**

ENERGY AUDIT RECOMMENDATION

POWER FACTOR IMPROVEMENT

APFC panel required to achieve near about the Unity Power Factor (PF 1) through Installation of **35 KVAR** rating Capacitor Bank for total section load (100 KVA) & for (Engg Block, MBA Block & Admin Block total load 38 KW) so APFC panel installation recommended for three main blocks around 25 KVAR rating capacitor bank. Current Average **Power Factor 0.79.**

CEILING FAN AND EXHAUST FAN

Replacement of 556 "Conventional Ceiling Fan (50 Watt)" by energy efficient star rated fan or BLDC based energy efficient fan (28 Watt) in class rooms, laboratories and faculties cabins" have great potential for energy saving.

TIMER CONTROLLED STREET LIGHTS

It is recommended to installation of "Timer control on-off street lighting" in institute campus. To save human efforts & power saving.

MOTION SENSOR

It is recommended to installation of motion sensor in faculty cabins, offices, toilets Corridors and non-working areas to save energy.

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IoT BASED ENERGY MONITORING SYSTEM

Installation of "Cloud based (IoT based) energy monitoring system" including harmonic measurement (total voltage and current harmonic distortion %) in power house will be good initiate for energy monitoring as well as student demo project for management. expected energy saving potential about 5 to 6%.

- Installation of energy meters between transformer and main PCC panel with IoT systemwill monitor line losses of the system. It will give real time measurement of Power Factor and line losses from the cable.
- Installation of IoT based solar power generation system to track daily/monthly/yearly solar power generation

GROUND EARTHING

- Transformer area required 6 type proper Earthing of structure, fencing, double Earthing of transformer, fuse box Earthing, meter box.
- Proper installation of ground Earthing for Human & devices protection point of view.
- Maintenance required for cabling & wiring to reduce the power loss & decrease extra billing.
- Building wise Ground Earthing recommended for safety point of view.

ENERGY MANAGEMENT WORKSHOP AND TRAINING

Conduct awareness, training programs, seminars, workshops, exhibitions for faculties, management and nonteaching staff.

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CHAPTER-1
INTRODUCTION

1.1 About Institute

Swami Vivekanand College of Engineering, Indore has glorious history under Swami Vivekanand Group of Institutions. The Swami Vivekanand Group of Institutes is widely known for its commitment to excellence in preparing students to address the current and future needs of society, while performing with Intergrid, compassion, and competence.

SVCE started its journey in the year 2004 with the aim of providing education to students and empowering them so that they can be financially independent, socially conscious, morally upright and emotionally balanced. The Institute is best equipped with excellent infrastructure facilities, combined with the support of academicians, experts from the industry, and other fields to cater to the needs of the student's community. The Institute ensures that you get the best possible support, both academically and socially.

The Institute proudly announces the during past 19 years journey, it has been serving the society by providing excellent environment for education in area of Engineering & Management. It promotes the innovative teaching methodologies to help students gain practical knowledge and better insights about applying the theoretical knowledge. It believes in imparting education along with preparing students for corporate world. With a lush green campus spread over a large areas of located in the heart of the Indore city, the institute is well connected through all means of transport.

Figure 1.1: - Satellite image of SVCE, Indore from Google Map

Vision

Swami Vivekanand College of Engineering (SVCE) aspires to create Center of Excellence for continuous learning by providing state-of-art Techno-Management Education to the students and learners, by enhancing the capabilities to be the Techno-Management Thought Leaders.

Mission

The mission of the Swami Vivekanand College of Engineering (SVCE)

1. To import human values and to promote leadership qualities among students.
2. To set up a suitable infrastructure and provide better resources to students and faculties.
3. To encourage academic excellence amongst faculties and students.
4. To impart education based on scientific, moral and value-based foundation to meet the challenges of the technologically advancing global environment.

1.2 Institute Build-up area

Total Buildup Area – 21,179 Sq. Mt.

Sr.no.	Location	Total Area Sq.mt.
1	Engineering Building	12,957
2	MBA Building	4331
3	Admin Building	2882
4	Canteen	1009
	Total	**21,179**

COLLEGE POPULATION

Total No. of Student	1500
Total No. of Teaching Faculty	80
Total No. of Non-Teaching Staff	36

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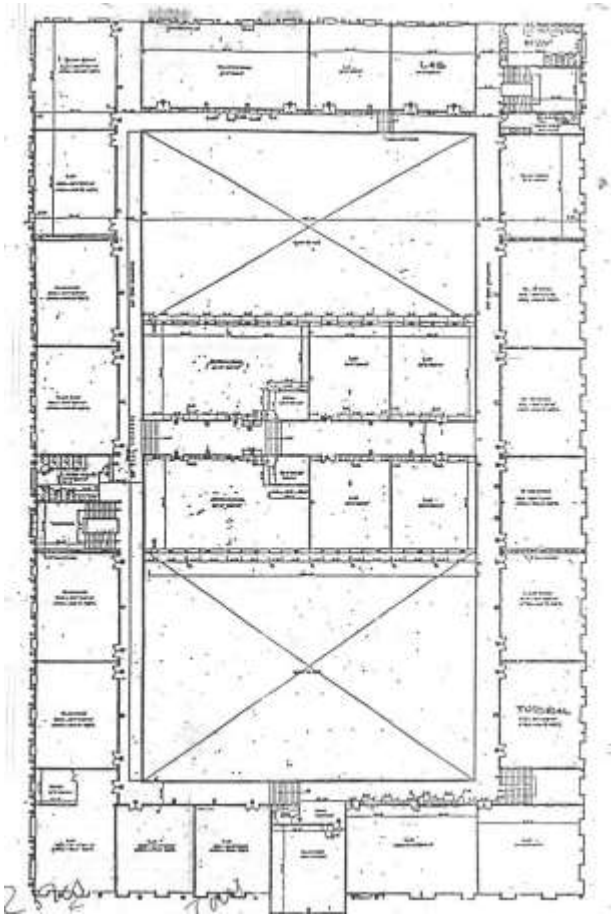
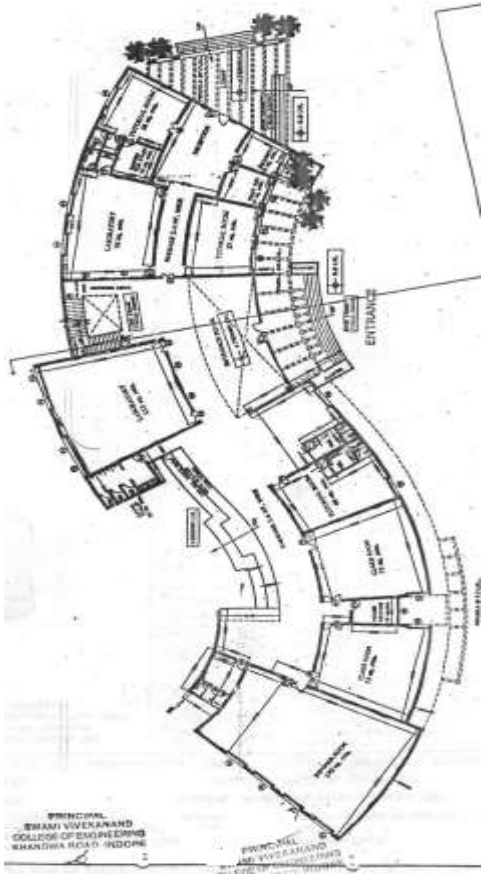
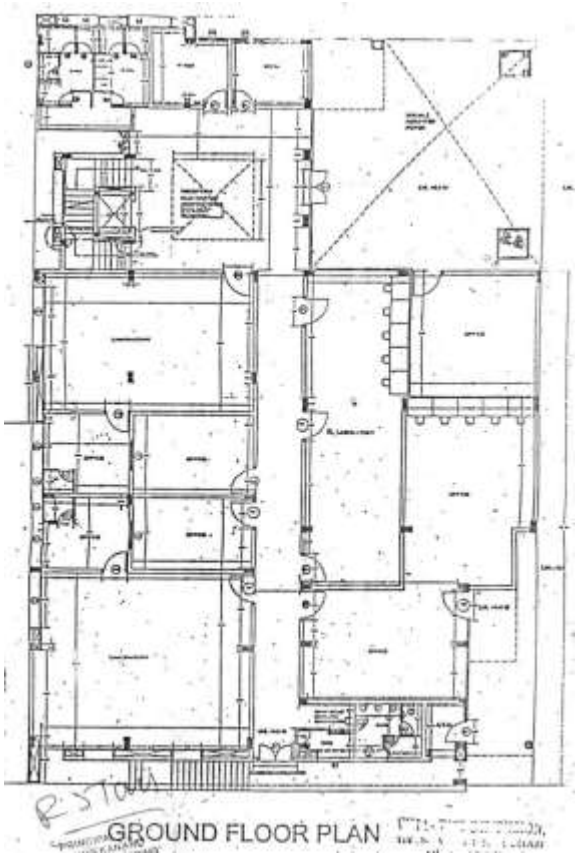
1.3 COLLEGE LAYOUT



ENGG Block



MBA Block



Admin Block

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1.4 About Energy Audit

An energy audit helps to understand more about the ways energy is used in any institute and helps in identifying areas where waste may occur and scope for improvement exists. The overall energy efficiency from generation to the final consumer becomes 50%. Hence one unit saved in the end user is equivalent to two units generated in the power plant.

An energy audit is the most efficient way to identify the strength and weaknesses of energy management practices and to find a way to solve problems. An energy audit is a professional approach to utilizing economic, financial, social, and natural resources responsibly. Energy audits "adds value" to management control and are a way of evaluating the system.

Empirical Exergy Private Limited (EEPL), Indore M.P. carried out the "Energy Audit" at the site to find gaps in the Energy consumption pattern for **Swami Vivekanand College of Engineering, Indore M.P**. A technical report is prepared as per the need and the requirement of the project.

1.5 Objectives of Energy Auditing

An energy audit provides a vital information base for an overall energy conservation program covering essentially energy utilization analysis and evaluation of energy conservation measures. It aims at:

- Identifying the quality and cost of various energy inputs.
- Assessing the present pattern of energy consumption in different cost centers of operations.
- Relating energy inputs and production output.
- Identifying potential areas of the thermal and electrical energy economy.
- Highlighting wastage in major areas.
- Fixing of energy-saving potential targets for individual cost centers.
- Implementation of measures for energy conservation & realization of savings.

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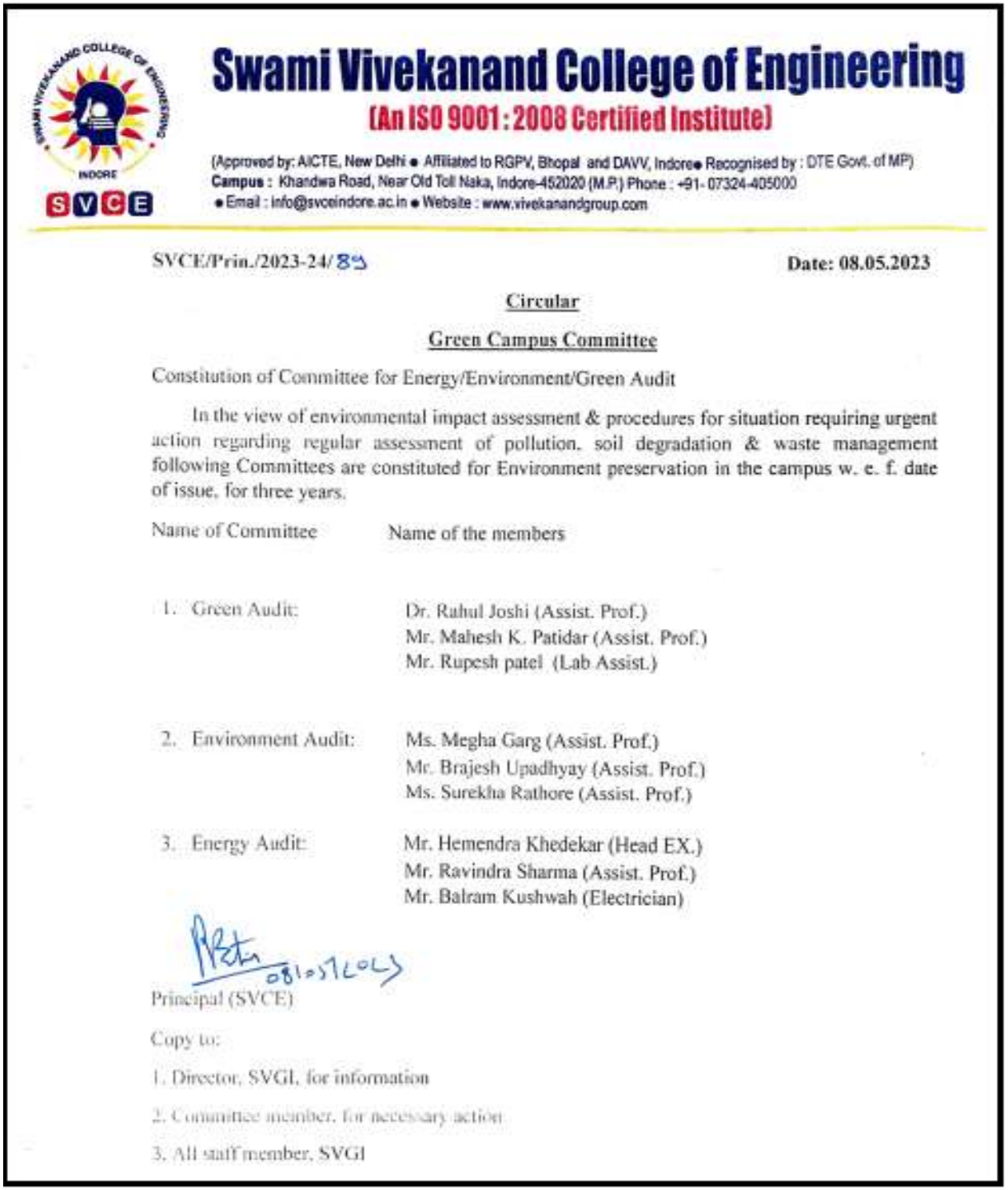
1.6 Green Monitoring Committee



Swami Vivekanand College of Engineering

(An ISO 9001 : 2008 Certified Institute)

(Approved by: AICTE, New Delhi • Affiliated to RGPV, Bhopal and DAVV, Indore • Recognised by : DTE Govt. of MP)
Campus : Khandwa Road, Near Old Toll Naka, Indore-452020 (M.P.) Phone : +91- 07324-405000
• Email : info@svceindore.ac.in • Website : www.vivekanandgroup.com

SVCE/Prin./2023-24/85 **Date: 08.05.2023**

Circular

Green Campus Committee

Constitution of Committee for Energy/Environment/Green Audit

In the view of environmental impact assessment & procedures for situation requiring urgent action regarding regular assessment of pollution, soil degradation & waste management following Committees are constituted for Environment preservation in the campus w. e. f. date of issue, for three years.

Name of Committee	Name of the members
1. Green Audit:	Dr. Rahul Joshi (Assist. Prof.) Mr. Mahesh K. Patidar (Assist. Prof.) Mr. Rupesh patel (Lab Assist.)
2. Environment Audit:	Ms. Megha Garg (Assist. Prof.) Mr. Brajesh Upadhyay (Assist. Prof.) Ms. Surekha Rathore (Assist. Prof.)
3. Energy Audit:	Mr. Hemendra Khedekar (Head EX.) Mr. Ravindra Sharma (Assist. Prof.) Mr. Balram Kushwah (Electrician)

08/05/2023

Principal (SVCE)

Copy to:

1. Director, SVGI, for information
2. Committee member, for necessary action
3. All staff member, SVGI

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1.7 Methodology

The methodology adopted for achieving the desired objectives viz.: Assessment of the Current operational status and energy savings includes the following.

- Discussions with the concerned officials for identification of major areas of focus and other related systems.
- A team of engineers visited the site and had discussions with the concerned officials/supervisors to collect data/information on the operations and load distribution within the plant and the same for the overall premises. The data were analyzed to arrive at a baseline Energy consumption pattern.
- Measurements and monitoring with the help of appropriate instruments including continuous and/or time-lapse recording, as appropriate and visual observations were made to identify the energy usage pattern and losses in the system.
- Trend analysis of costs and consumptions.
- Capacity and efficiency test of major utility equipment wherever applicable.
- Estimation of various losses
- Computation and in-depth analysis of the collected data, including utilization of computerized analysis and other techniques as appropriate, were done to draw inferences and to evolve suitable energy conservation plans for improvements/ reduction in specific Energy consumption.

1.8 Present Energy Scenario

- The institute uses energy in the form of electricity purchased from MPPKVVCL grid. The institute has non industrial 33 kV Feeder with contract demand 100 KVA.

- Total billing amount of Swami Vivekanand College of Engineering, Indore is Rs. **12, 12,021/-** with respect to annual energy consumption 57,654 units from August-2022 to August-2023.

- Annual overall charges paid by institute are Rs. 21 per unit.

- Institute has also installed 50KWp rooftop solar system.

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CHAPTER- 2
POWER SUPPLY SYSTEM

2.1 Transformer Details.

The power supply for the **Swami Vivekanand College of Engineering, Indore** from MPPKVVCL with the help of 33 kV Feeders under Tariff HV-3.2.B Non-Industrial. There is single Transformer has capacity 200 KVA. Detail of the transformer is given in table 2.1

Table: 2.1 Technical details of transformer.

Sr. No.	Items	Technical Specification
1	Make	M.P. Transformers Pvt. Ltd.
2	Year	2014
3	Rating (kVA)	200
4	Voltage (HV/ LV)	33000/433
5	Current Rating (HV/ LV)	3.49/ 266.7
6	Frequency (Hz)	50
7	Vector group	Dyn-11
8	Type of cooling	ONAN

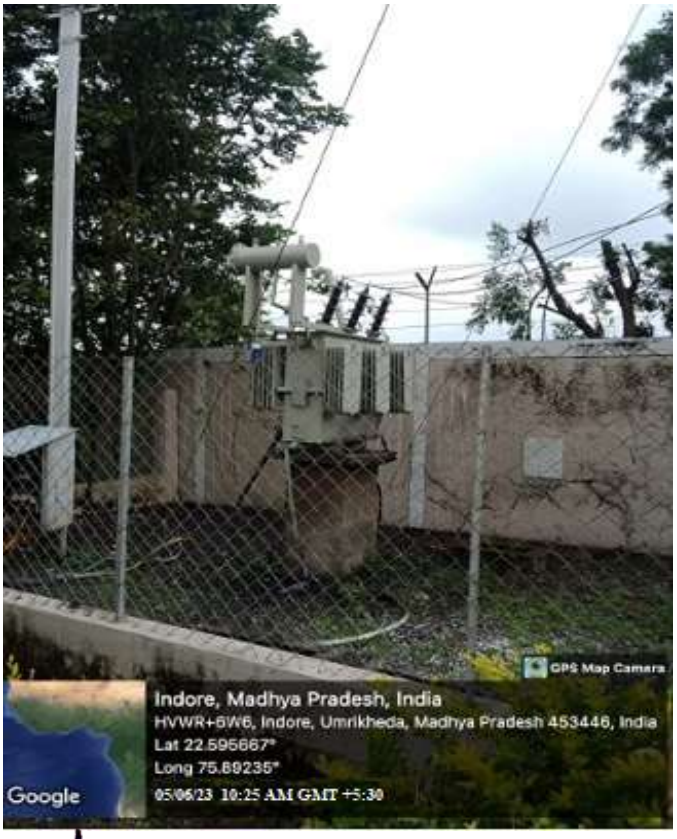

Figure 2.1:- 200 kVA Transformer in the campus

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Table 2.2: Calculated Transformer loading (%) based on Electricity bills year (2022-23)

Sr. No.	Month & Year	Transformer Capacity (KVA)	Maximum Demand (KVA)	TR loading (%)
1	Aug-22	200	53	26.5
2	Sep-22	200	50	25
3	Oct-22	200	27	13.5
4	Nov-22	200	30	15
5	Dec-22	200	25	12.5
6	Jan-23	200	27	13.5
7	Feb-23	200	17	8.5
8	March-23	200	39	19.5
9	April-23	200	60	30
10	May-23	200	70	35
11	June-23	200	56	28
12	July-23	200	54	27
13	Aug-23	200	48	24
			Average Transformer loading (%)	**21.38**
			Maximum Loading (%)	**35**

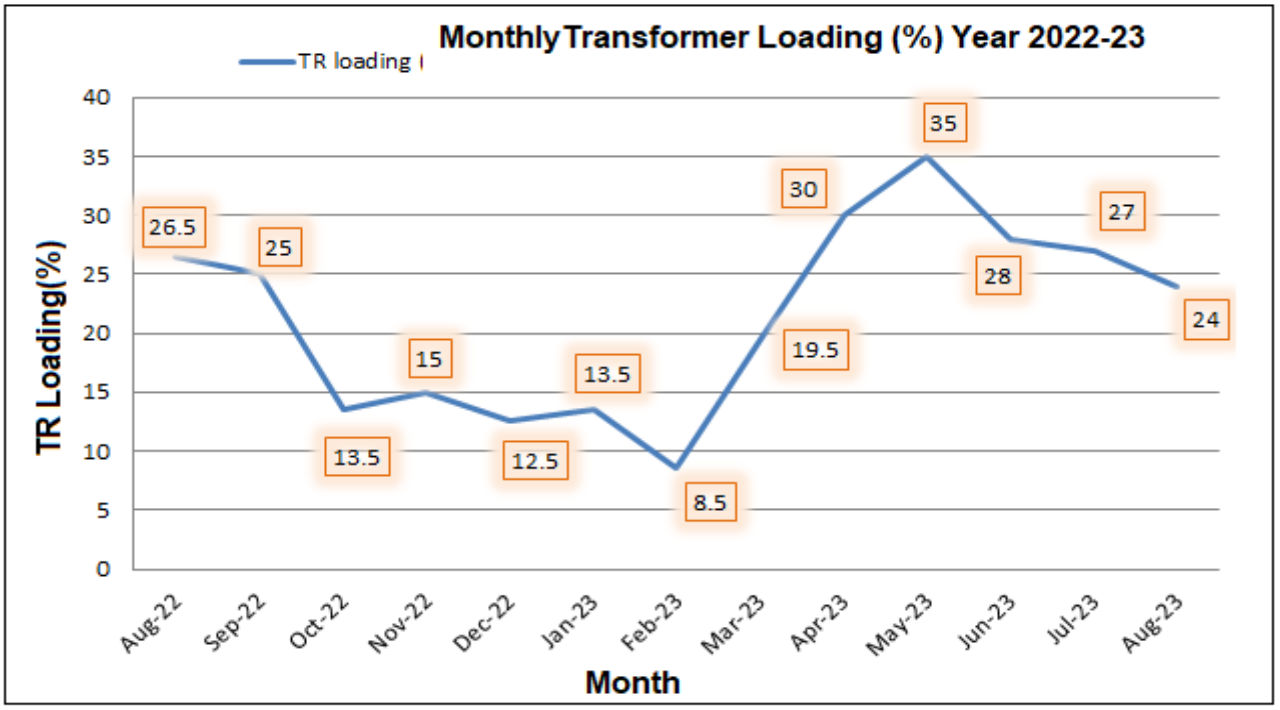

Figure 2.2:- Graphical presentation of TR loading percentage Year 2022-23

Observation: -

The average loading of the transformer is 21.38%. Maximum TR loading 35% Minimum TR loading 8.25%. **-It's acceptable**

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2.2 DG Set

There is one DG set in institute campus. Detail of the DG set is given below in table.

Table 2.4 Technical specifications for DG set

Sr. No.	Parameter	Technical Specification
1	Make	GMMCO LIMITED
2	Engine Sr. No	148/2009
3	Capacity (KVA)	62.5
4	Rated Voltage (V)	415
5	Full load current (A)	87
6	Frequency (Hz)	50
7	Power factor	0.8
8	Speed (RPM)	1500
9	Phase	3

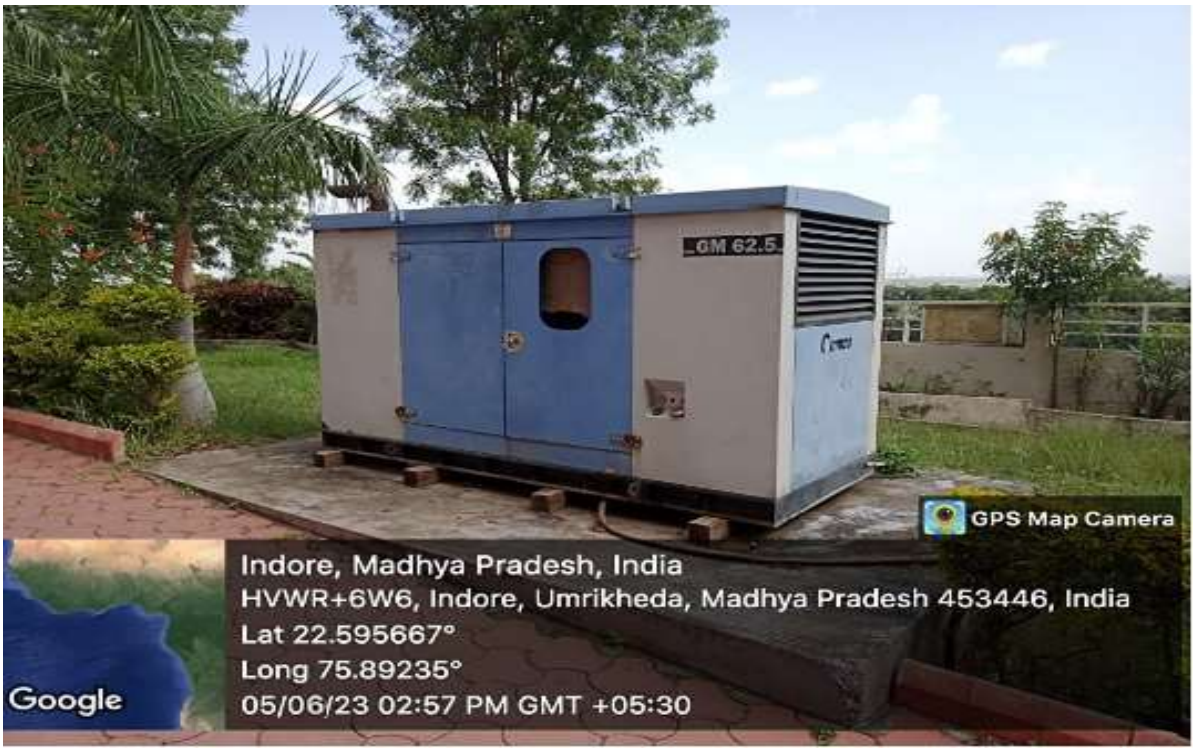

Figure 2.3:- DG set in the campus

Observation:

- DG set is used only in case of grid power failure.

Recommendation

- There is requirement of energy meter and fuel meter to find out specific fuel consumption (kWh/litter) of DG set.

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2.3 Single Line Diagram (SLD)

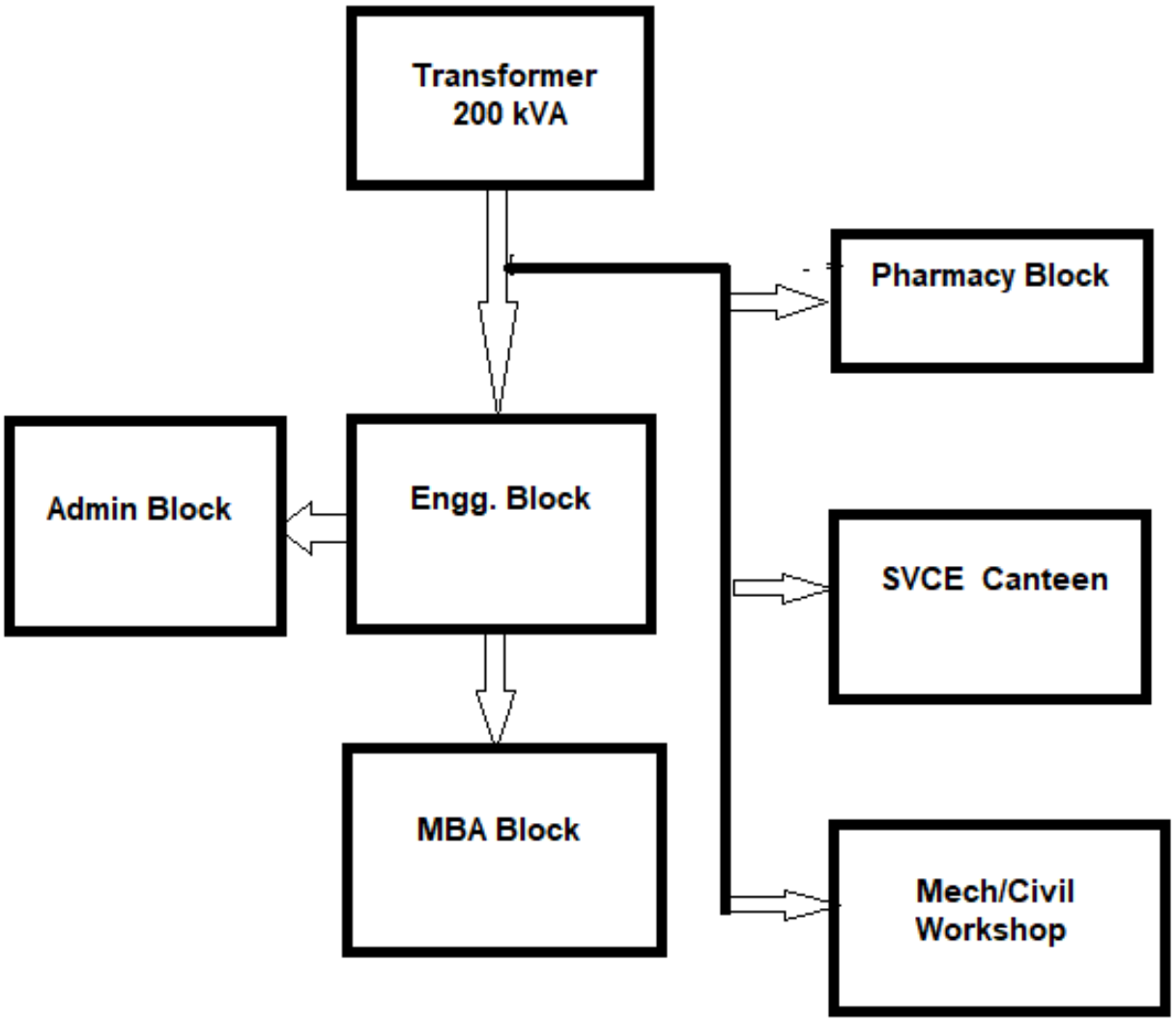

Fig. 2.4 Single Line Diagram of electricity supply in SVCE Campus

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CHAPTER- 3
ELECTRICITY BILL ANALYSIS

3.1 Monthly Electrical Energy Consumption 2022-23

Table 3.1 Energy consumption and billing amount (year 2022-23)

Sr. No.	Month & Year	Total Unit Consumption (kWh)	Total Amount (Rs.)	Per Unit Charges (Rs./kWh)
1	Aug-22	6237	105980	16.99
2	Sep-22	6432	103706	16.12
3	Oct-22	5963	97198	16.30
4	Nov-22	1863	59177	31.76
5	Dec-22	1826	60082	32.90
6	Jan-23	835	71742	85.92
7	Feb-23	794	84046	105.85
8	Mar-23	2184	84415	38.65
9	Apr-23	4871	88766	18.22
10	May-23	6245	103243	16.53
11	Jun-23	6560	111944	17.06
12	Jul-23	7047	118723	16.85
13	Aug-23	6797	122999	18.10
Total Unit		**57,654**	**12,12,021/-**	**Avg Rs. 21/-**

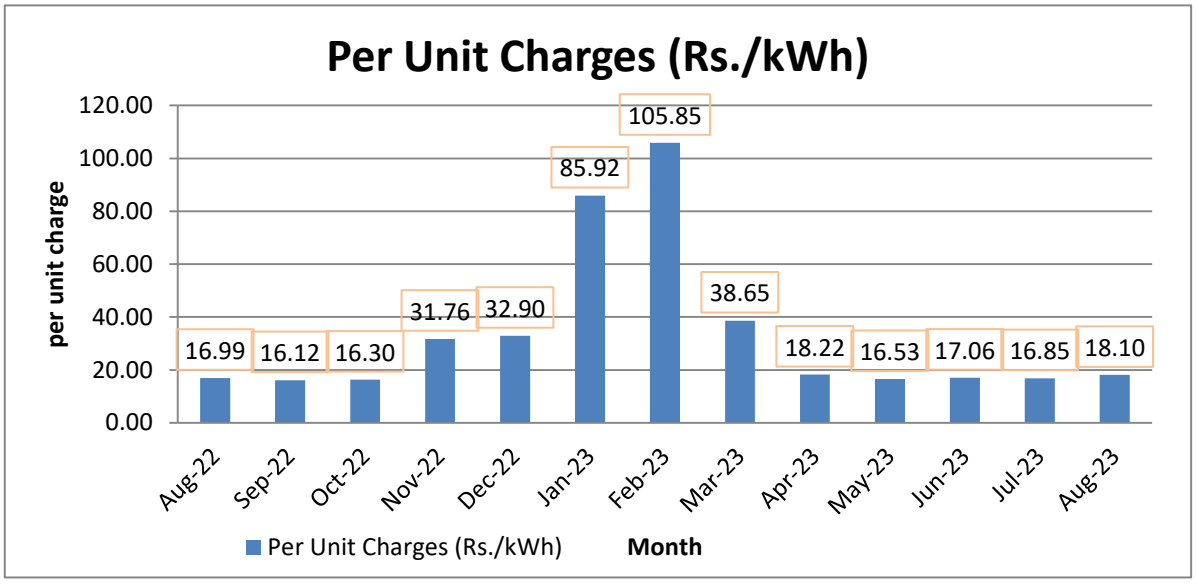

Figure 3.1:- Graphical presentation of actual per-unit charges for the year 2022-23

Observation:

The overall per unit charge is Rs 21/ kWh.

3.2 Monthly Demand Analysis (2022-23): The monthly demand consumption for the institute is given in the table.3.2

Table 3.2:- Monthly demand analysis (KVA) consumption pattern year 2022-23

Sr. No.	Month & Year	Contract Demand (KVA)	Maximum Demand (KVA)	Billing Demand (KVA)
1	Aug-22	100	53	90
2	Sep-22	100	50	90
3	Oct-22	100	27	90
4	Nov-22	100	30	90
5	Dec-22	100	25	90
6	Jan-23	100	27	90
7	Feb-23	100	17	90
8	Mar-23	100	39	90
9	Apr-23	100	60	90
10	May-23	100	70	90
11	Jun-23	100	56	90
12	Jul-23	100	54	90
13	Aug-23	100	48	90
	Minimum Demand (KVA)		**17**	
	Maximum Demand (KVA)		**70**	
	Average Demand (KVA)		**43**	

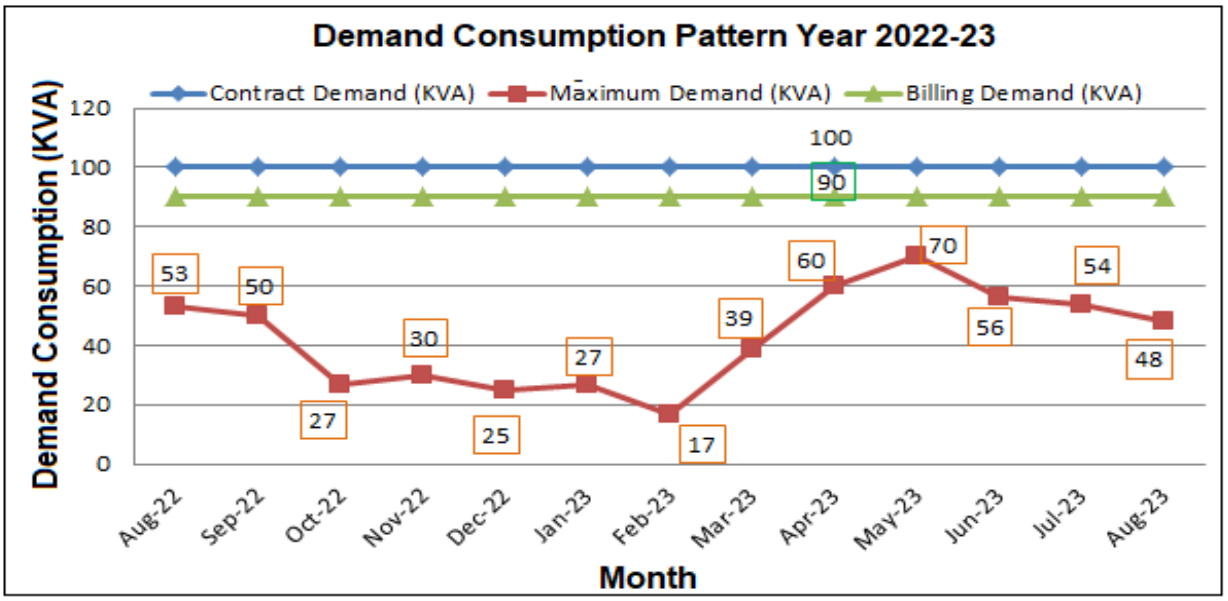

Figure 3.2:- Graphical presentation of demand consumption in the college year 2022-23

Observation: There are maximum demand **70 kVA** & minimum demand 17 **KVA** in the Month of May-23 & Feb-23 respectively**.**

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3.3 Average Monthly Power Factor Analysis Year-2022-23: The monthly power Factor of the Institute is given in the following table. 3.3

Table 3.3:- Average Power Factor Analysis of the Institute year 2022-23

Sr. No.	Month & Year	Average Power Factor	PF Incentive loss @7% of Energy Charges (Rs.)	PF Penalty (Rs.)
1	Aug-22	0.79	3223	7931
2	Sep-22	0.84	3323	3368
3	Oct-22	0.83	3081	4068
4	Nov-22	0.81	963	1836
5	Dec-22	0.77	944	2907
6	Jan-23	0.73	432	1870
7	Feb-23	0.76	411	1410
8	Mar-23	0.77	1129	3541
9	Apr-23	0.87	2546	1141
10	May-23	0.87	3293	1482
11	Jun-23	0.82	3458	5891
12	Jul-23	0.78	3715	10704
13	Aug-23	0.62	3583	18478
	Average	**0.79**	**30,101/-**	**64,623/-**

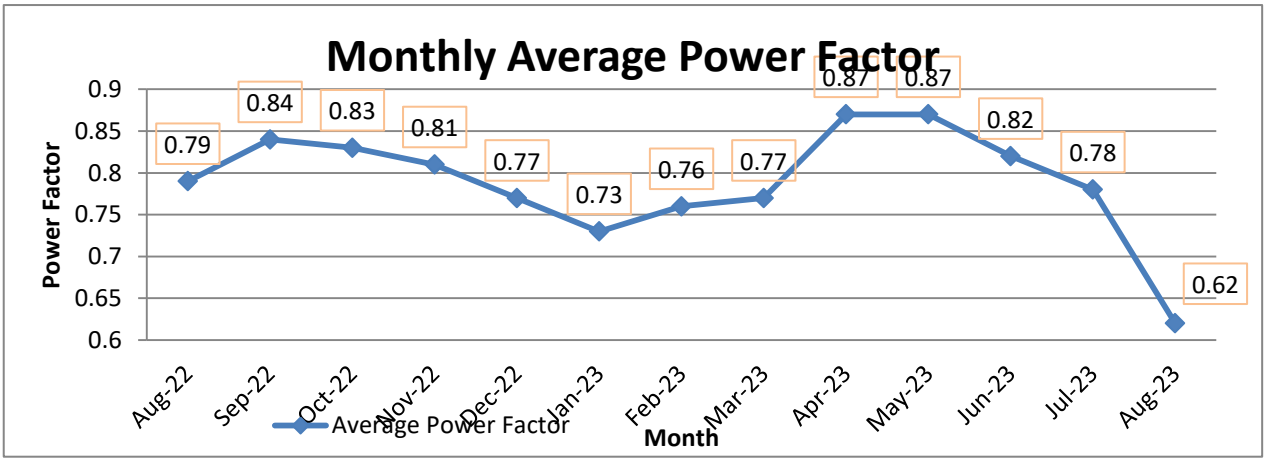

Figure 3.3:- Graphical presentation of average power Factor year 2022-23

Observation: The average power Factor from Aug-22 to Aug-23 is **0.79** & Power Factor Incentive loss is 7% of energy billing amount around **Rs. 30,101/-** for the year 2022-23. Due to low Power Factor **(0.62)** in the month of Aug-23 MPPKVVCL charge the penalty **Rs. 18,477/- &** in last one year institute paid the total penalty for low Power Factor is **Rs. 64,623/- - There is good potential (Rs. 94,724/-) to convert this loss into saving.**

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Recommendation:

- There is requirement of APFC panel to correct the low power Factor, observed that Capacitor banks are not present in control panel room.

- APFC (Automatic Power Factor Controller) panel correct the low Power Factor, due to low Power factor MPPKVVCL charge the penalty per month, APFC panel improve the power Factor & we can gain the PF Incentive per month up to 7% of energy bill charges.

3.4 On Site Power Measurement in Institute

Table 3.4 Power measurement details

Sr. No.	Location	Voltage (V)	Current (I)	Power Factor	Input Power (KW)
1	Transformer	411	49.6	0.85	30
2	Water Pump	420	15.2	0.84	3.7
3	Engg. Block	423	35	0.86	22
4	Admin Block	410	24	0.79	14
5	MBA Block	409	4	0.78	2
6	Canteen	230	5	0.72	1

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3.5 Monthly Load Factor Analysis Year-2022-23: The monthly load factor for the Institute is given in the following table. 3.4

Table 3.5 Load Factor of the Institute year 2022-23

Sr. No.	Month& Year	Avg. Load Factor (%)
1	Aug-22	9
2	Sep-22	9
3	Oct-22	9
4	Nov-22	2
5	Dec-22	2
6	Jan-23	1
7	Feb-23	1
8	Mar-23	3
9	Apr-23	7
10	May-23	9
11	Jun-23	9
12	Jul-23	10
13	Aug-23	9
	Maximum Load Factor	**10 %**
	Average Load Factor	**6.14 %**

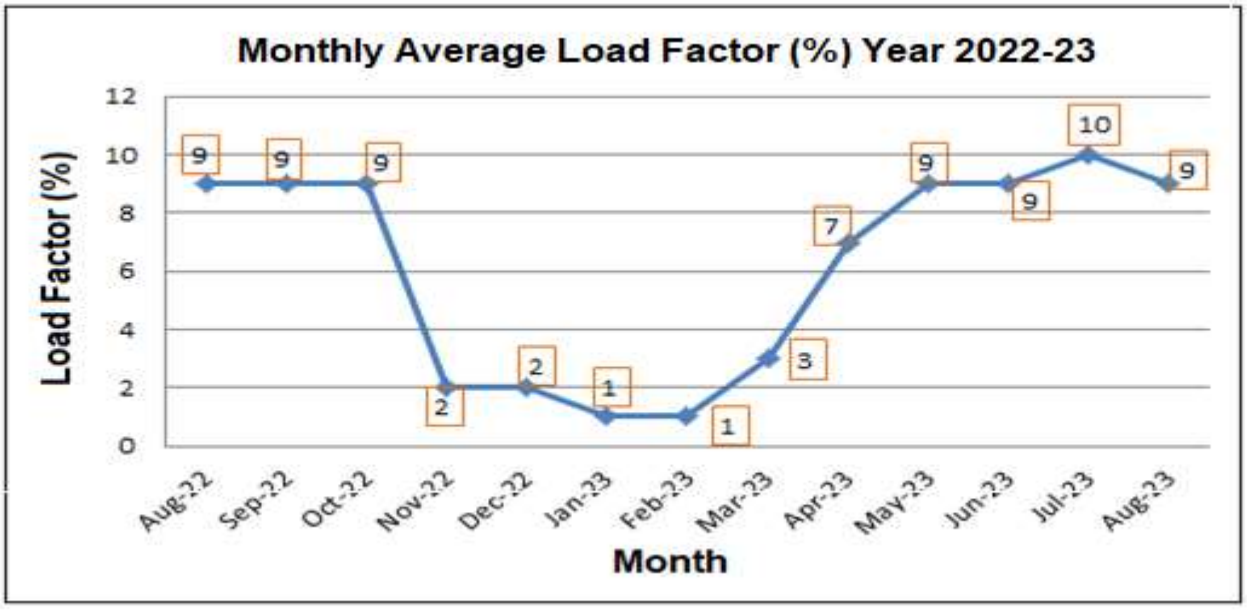

Figure 3.4:- Monthly Average Load Factor of the institute Year 2022-23

Observation:

The average Load factor was 6.04 for the year 2022-23 of the institute. **It's good.**

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3.6 Solar power generation percentage in year 2022-23

Table 3.6 Grid consumption & solar power generation details

Sr. No.	Month & Year	Grid Consumed unit	Solar power Export unit	Solar power Generation Unit
1	Aug-22	6237	410	1034
2	Sep-22	6432	0	879
3	Oct-22	5963	1311	1986
4	Nov-22	1863	1802	2145
5	Dec-22	1826	1430	1847
6	Jan-23	835	2054	2231
7	Feb-23	794	2076	2142
8	Mar-23	2184	1372	1784
9	Apr-23	4871	1204	1648
10	May-23	6245	762	1435
11	Jun-23	6560	668	1764
12	Jul-23	7047	135	1867
13	Aug-23	6797	175	1245
		57654	**13399**	**22007**

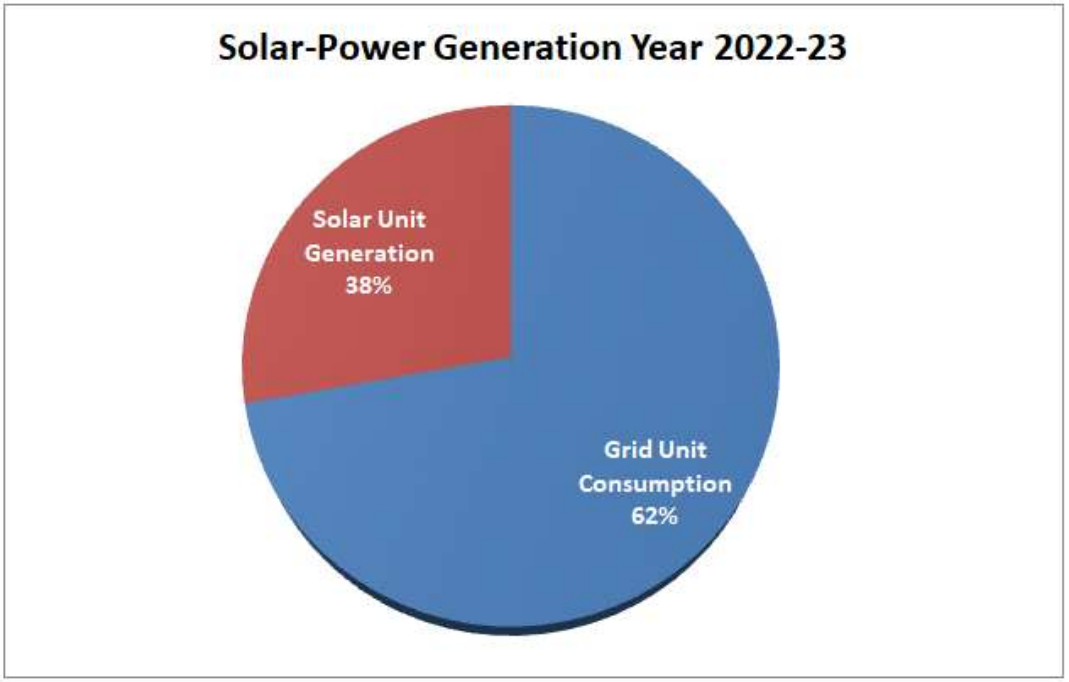

Figure 3.5:- Solar Power Generation percentage in Year 2022-23

Observation: It observe that college self-generated around 38% power by solar system-**Its appreciable**

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Chapter-4
CONNECTED LOAD

4.1 Engg. Block Ground Floor

Sr. No.	Location	Fan	Tube light (36W)	CFL Bulb	Projector	AC	Computer	Printer	LED Light (12W)	Cooler	Wall Fan
1	Room No. 101	2	2	6		1	-	-	2		
2	Principal Cabin RN 102	2	-	6		1	1	1			
3	Vice Principal RN 103	2	-	5		1	4		-		3
4	Exam Control Room 104	5	2	5			5	1		1	
5	Room No. 105	6	2		1						
6	Room No. 106	6	2								
7	Room No. 107	6	2								
8	Room No. 108	6	3								
9	Room No. 109	6	3								
10	Room No. 110	5	3								
11	Room No. 111	9	6								
12	Room No. 112	6	2								
13	Room No. 113	2	1								
14	Room No. 114	2	1								
15	Room No. 115	6	3								
16	Room No. 116	6	4								
17	Room No. 117	6	6								
18	Diploma Exam Control 118	2	1				2	1			
19	Room No. 119	4	3								
20	Room No. 120	4	3								
21	Computer Lab 121	12	4		2		60				
Total		**105**	**54**	**22**	**3**	**3**	**72**	**3**	**2**	**1**	**3**

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4.2 Engg. Block First Floor

Sr. No.	Location	Fan	Tube light (36W)	Tube light (40W)	Projector	AC	Computer	Printer	LED Light (12W)	Cooler	Wall Fan
1	Conference Room 201	4	2	-		2	4	2			
2	Room no. 202	2	2								
3	Room no. 203	4	2								
4	HOD Room no. 204	5	3				3	1		1	2
5	Room no. 205	6	3		1						
6	Room no. 206	6	2	1	1						
7	Room no. 207	6	3								
8	Room no. 208	6	3								
9	Room no. 209	5	3								
10	Room no. 210	5	3								
11	Computer Lab- 211	8	6		1		20				
12	Room no. 212	4	2								
13	HOD Room no. 213	4	4				2	1		1	
14	Room no. 215	6	3								
15	HOD Room no. 216	6	3				1	1		1	
16	FR9 & Seminar Hall-217	8	7		1	2	1		8		
17	Room no. 218 & 219 &220	18	8		1						
18	Computer Lab- 221	10	9		2		60				
19	Room no. 222 & 223	12	6								
20	Room no. 224	6	3								
TOTAL		131	77	1	7	4	91	5	8	3	2

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4.3 Engg. Block Second Floor

S.No.	Location	Fan	Tube Light (36W)	Tube Light (40W)	Projector	AC	Computer	Printer	LED Light 12W	Cooler	Exhaust Fan
1	Room no. 301	1	1								
2	Room no. 302	4	2								
3	Room no. 303	4	3								
4	Room no. 304	6	3								
5	Room no. 305	6	3								
6	Room no. 306	6	3		1						
7	Room no. 307	1	1								
8	Room no. 308	5	3								
9	Room no. 309	6	3								1
10	Room no. 310	5	3								
11	Room no. 311	4	2								
12	Room no. 312	4	4		1						
13	Room no. 313	4	4				1	1		1	
14	Room no. 315	6	3		1						
15	Room no. 316	4	4								
16	Room no. 317	6	3								
17	Room no. 318	4	3								
18	Room no. 319	6	4								
19	Room no. 320	6	3								
20	Room no. 321	7	3								
21	Room no. 322(A)	12	6								
22	Room no. 323	4	2								
23	Room no. 325	8	4								
Total		119	69	0	3	0	1	1	0	1	1

4.4 Admin Block

Sr. No.	Location	Fan	Freeze	Water Heater	Projector	AC	Computer	Printer	LED Light	Photocopy Machine	TV	CFL
1	Admin RM-1	1				1			1			
2	Wash Room	2							12			
3	Admin RM-2	1				1			7			
4	Wash Room								4			
5	Board Room-3	6			1	2						33
6	Wash Room	1							5			
7	Admin Corridor	2					2	1	7	1		33
8	Chairman office 201	2				1			12			36
9	Rest Room	1				1			4		1	12
10	Wash Room			1					2			6
11	Dinning RM	2	1	1		1			10		1	33
12	Guest Room	2		1		1						
13	Pantry	1							2			
14	RM-204	2				2			1			39
15	RM-206	3				1						60
16	RM-208	1		1		1					1	12
Total		27	1	4	1	12	2	1	67	1	3	264

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4.5 Admin Ground Floor

Sr. No.	Location	Fan	Tube Light	Exhaust Fan	Wall Fan	AC	Computer	Printer	LED Light	Photocopy Machine	TV	CFL
1	Library	37	35	1			62	1	9	1		30
2	T & P	1				1			3			
3	Sch Dept-101	8			1		3	1	8			6
4	Account Dept-102	3			1	2	4	2	16	1		9
5	Wash RM-103		1	1								
6	Wash RM-104		1	1								
5	Corridor	4							4			12
6	Admission Dept-105	6	1		1	3	3	3	6	1	1	21
7	Corridor	1	1	2	1				6			21
8	RM-101											
8	RM-102	3							6			
Total		63	39	5	4	6	72	7	58	3	1	99

4.6 MBA BLOCK

Sr. No.	Location	Fan	Exhaust Fan	Wall Fan	AC	Computer	Tube Light	LED Light	Photocopy Machine	TV	CFL
1	RM-101 TO RM-111	26					22				
2	RM-201 TO RM-211	22					20				
3	RM-301 TO RM-311	63					35				
Total		111					77				

4.6 Load Sharing Equipment

Total Connected electrical load 117.23 KW & share % of equipments.

Sr. No.	Equipment's Type	Unit Power (watt)	Quantity	Total Power (Watt)	Load share%
1	Tube light	36	317	11,412	9.73
2	Water Heater	1000	5	5,000	4.26
3	Projector	200	12	2,400	2.04
4	LED light	15	129	1,935	1.65
5	TV	150	4	600	0.51
6	Computer	75	238	17,850	15.22
7	Printer	250	17	4,250	3.62
8	A.C.	1500	25	37,500	31.98
9	Street light (LED)	240	4	960	0.81
10	Fridge	200	1	200	0.17
11	Wall fan	50	9	450	0.38
12	Fan	50	556	27,800	23.71
13	Exhaust Fan	60	7	420	0.35
14	CFL	15	408	6,120	5.22
15	Photo copy M/c	85	4	340	0.29
	Total			**1,17,237 W**	**100%**

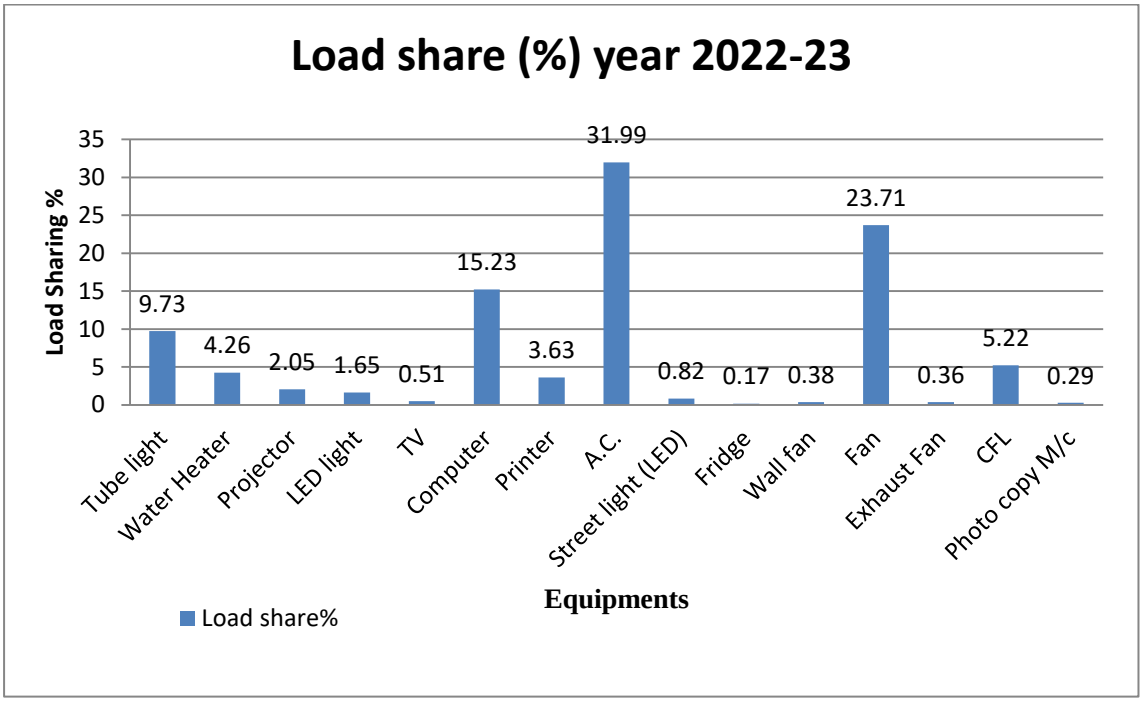

Figure 4.1:- Equipment loading Share % year-2022-23

Observation- The load sharing graph show the maximum load shared by AC (31.99 %), Fan (23.71%) & computers (15.23%).

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Fig. 4.2- 24 Hours 3-phase load recording by power analyzer LM-30

Fig. 4.3- Engg. Block 3-phase load recording by power analyzer LM-30

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4.7 Some Photographs of Electrical Equipment's

Figure 4.4 Electrical Equipments in college

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CHAPTER- 5
ENERGY CONSERVATION MEASURES

Case Study No. 1-Installation of capacitor bank to improve power factor

Sr. No.	Month & Year	Average Power Factor	PF Incentive loss@7% of energy charges (Rs.)	PF Surcharge (Rs.)
1	Aug-22	0.79	3223	7931
2	Sep-22	0.84	3323	3368
3	Oct-22	0.83	3081	4068
4	Nov-22	0.81	963	1836
5	Dec-22	0.77	944	2907
6	Jan-23	0.73	432	1870
7	Feb-23	0.76	411	1410
8	Mar-23	0.77	1129	3541
9	Apr-23	0.87	2546	1141
10	May-23	0.87	3293	1482
11	Jun-23	0.82	3458	5891
12	Jul-23	0.78	3715	10704
13	Aug-23	0.62	3583	18478
	Average	**0.79**	**30,101/-**	**64,623/-**

Observation- It is observed that due to low power factor grid charges penalty per month around **Rs. 64623/-** & good potential to convert PF incentive loss **Rs. 30,101/-** into saving. Total potential to save per year is **Rs.94, 724/-.**

PF saving calculation

- Existing power factor= 0.79
- Recommended power factor=0.998
- Recommended capacity of capacitor bank (Total Load) 100 KVA) =35 KVAr
- Recommended capacity of capacitor bank (MBA+ENGG+ADMIN Block) =25 KVAr
- Expected saving= 94,724/-
- Expected investment = 50,000/-
- Simple payback period= 6.5 months

Case Study No. 2

Replacement of 50W conventional ceiling Fans by 28W BLDC Energy efficient ceiling fans in phase manner.

Sr. No	Item	Parameter	Unit
1	Rated Power of Ceiling Fan	50	Watt
2	No. of Fan	556	Nos
3	Working Hrs./Day	8	Hrs./Day
4	Working Days/Year	250	Days/Year
5	Energy Efficient BLDC Fan Rated power	28	Watt
6	Energy Saving Potential	24,464	kWh/Year
7	Load Factor	0.8	%
8	Expected Annual Energy Saving	19,571	kWh/Year
9	Per Unit Charges	7.38	Rs/kWh
10	Expected Money Saving	1,44,433	Rs./Year
11	Cost of New Celling Fan	2,000	Rs./Pices
12	Investment on New Fan Purchasing	11,12,000	Rs.
13	Maintenance Investment@2%	22,240	Rs.
14	Total Investment	11,34,240	Rs.
15	Simple Pay Back Period	7.8	Year

Total Calculated Monetary Saving Potential in Celling Fan replacement is

= Rs 1, 44,433/year

Note:- Energy savings depend on the operation hour per day and the load factor of thesystems.

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Case Study No. 2

Replacement of 36W conventional Tube Light by 15W LED bulb.

Sr. No	Item	Parameter	Unit
1	Rated Power of conventional Tube Light	36	Watt
2	No. of Tube Light	317	Nos
3	Working Hrs./Day	5	Hrs./Day
4	Working Days/Year	250	Days/Year
5	Energy Efficient LED Rated power	15	Watt
6	Energy Saving Potential	8,321	kWh/Year
7	Load Factor	0.8	%
8	Expected Annual Energy Saving	66657	kWh/Year
9	Per Unit Charges	7.38	Rs/kWh
10	Expected Money Saving	49,128	Rs./Year
11	Cost of New LED Bulb	80	Rs./Pices
12	Investment on New LED Purchasing	25,360	Rs.
13	Maintenance Investment	0	Rs.
14	Total Investment	25,360	Rs.
15	Simple Pay Back Period	5	Month

Observation- Total 317 conventional tube lights connected in institute campus of 36 W. In which 80% tube lights count in working at a time & 20% tube light count as a stand by load, so load factor consider 0.8 % on this basis expected annual energy saving is 8,321 kWh/year.

Grid charge per unit Rs. 7.38/- so expected yearly saving is Rs 49,128/-. Unit price of LED bulb is Rs. 80/- on this basis Rs.25,360/- investment to replace conventional tube lights .

This investment payback period is only 5 months

Total Calculated Monetary Saving Potential in Tube Light replacement = Rs 49,128/year-

Note:- Energy savings depend on the operation hour per day and the load factor of the Systems

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Case Study No. 3

Replacement of 15W conventional CFL by 9W LED bulb.

Sr. No	Item	Parameter	Unit
1	Rated Power of conventional CFL	15	Watt
2	No. of CFL	408	Nos
3	Working Hrs./Day	5	Hrs./Day
4	Working Days/Year	250	Days/Year
5	Energy Efficient LED Rated power	9	Watt
6	Energy Saving Potential	3060	kWh/Year
7	Load Factor	0.8	%
8	Expected Annual Energy Saving	2448	kWh/Year
9	Per Unit Charges	7.83	Rs/kWh
10	Expected Money Saving	19,167	Rs./Year
11	Cost of New LED Bulb	80	Rs./Pices
12	Investment on New LED Purchasing	32,640	Rs.
13	Maintenance Investment	0	Rs.
14	Total Investment	32,640	Rs.
15	Simple Pay Back Period	1.7	year

Observation- Total 136 conventional CFL connected in institute campus of 15 W. In which 80% CFL count in working at a time & 20% CFL count as a stand by load, so load factor consider 0.8 % on this basis expected annual energy saving is 3060 kWh/year.

Grid charge per unit Rs. 7.83/- so expected yearly saving is Rs 19,167/-. Unit price of LED bulb is Rs. 80/- on this basis Rs.32, 640/- investment to replace conventional CFL .
This investment payback period is only 1.7 years

Total Calculated Monetary Saving Potential yearly in CFL replacement = Rs 19,167/-

Note:- Energy savings depend on the operation hour per day and the load factor of the Systems

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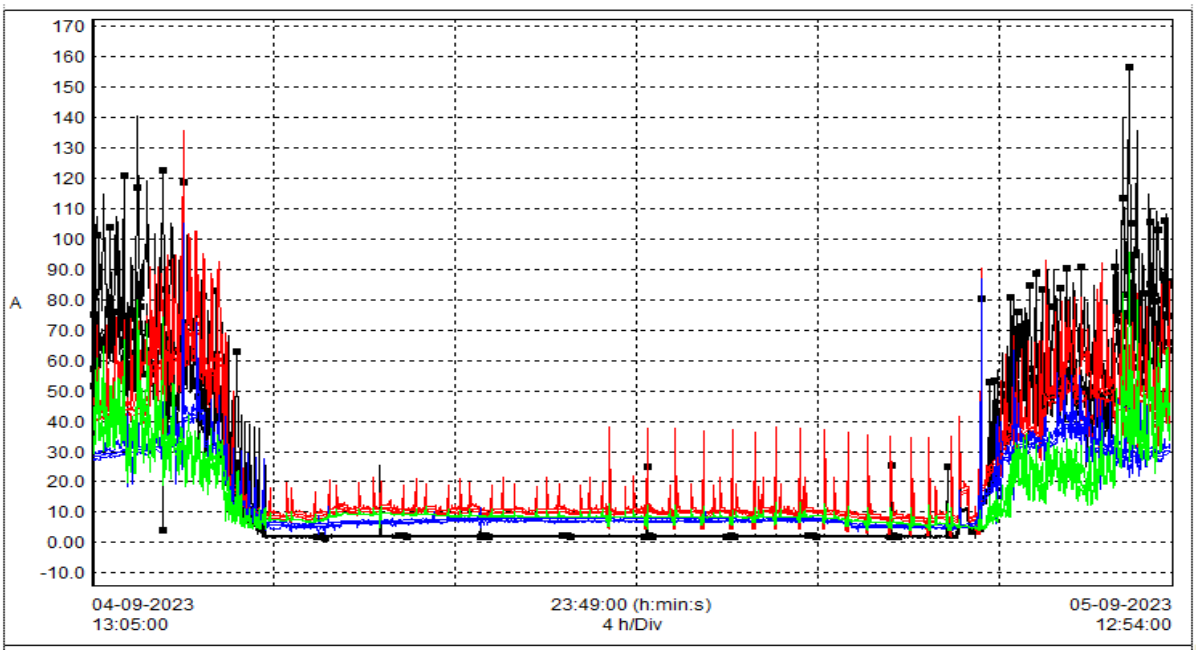
Case Study No. 4-

Load sharing current recorded by LM-30 Power Analyzer

Name	Date	Time	AVG	MIN	MAX	Units	Duration	Units
A1 rms	04-09-2023	13:05:00	31.19	1.330	156.8	A	23:50:00	(h:min:s)
A2 rms	04-09-2023	13:05:00	27.15	2.090	135.9	A	23:50:00	(h:min:s)
A3 rms	04-09-2023	13:05:00	18.21	2.750	105.3	A	23:50:00	(h:min:s)
AN rms	04-09-2023	13:05:00	18.06	3.960	95.71	A	23:50:00	(h:min:s)



Observation- It is observing that 3-phase current recorded as R-Phase Maximum 156 A & Average 31 A, Y-Phase Maximum 135 A & Average 27 A & B-Phase Maximum 95 A & Average 18 A. It is also observe that the Neutral current recorded about 18 A due unbalance condition in 3-phase.

Unbalance current sharing increase the connected devices heat may be over heated & lamination fails.

Recommendation: Maintenance required balancing the 3-phase load sharing. Unbalance Load sharing also increase the energy meter reading. Proper Ground Earthing required

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Case Study No. 5

Solar power generation yearly & expected saving

Sr. No.	Month & Year	Grid Consumption	Solar Generation Export (kWh)	Grid Energy Charge (Rs.)	Total Charge (Rs.)	Solar Export Saving (Rs.)	Billing Charge (Rs.)
1	Aug-22	6237	410	7.38	49054.86	3025.8	46029.06
2	Sep-22	6432	0	7.38	47468.16	0	47468.16
3	Oct-22	5963	1311	7.38	53682.12	9675.18	44006.94
4	Nov-22	1863	1802	7.38	27047.7	13298.76	13748.94
5	Dec-22	1826	1430	7.38	24029.28	10553.4	13475.88
6	Jan-23	835	2054	7.38	21320.82	15158.52	6162.3
7	Feb-23	794	2076	7.38	21180.6	15320.88	5859.72
8	Mar-23	2184	1372	7.38	26243.28	10125.36	16117.92
9	Apr-23	4871	1204	7.53	45744.75	9066.12	36678.63
10	May-23	6245	762	7.53	52762.71	5737.86	47024.85
11	Jun-23	6560	668	7.53	54426.84	5030.04	49396.8
12	Jul-23	7047	135	7.53	54080.46	1016.55	53063.91
13	Aug-23	6797	175	7.53	52499.16	1317.75	51181.41
Total		**57,654**	**13399**		**5,29,540**	**9,9,326**	**4,30,214**

- Total electricity consumption from Grid (Aug-22 to Aug-23) is 57,654 units on this consumption electricity charge paid Rs. 5, 29,540/- . The Solar energy export to grid is 13399 units and save the amount Rs. 9, 9,326/-
- Two 25 KWp Solar system units installed on Institute Roof Top.
- 1 KWp Solar system can generate around 3.5 Units/day
- 25 KWp Solar system can generate around 87 Units/day
- 2 Units of 25-25 KWp solar system should generate 174 Units/day
- Expected annual solar unit loss 63,510 Units/year.

Recommendation:

- 25-25 KWp Solar system required maintenance
- Solar Power Saving **Rs. 99326/-** may increase maximum up to **Rs. 531360/-** per year

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Fig. 5.1 Transformer & MBA block power measurement

Fig. 5.2 Admin block power measurement

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Case Study No. 6

Energy saving potential to replace conventional water pump by energy efficient star rated pump

Sr. No.	Location	Voltage (V)	Current (I)	Power Factor	Input Power KW	Working Hours	Energy KWh/day	Power consumed/ month KWh
1	Water Pump (Ground)	420	15.2	0.84	3.7	5	18.5	462.5

Fig. 5.3 Water Pump

Observation: It is noted that the 5 HP motor used to supply the water in Engg. Block, MBA block & canteen in 5 hours running motor consumed the 18.5 KWh/day, means 18.5 units/day.

College working days count 250 days per year than annual energy consumption 4625 units.

Recommendation: It is recommended that the old motor pump replaced by energy efficient star rated motor good scope to save power.

Expected annual energy saving @ 25% of annual energy consumption units.

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Fig.- 5.4 - 25 KWp PV Power Tech Solar Panels Installation

Fig.-5.5 25 KWp PV Renewsys Solar Panels Installation

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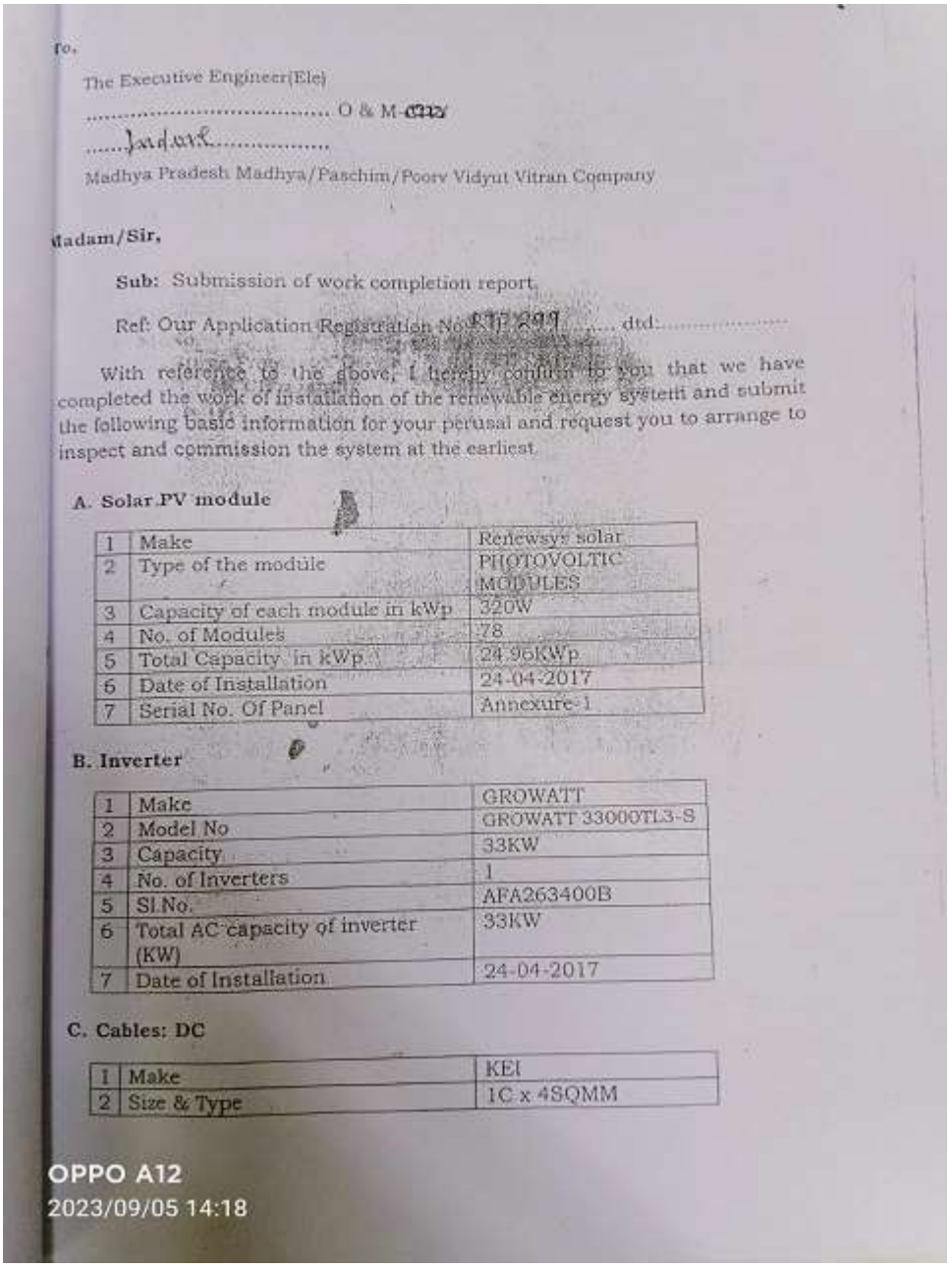
Annexture-01 Purchase Order & work completion of Solar System



To,

The Executive Engineer(Ele)

..... O & M-

.....Indore.....

Madhya Pradesh Madhya/Paschim/Poorv Vidyut Vitran Company

Madam/Sir,

Sub: Submission of work completion report.

Ref: Our Application Registration No. ..... dtd:.....

With reference to the above, I hereby confirm to you that we have completed the work of installation of the renewable energy system and submit the following basic information for your perusal and request you to arrange to inspect and commission the system at the earliest.

A. Solar PV module

1	Make	Renewsys solar
2	Type of the module	PHOTOVOLTIC MODULES
3	Capacity of each module in kWp	320W
4	No. of Modules	78
5	Total Capacity in kWp	24.96kWp
6	Date of Installation	24-04-2017
7	Serial No. Of Panel	Annexure-1

B. Inverter

1	Make	GROWATT
2	Model No	GROWATT 33000TL3-S
3	Capacity	33KW
4	No. of Inverters	1
5	Sl.No.	AFA263400B
6	Total AC capacity of inverter (KW)	33KW
7	Date of Installation	24-04-2017

C. Cables: DC

1	Make	KEI
2	Size & Type	1C x 4SQMM

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END OF THE REPORT

THANKS

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3. Clean and Green Campus Initiatives

A. Clean Campus Initiatives

a) Clean Campus Drive: Under the Clean Campus Drive (Cleanliness Drive**)** as part of the Swachh Bharat Abhiyan initiative, Swami Vivekanand College of Engineering is dedicated to fostering a culture of cleanliness and environmental stewardship within its campus community. This drive encompasses various activities aimed at promoting cleanliness, raising awareness, and instilling a sense of responsibility among students, faculty, and staff towards maintaining a pristine campus environment.

List of Cleanliness Drive

S.NO.	Date	Event Description
1	05/06/2023	Cleanliness Drive by NCC Girls Cadets
2	16/06/2022	Cleanliness Drive B.Tech students
3	21/02/2020	Cleanliness Drive by Mechanical Engineering Department
4	02/10/2019	Cleanliness Drive on Gandhi Jayanti

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Notice Cleanliness Drive on 05/06/2023

Swami Vivekanand College of Engineering

(Approved by: AICTE, New Delhi ● Affiliated to RGPV, Bhopal and DAVV, Indore● Recognised by : DTE Govt. of MP)
Campus : Khandwa Road, Near Old Toll Naka, Indore-452020 (M.P.) Phone : +91- 07324-405000
● Email : info@svceindore.ac.in ● Website : www.vivekanandgroup.com

Date:02/06/2023

Notice

Swami Vivekanand College of Engineering is organizing a Cleanliness Drive at the SVCE campus, led by the SVCE NCC Girls Cadets, to promote the message of a Clean and Green SVCE. All NCC Girls Cadets are required to be present near the admin block on 05/06/2023 at 11:00 AM to participate in this important event.

Mr. Vishal Wankhade

Event Coordinator

Principal

SVCE, Indore

CC:

1. Director, SVGI
2. Vice Principal
3. Administrative Officer
4. All Concerned Staff
5. Notice Board

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Swami Vivekanand College of Engineering, Indore

A Report

on

One Day

Cleanliness Drive

By NCC Girls Cadets

on

05/06/2023

Academic Session 2022-23

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Report on Cleanliness Drive on 05/06/2023

Introduction:

On 05/06/2023 the NCC Girls Cadets of Swami Vivekanand College of Engineering organized a cleanliness drive under the Clean and Green Campus Initiative. This event was aimed at promoting environmental responsibility and maintaining a sustainable and clean campus, in line with the nationwide Swachh Bharat Abhiyan.

Event Details:

Date: 05/06/2023

Venue: Swami Vivekanand College of Engineering Campus

Participants: NCC Girls Cadets

Objective:

To engage the college community in activities that promote cleanliness and environmental sustainability.

Activities:

Opening Remarks: The event commenced with an introduction by the NCC officer, who emphasized the importance of cleanliness and outlined the goals of the Clean and Green Campus Initiative.

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Campus Cleanup: Participants were organized into teams and assigned specific areas of the campus to clean. Armed with gloves, brooms, and garbage bags, they diligently picked up litter, swept pathways, and ensured that all parts of the campus were free of debris.

Conclusion:

The cleanliness drive organized by the NCC Girls Cadets of Swami Vivekanand College of Engineering was a significant success. It not only enhanced the campus environment but also instilled the values of cleanliness and sustainability among the participants. This event demonstrated the power of collective action in achieving environmental goals and set a positive example for future initiatives under the Clean and Green Campus Initiative. The commitment and dedication of the NCC Girls Cadets in organizing this drive were commendable, and their efforts have set a high standard for environmental stewardship within the college community.

Mr. Vishal Wankhade

Faculty In charge NCC

SVCE, Indore

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Photograph of Cleanliness Drive

Photograph of Cleanliness Drive

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Photograph of Cleanliness Drive

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KHANDWA ROAD, INDORE

Attendance Sheet

Attendance In House Cleanliness Drive by NCC Cadets on 05/06/2023

S.No	Name of Student	Branch	Year	Signature
1.	Anuradha Rajpale	IT-1	1st	
2.	Kirti Rathore	IT-1	1st	
3.	Payal Kinkar	IT-2	1st	
4>	Rekha Jaiswal	CS-2	1st	
5>	Chaitanya Thakur	CS-1	1st	
6)	Shreya Singh	CE	1st	
7)	Prena verma	CS	IInd	
8)	Khushi Yadav	IT-1	IInd	
9)	Pooja Yadav	CS-2	IInd	
10)	Ashi nandane	IT	IIIrd	
11)	Astha chaudhary	CS	Ist	
12)	nitya Tripathi	IT	IInd	
13)	vaishu patel	CS-3	Ist	
14)	Shivani chopra	CS-3	Ist	

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Notice Cleanliness Drive on 16/06/2022

Swami Vivekanand College of Engineering

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Campus : Khandwa Road, Near Old Toll Naka, Indore-452020 (M.P.) Phone : +91- 07324-405000
• Email : info@svceindore.ac.in • Website : www.vivekanandgroup.com

Date: 14/06/2022

Notice

Swami Vivekanand College of Engineering is pleased to announce a Cleanliness Drive under the Clean and Green Campus Initiative. All registered student volunteers are invited to join this important event, which will take place in front of the Admin Block on 16/06/2022 at 10:30 AM.

Principal

SVCE,Indore

CC:

1. Director, SVGI
2. Vice Principal
3. Administrative Officer
4. All Concerned Staff
5. Notice Board

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Swami Vivekanand College of Engineering, Indore

A Report

on

One Day

Cleanliness Drive

on

16/06/2022

Academic Session 2021-22

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Report on Cleanliness Drive on 16/06/2022

Introduction:

On June 16, 2022, the B.Tech students of Swami Vivekanand College of Engineering organized a cleanliness drive under the Clean and Green Campus Initiative. This event was part of the college's ongoing efforts to promote environmental responsibility and maintain a sustainable and clean campus.

Event Details:

Date: June 16, 2022

Venue: Swami Vivekanand College of Engineering Campus

Participants: Students, faculty, and staff members

Objective:

To engage the college community in activities that promote environmental hygiene and sustainability.

Activities:

Opening Remarks: The event began with a brief introduction by a faculty member, who emphasized the importance of cleanliness and the goals of the Clean and Green Campus Initiative.

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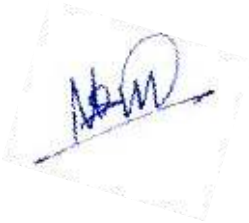
Campus Cleanup: Participants were divided into groups and assigned specific areas of the campus to clean. Armed with cleaning supplies, they picked up litter, swept walkways, and ensured that all parts of the campus were free of debris.

Conclusion:

The cleanliness drive organized by the B.Tech students of Swami Vivekanand College of Engineering was a resounding success. It not only enhanced the campus environment but also promoted the values of cleanliness and sustainability among the participants. This event demonstrated the power of collective action in achieving environmental goals and set a positive example for future initiatives under the Clean and Green Campus Initiative.



Dr Manik Welankar

Event Coordinator

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Photograph of Cleanliness Drive

Photograph of Cleanliness Drive

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KHANDWA ROAD, INDORE

Attendance Sheet Cleanliness Drive on 16/06/2022

S.No	Name of Student	Roll No	Branch	Signature
1.	Ritika Jaiswal	0822CS231148	CS-2	Ritika
2.	Shumika Tripathi	0822IT231037	IT-1	Shumika
3.	Kirti Rathore	0822IT231060	IT-1	Rathore
4.	Payal Kinkar	0822IT231092	IT-2	Kinkar
5)	Chaitanya Thakur	0822CS231048	CS-1	
6)	Varsh Patel	0822CS231205	CS-3	
7)	Nitya Tripathi	0822IT221078	IT	Nitya
8)	Sastha Chaudhari	0822CS231003	CS-1	
9)	Shreya Singh	0822CE231015	CE	Shreya
10	Prena Verma	0822CS221131	CS-2	
11)	Pooja Yadav	0822CS221128	CS-2	Pooja
12)	Khushi yadav	0822IT22251	IT-1	Khushi
13)	Purva Mulatkar	0822ME211009	ME	Purva
14)	Vinit Khade	0822ME211042	ME	Vinit
15)	Priyanshu yadav	0822ME211008	ME	

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Notice Cleanliness Drive on 21/02/2020

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Campus : Khandwa Road, Near Old Toll Naka, Indore-452020 (M.P.) Phone : +91- 07324-405000
• Email : info@svceindore.ac.in • Website : www.vivekanandgroup.com

Date: 20/02/2020

Notice

The IV Year B.Tech students of the Mechanical Engineering Department at Swami Vivekanand College of Engineering are organizing a Cleanliness Drive on February 21, 2020, as part of the Clean and Green Campus Initiative. All student volunteers from IV Year B.Tech are invited to participate in this event, which will commence at 11:00 AM.

Principal

SVCE,Indore

CC:

1. Director, SVGI
2. Vice Principal
3. Administrative Officer
4. All Concerned Staff
5. Notice Board

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Swami Vivekanand College of Engineering, Indore

A Report

on

One Day

Cleanliness Drive

on

21/02/2020

Academic Session 2019-20

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Report on Cleanliness Drive on 21/02/2020

Introduction:

The Mechanical Engineering Department of Swami Vivekanand College of Engineering organized a cleanliness drive on February 21, 2020, as part of the Clean and Green Campus Initiative. This event aimed to promote environmental awareness and maintain a clean and sustainable campus environment.

Event Details:

Date: February 21, 2020

Venue: Swami Vivekanand College of Engineering Campus

Organized by: Mechanical Engineering Department

Participants: Students, faculty, and staff members

Objective:

To encourage students and staff to actively participate in maintaining a clean and green campus. This initiative aimed to foster a sense of responsibility towards the environment and to instill the values of cleanliness and sustainability within the campus community.

Activities:

Opening Remarks: The event began with a brief introduction by the Head of the Mechanical Engineering Department, highlighting the importance of cleanliness and the objectives of the drive.

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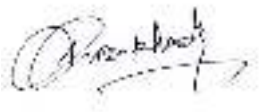
Campus Cleanup: Participants were divided into teams and assigned specific areas of the campus to clean. They picked up litter, swept pathways, and removed debris to ensure a tidy and pleasant environment.

Conclusion:

The cleanliness drive organized by the Mechanical Engineering Department of Swami Vivekanand College of Engineering was a resounding success. It not only improved the campus environment but also promoted the values of cleanliness and sustainability. The event demonstrated the power of collective action in achieving environmental goals and set a positive precedent for future initiatives under the Clean and Green Campus Initiative.



Mr. Vishal Wankhade
Event Coordinator

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Photograph Cleanliness Drive

Photograph Cleanliness Drive

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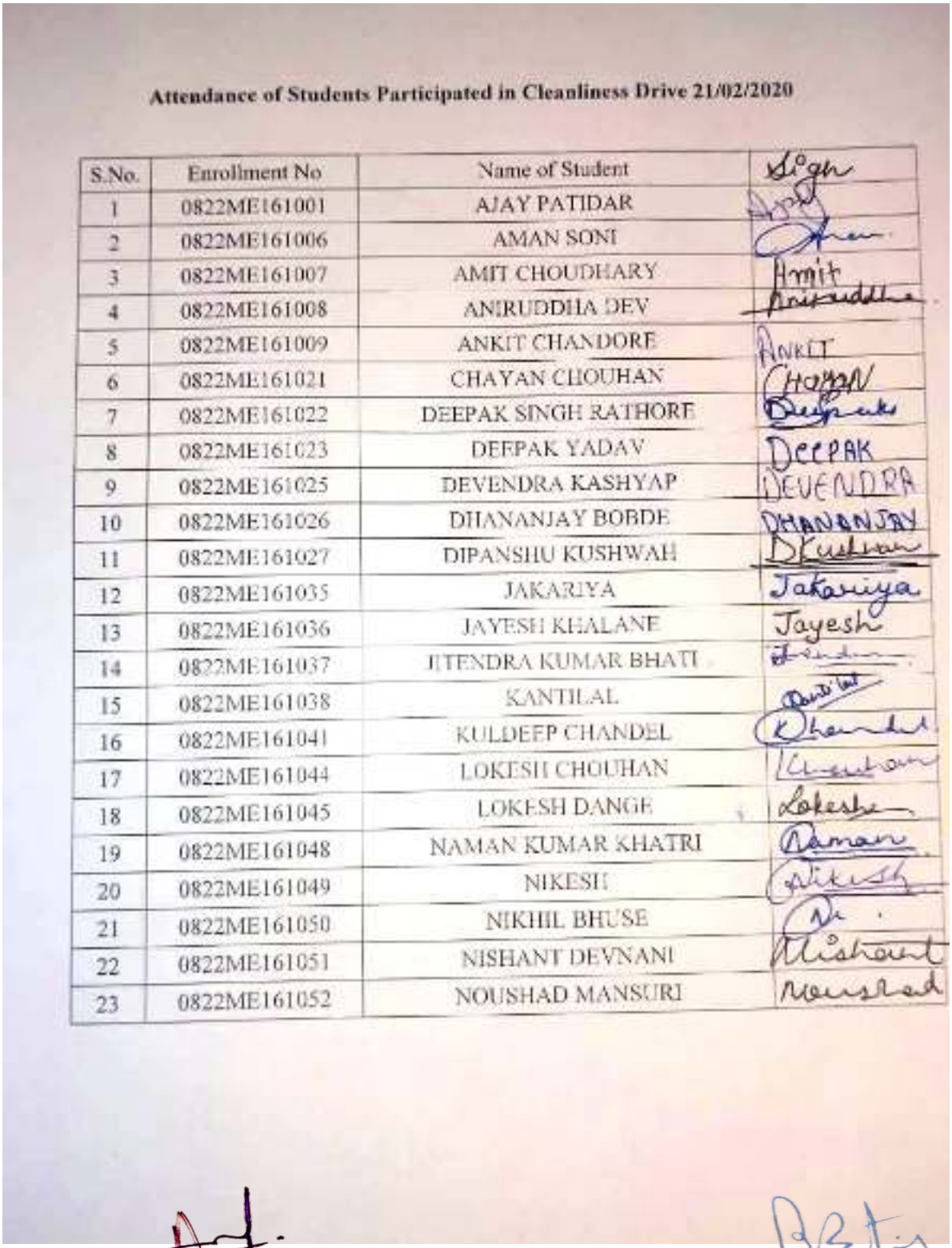
KHANDWA ROAD, INDORE

Attendance Sheet



Attendance of Students Participated in Cleanliness Drive 21/02/2020

S.No.	Enrollment No	Name of Student	Sign
1	0822ME161001	AJAY PATIDAR	
2	0822ME161006	AMAN SONI	
3	0822ME161007	AMIT CHOUDHARY	Amit
4	0822ME161008	ANIRUDDHA DEV	
5	0822ME161009	ANKIT CHANDORE	ANKIT
6	0822ME161021	CHAYAN CHOUHAN	
7	0822ME161022	DEEPAK SINGH RATHORE	
8	0822ME161023	DEEPAK YADAV	DEEPAK
9	0822ME161025	DEVENDRA KASHYAP	DEVENDRA
10	0822ME161026	DHANANJAY BOBDE	DHANANJAY
11	0822ME161027	DIPANSHU KUSHWAH	D Kushwah
12	0822ME161035	JAKARIYA	Jakariya
13	0822ME161036	JAYESH KHALANE	Jayesh
14	0822ME161037	JITENDRA KUMAR BHATI	
15	0822ME161038	KANTILAL	
16	0822ME161041	KULDEEP CHANDEL	
17	0822ME161044	LOKESH CHOUHAN	
18	0822ME161045	LOKESH DANGE	Lokesh
19	0822ME161048	NAMAN KUMAR KHATRI	Naman
20	0822ME161049	NIKESH	
21	0822ME161050	NIKHIL BHUSE	
22	0822ME161051	NISHANT DEVNANI	Nishant
23	0822ME161052	NOUSHAD MANSURI	Noushad

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KHANDWA ROAD, INDORE

PRINCIPAL
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Notice Cleanliness Drive 02/10/2019

Swami Vivekanand College of Engineering

(Approved by: AICTE, New Delhi • Affiliated to RGPV, Bhopal and DAVV, Indore• Recognised by : DTE Govt. of MP)
Campus : Khandwa Road, Near Old Toll Naka, Indore-452020 (M.P.) Phone : +91- 07324-405000
• Email : info@svceindore.ac.in • Website : www.vivekanandgroup.com

Date: 01/10/2019

Notice

Dear Students, Faculty Members, and Supporting Staff, We are excited to extend a heartfelt invitation to all of you for a special dual initiative on October 2, 2019. Join us for a Book Reading Activity featuring "Satya Ke Prayog" followed by a Swachchhta Abhiyaan (Cleanliness Drive) on the campus. This event is a tribute to the 'Father of the Nation,' Mahatma Gandhi, and aims to promote his teachings on truth and cleanliness. We look forward to your enthusiastic participation in honoring his legacy.

Director

Swami Vivekananda Group of Institutions

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Swami Vivekanand College of Engineering, Indore

A Report

on

One Day

Cleanliness Drive

on

02/10/2019

Academic Session 2019-20

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Report on Cleanliness Drive on 02/10/2019

Introduction:

On October 2, 2019, Swami Vivekananda Group of Institutions (SVGI) paid tribute to the 'Father of the Nation,' Mahatma Gandhi, by embracing some of his core teachings. In alignment with the nationwide Clean India Movement, all students and staff voluntarily participated in a Swachchhta Abhiyaan (Cleanliness Drive) on the SVGI campus.

Event Details:

Date: October 2, 2019

Venue: SVGI Campus

Participants: Students, faculty, and staff of SVGI

Objective:

To honor Mahatma Gandhi's legacy by promoting cleanliness and hygiene. The event aimed to raise awareness about the importance of maintaining a clean environment and to actively contribute to the Clean India Movement, also known as Swachh Bharat Abhiyan.

Activities:

Campus Cleanup: Participants were divided into groups and assigned specific areas of the campus to clean. Equipped with cleaning supplies, students, faculty, and staff worked together to pick up litter, sweep pathways, and ensure that all areas of the campus were spotless.

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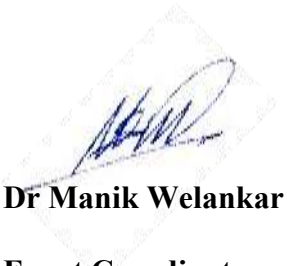
KHANDWA ROAD, INDORE

Waste Management: Special attention was given to proper waste segregation. Bins were provided for recyclable and non-recyclable waste, and participants were educated on the importance of recycling and reducing waste.

Conclusion:

The cleanliness drive at SVGI was a resounding success, reflecting the institution's commitment to Mahatma Gandhi's principles and the national Clean India Movement. By actively participating in the Swachchhta Abhiyaan, the students and staff of SVGI honored the legacy of Gandhi and took meaningful steps towards a cleaner, healthier environment. This event has set a positive example and laid the foundation for future initiatives aimed at environmental sustainability and community welfare.



Dr Manik Welankar

Event Coordinator

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COLLEGE OF ENGINEERING
KHANDWA ROAD, INDORE

PRINCIPAL
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COLLEGE OF ENGINEERING
KHANDWA ROAD, INDORE

Photograph Cleanliness Drive

Photograph Cleanliness Drive

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COLLEGE OF ENGINEERING
KHANDWA ROAD, INDORE

List of Faculty Present on 02/10/2019

1	PARIKSHIT JOSHI
2	ARNIKA SINGH
3	VIKAS JOSHI
4	SHARAD CHAURASIA
5	DOULAT SINGH LODHI
6	SANJAY SINGH
7	GOUTAM VARMA
8	VINO DGOUD
9	KAPIL KUSHWAH
10	VISHWAJEET
11	ANUBHA KOLLI
12	MAHESH PATIDAR
13	MEGHA GARG
14	SALONEE YADAV
15	ANSHUMAN NIMADE
16	AMIT SHRIVASTAVA
17	GARIMA KUMRAWAT
18	AARTI PATIDAR
19	RUCHI SAXENA
20	SALONI ATRE
21	VIJAY BIRCHHA
22	SURBHI PARNERKAR
23	SHIKHA SINGH
24	MOHIT RAIKWAR
25	AMBRISH SRIVASTAV
26	VISHAL SHARMA
27	SACHIN PATEL
28	PREETESH PUROHIT
29	AMRITA JAIN
30	P KUMAR CHOURE
31	GAURAV VERMA
32	KARISHMA MANDLOI
33	USHA SONI
34	JUHI NAGPAL
35	ANKUR MALHOTRA
36	PRIYANKA RAGHUWANSHI
37	HEMENDRA KHANDEKAR
38	NAMRATA JAIN
39	NIDHI KHURPIA
40	ANUBHAV VARSHNE
41	MANISHA GAUR
42	ASHISH SONI
43	MEGHA SONI
44	PIYUSH MOGHE
45	ROHIT YADAV
46	JAYESH DABI
47	KRIPA SHANKAR SINGH
48	JAGRATI TRIVEDI
49	RAVINDRA SHARMA
50	HEMANT VERMA
51	DEEPALI SOHANI
52	VIKAS JAIN
53	POOJA PATIDAR

54	MITESH BARGADIYA
55	DEEPMALA VERMA
56	RACHANA NAIK
57	CHANDRAMALA AMARJI
58	BHANU PRIYA
59	SAPNA PARMAR
60	BHUPENDRA SINGH SOLANKI
61	NILESH DASHORE
62	BRAJESH UPADHYAY
63	VINAY SINGH SENGAR
64	Dr. NAVIN VERMA
65	TRUPTI RATHOD
66	VASUNDHARA PANDEY
67	ASHISH SONI
68	MAMTA PAITHANKAR
69	KIRTI SINKHEDKAR
70	ANJALI BHATIA
71	NEHA VERMA
72	Dr. MANIK WELANKAR
73	RAINA PATEL
74	DRISHTI PATEL
75	ASHWINI SHARMA
76	SURESH SHARMA
77	SHWETA BAHRANI
78	SANDEEP BADLANI
79	RAHUL JOSHI
80	GEETA DWIVEDI
81	RAHUL NANDWAL
82	AMIT KUMAR KUNDU
83	PRIYANKA POTGHAN
84	ATUL DHAKAR
85	PRANJAL SHRIMALI
86	DURGA VERMA
87	ARVIND PATIDAR
88	BALDEV SINGH ARORA
89	VISHAL WANKHADE
90	AVINASH KUMAR NAMDEO
91	AMIT KESHEOREY
92	CHANCHAL SALODE
93	PRABODH BHISE
94	PUNIT MISHRA
95	MAYANK LADHA
96	MANOJ SHARMA
97	AJAY BHARGAVA
98	AMIT PANDEY
99	Dr. PRADEEP PATIL
100	RITESH TIWARI
101	SHAILENDRA PAWANR
102	RAJESH JOSHI
103	SHUBHAM SHAH
104	RUCHI JAIN
105	JUHI GANGELE

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KHANDWA ROAD, INDORE

b) Waste management Practices adopted by the Institute

In the college, there are 5 dustbins placed strategically across the campus for waste segregation. These dustbins are color-coded to indicate the type of waste they are meant for. The green dustbin is for paper waste, the blue dustbin is for glass waste, the yellow dustbin is for plastic waste, the red dustbin is for metal waste, and the black dustbin is for organic waste.

Additionally, there are 2 dustbins specifically for two types of waste segregation purposes from entire college. These dustbins are usually blue or green in color and are meant for collecting dry and wet waste.

The presence of these dustbins promotes waste segregation and recycling practices among students and faculty, contributing to a cleaner and more sustainable campus environment.

Five types of bin photograph

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Five types of bin photograph

Two bins photograph

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c) Processing of Kitchen Waste: Swami Vivekanand College of Engineering will implement a kitchen waste processing system to convert kitchen waste into compost. This initiative aims to minimize organic waste sent to landfills, reduce greenhouse gas emissions, and promote sustainable waste management practices.

Photograph of Kitchen Waste Processing Machine

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KHANDWA ROAD, INDORE

Bill of Kitchen Waste Processing Unit

TAX INVOICE

(DUPLICATE FOR TRANSPORTER)

Jaivam Food & Waste Projects Pvt. Ltd.
38-D, A.B. Road Industrial
Area No.1, Behind TATA Exports
Dewas (M.P.) 455001
GSTIN/UIN: 23AACCJ5882G1ZR
State Name : Madhya Pradesh, Code : 23
CIN: U29199MP2018PTC043019
E-Mail : jaivamprojects@gmail.com

Invoice No. JNUM/GST/19
e-Way Bill No.
Delivery Note
JNUM/DC/017/GST
Supplier's Ref.

Dated
27-Jun-2018
Mode/Terms of Payment
Advance
Other References(s)

Consignee
Swami Vivekanand College
Vivekanand Knowledge City,
Khandwa Road Indore-452020
State Name : Madhya Pradesh, Code : 23

Buyer's Order No.
PO No-493
Despatch Document No.
517726 Dated-27-06-18
Despatched through
Adroit Logistics
Bill of Lading/LR-RR No.
517726 dt. 27-Jun-2018

Dated
23-Oct-2017
Delivery Note Date
27-Jun-2018
Destination
Khandwa Road Indore
Motor Vehicle No.
MP 41 LA 1903

Terms of Delivery
Freight Too Pay

Buyer (if other than consignee)
Swami Vivekanand College
Vivekanand Knowledge City,
Khandwa Road Indore-452020
State Name : Madhya Pradesh, Code : 23

Sl No.	Description of Goods	HSN/SAC	Quantity	Rate	per	Amount
1	Composting Machine (JFM-1250C)	8479	1 No.	2,65,000.00	No.	2,65,000.00
	CGST					15,900.00
	SGST					15,900.00
	Total		1 No.			₹ 2,96,800.00 E & O.E

Received on Purchase Book Register Page
No. 1695
on dt. 06-07-18
Store Officer

Amount Chargeable (in words)
Indian Rupees Two Lakh Ninety Six Thousand Eight Hundred Only

HSN/SAC	Taxable Value	Central Tax Rate	Central Tax Amount	State Tax Rate	State Tax Amount	Total Tax Amount
8479	2,65,000.00	6%	15,900.00	6%	15,900.00	31,800.00
	Total 2,65,000.00		15,900.00		15,900.00	31,800.00

Tax Amount (in words) Indian Rupees Thirty One Thousand Eight Hundred Only

Company's PAN AACCJ5882G

Declaration
We declare that this invoice shows the actual price of the goods described and that all particulars are true and correct.

for Jaivam Food & Waste Projects Pvt. Ltd.

JAIVAM FOOD & WASTE PROJECTS PVT. LTD. INDORE

SUBJECT TO INDORE JURISDICTION

This is a Computer Generated Invoice

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KHANDWA ROAD, INDORE

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KHANDWA ROAD, INDORE

B.Green Campus Initiatives

Swami Vivekanand College of Engineering is actively engaged in green campus initiatives aimed at promoting sustainability and environmental awareness. SVCE conducts green and environment audits to assess practices and identify areas for improvement. SVCE organizes plantation drives to increase greenery and biodiversity on campus, contributing to a healthier environment. SVCE includes innovative technologies like QR scan codes to provide accessible information about the diverse range of trees and plants within the campus, fostering greater awareness and appreciation for the natural environment. SVCE applied Clean and Green SVCE Posters Implementing the "Clean and Green SVCE" slogan on the walls to promote the clean and green campus initiative will significantly impact the mindset of both students and faculties.

List of Plants and Trees in Year 2022-23

Sr. no.	Category	Botanical And FamilyName	Quantity
1	Herbals	TULSHI, ALOVERA,PIPAL, NEEM, HIBUSCUS, LAGUNDI, FICUSMICROCORPA, ACALYPHA, MANGIFERA	55
2	Fruits	MANGO,GUAVA,ALMONDS,PAPAYA,ZIZIPHUS,TAMARIND, RUBUSCOCKBURNIANUS	40
3	Decorations	CHAMELI , COPPER LEAF , ARABIAN JASMINE , PALMTREE , INDONESIAN BAY , AGONUS , SONG OF INDIA ,SAGO PLANT , ROSE , CABBAGE PALMS , HARIPRIYA ,LAPORTEA	150
4	Others	CASSIA DIDYMOBOTRYA , TANG -GWA WHITE, FIREBUSH , e FLORA , RHODO DENDRON ,BOUGAINVILLEA , PREMNA SERRATIFOLIA , CREEPER ,IXORA , MELICOPE RUBRA , CANNA TUERCKHEIMIL ,RANGOON CREEPER, SPERRY, SPATHODEACAMPANULATA, TECOMA, BLACK BOARD TREE, AGAVE, ARBORVITAE, SIDEROXLOY, BOUGAINVILLEAGLABRA	100
	Total		**345**

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KHANDWA ROAD, INDORE

a) Plantation Drive

Notice Plantation Drive on 08/06/2023

Swami Vivekanand College of Engineering

(Approved by: AICTE, New Delhi • Affiliated to RGPV, Bhopal and DAVV, Indore• Recognised by : DTE Govt. of MP)
Campus : Khandwa Road, Near Old Toll Naka, Indore-452020 (M.P.) Phone : +91- 07324-405000
• Email : info@svceindore.ac.in • Website : www.vivekanandgroup.com

Date: 05/06/2023

Notice

Swami Vivekanand College of Engineering is organizing a Plantation Drive in the college campus on 08th June 2023 from 11:00 AM onwards. All students and staff are cordially invited to participate in this event.

Principal

SVCE Indore

CC:

1. Director, SVGIs
2. Vice Principal
3. Administrative Officer
4. Notice Board

IQAC COORDINATOR
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Swami Vivekanand College of Engineering, Indore

A Report

on

Plantation Drive

on

08/06/2023

Academic Session 2022-23

IQAC COORDINATOR
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KHANDWA ROAD, INDORE

Report on Plantation Drive on 08/06/2023

Introduction:

On 8th June 2023, a plantation drive was organized to promote environmental conservation and sustainability. The drive aimed to raise awareness about the importance of trees in mitigating climate change and enhancing biodiversity.

Event Details:

Date: 8th June 2023

Location:Indore

Organised by: Swami Vivekanand College of Engineering

Type of Program: Planation

Objective:

To contribute to environmental conservation efforts and promote a greener, healthier environment.

Activities:

During the plantation drive, participants planted saplings of native tree species. They were provided with information about the benefits of each species and how their planting would contribute to the local ecosystem. Participants also took part in a brief orientation session on the importance of trees in combating climate change.

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KHANDWA ROAD, INDORE

Conclusion:

In conclusion, the plantation drive on 8th June 2023 was a successful initiative that contributed to environmental conservation and community engagement. Such drives play a crucial role in promoting environmental stewardship and building a sustainable future.

Mr. Vishal Wankhade

Event Coordinator

IQAC COORDINATOR
SWAMI VIVEKANAND
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KHANDWA ROAD, INDORE

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Photograph Plantation Drive

Photograph Plantation Drive

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Photograph Plantation Drive

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KHANDWA ROAD, INDORE

Notice Plantation Drive on 22/08/2023

Swami Vivekanand College of Engineering

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Campus : Khandwa Road, Near Old Toll Naka, Indore-452020 (M.P.) Phone : +91- 07324-405000
• Email : info@svceindore.ac.in • Website : www.vivekanandgroup.com

Date: 19/08/2022

Notice

Swami Vivekanand College of Engineering is organizing a Plantation Drive in the college campus on 22/08/2022 from 10:00 AM onwards. All students and staff are cordially invited to participate in this event.

Principal

SVCE,Indore

CC:

1. Director, SVGIs
2. Vice Principal
3. Administrative Officer
4. Notice Board

IQAC COORDINATOR
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KHANDWA ROAD, INDORE

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KHANDWA ROAD, INDORE

Swami Vivekanand College of Engineering, Indore

A Report

on

Plantation Drive

on

22/08/2022

Academic Session 2022-23

IQAC COORDINATOR
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KHANDWA ROAD, INDORE

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KHANDWA ROAD, INDORE

Report on Plantation Drive on 22/08/2022

Introduction:

On 22nd August 2022, a plantation drive was organized to promote environmental conservation and sustainability. The drive aimed to raise awareness about the importance of trees in mitigating climate change and enhancing biodiversity.

Event Details:

Date: 22nd August 2022

Location:Indore

Organised by: Swami Vivekanand College of Engineering

Type of Program: Planation

Objective:

To contribute to environmental conservation efforts and promote a greener, healthier environment. The drive also aimed to engage participants in a hands-on activity that would foster a sense of responsibility towards the environment.

Activities:

During the plantation drive, participants planted saplings of native tree species. They were provided with information about the benefits of each species and how their planting would contribute to the local ecosystem. Participants also took part in a brief orientation session on the importance of trees in combating climate change.

IQAC COORDINATOR
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COLLEGE OF ENGINEERING
KHANDWA ROAD, INDORE

PRINCIPAL
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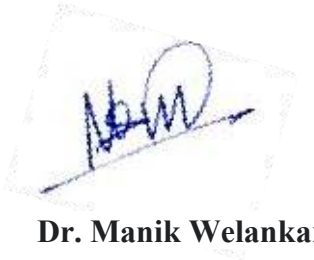
COLLEGE OF ENGINEERING
KHANDWA ROAD, INDORE

Conclusion:

In conclusion, the plantation drive on 22nd August 2022 was a successful initiative that contributed to environmental conservation and community engagement. Such drives play a crucial role in promoting environmental stewardship and building a sustainable future.



Dr. Manik Welankar

Event Coordinator

IQAC COORDINATOR
SWAMI VIVEKANAND
COLLEGE OF ENGINEERING
KHANDWA ROAD, INDORE

PRINCIPAL
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COLLEGE OF ENGINEERING
KHANDWA ROAD, INDORE

Photograph Plantation Drive

Photograph Plantation Drive

IQAC COORDINATOR
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KHANDWA ROAD, INDORE

PRINCIPAL
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COLLEGE OF ENGINEERING
KHANDWA ROAD, INDORE

Photograph Plantation Drive

IQAC COORDINATOR
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KHANDWA ROAD, INDORE

PRINCIPAL
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KHANDWA ROAD, INDORE

Notice Plantation Drive on 13/11/2021

Swami Vivekanand College of Engineering

(Approved by: AICTE, New Delhi • Affiliated to RGPV, Bhopal and DAVV, Indore• Recognised by : DTE Govt. of MP)
Campus : Khandwa Road, Near Old Toll Naka, Indore-452020 (M.P.) Phone : +91- 07324-405000
• Email : info@svceindore.ac.in • Website : www.vivekanandgroup.com

Date: 12/11/2021

Notice

Swami Vivekanand College of Engineering is organizing a Plantation Drive in the college campus on 13th November 2021 from 10:00 AM onwards. All students and staff are cordially invited to participate in this event.

Principal

SVCE, Indore

CC:

1. Director, SVGIs
2. Vice Principal
3. Administrative Officer
4. Notice Board

IQAC COORDINATOR
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KHANDWA ROAD, INDORE

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KHANDWA ROAD, INDORE

Report on Plantation Drive in Induction Program on 13/11/2021

Introduction:

As part of the induction program, a plantation drive was organized on 13th November 2021. The drive aimed to instill a sense of environmental responsibility and promote sustainable practices among the participants.

Event Details:

Date – 13th November 2021

Location- SVCE, Indore

Organised by – Swami Vivekanand College of Engineering

Type of Progam- Plantation drive

Objective:

To create awareness about the importance of environmental conservation and encourage participants to contribute to greening initiatives.

Activities:

During the plantation drive, participants were actively involved in planting saplings. They were provided with information about the types of saplings, their significance in the local ecosystem, and how to care for them. Participants were also encouraged to share their thoughts and experiences related to environmental conservation.

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KHANDWA ROAD, INDORE

Conclusion:

In conclusion, the plantation drive in the induction program was a successful initiative that contributed to environmental conservation and community engagement. Such activities are essential for fostering a culture of sustainability and responsibility towards the environment.

Dr. Manik Welankar

Event Coordinator

IQAC COORDINATOR
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Photograph Plantation Drive

Photograph Plantation Drive

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Photograph Plantation Drive

Photograph Plantation Drive

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COLLEGE OF ENGINEERING

Notice Plantation Drive on 07/08/2019

Swami Vivekanand College of Engineering

(Approved by: AICTE, New Delhi • Affiliated to RGPV, Bhopal and DAVV, Indore• Recognised by : DTE Govt. of MP)
Campus : Khandwa Road, Near Old Toll Naka, Indore-452020 (M.P.) Phone : +91- 07324-405000
• Email : info@svceindore.ac.in • Website : www.vivekanandgroup.com

Date: 05/08/2019

Notice

Swami Vivekanand College of Engineering is organizing a Plantation Drive in the college campus on 07/08/2019 from 10:00 AM onwards. All students and staff are cordially invited to participate in this event.

Principal

SVCE, Indore

CC:

1. Director, SVGIs
2. Vice Principal
3. Administrative Officer
4. Notice Board

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Report on Plantation Drive on 07/08/2019

Introduction:

On 7th August 2019, a plantation drive was organized to promote environmental conservation and sustainability. The drive aimed to raise awareness about the importance of trees in mitigating climate change and enhancing biodiversity.

Event Details:

Date: 07/08/2019

Location:Indore

Organised by: Swami Vivekanand College of Engineering

Type of Program: Planation

Objective:

To contribute to environmental conservation efforts and promote a greener, healthier environment.

Activities:

During the plantation drive, participants planted saplings of native tree species. They were provided with information about the benefits of each species and how their planting would contribute to the local ecosystem. Participants also took part in a brief orientation session on the importance of trees in combating climate change.

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Conclusion:

In conclusion, the plantation drive on 7th August 2019 was a successful initiative that contributed to environmental conservation and community engagement. Such drives play a crucial role in promoting environmental stewardship and building a sustainable future.

Dr. Manik Welankar

Event Coordinator

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Photograph Plantation Drive

Photograph Plantation Drive

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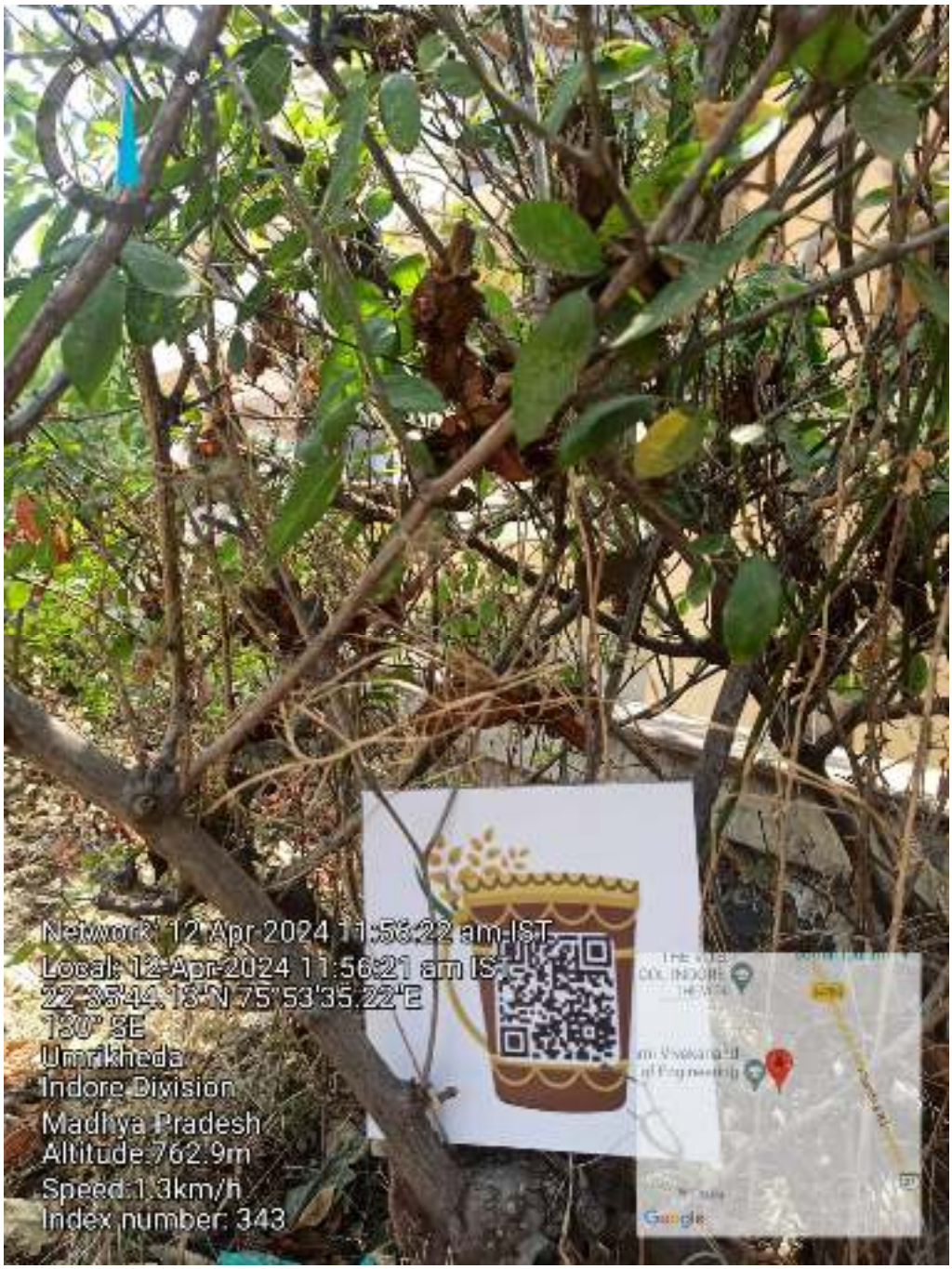
b) QR Scan Codes for Plants and Trees: Swami Vivekanand College of Engineering will introduce QR scan codes for plants and trees on campus, providing information about their species. This initiative aims to enhance awareness about biodiversity and encourage active engagement in conservation efforts.

Photograph QR Scan Codes for Plant



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Photograph QR Scan Codes for Plant

Photograph QR Scan Codes for Tree

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Photograph QR Scan Codes for Tree

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c) Clean and Green SVCE Posters: Implementing the "Clean and Green SVCE" slogan on the walls to promote the clean and green campus initiative will significantly impact the mindset of both students and faculties. By visually reinforcing the message throughout the campus, it creates a constant reminder of the importance of sustainability and environmental stewardship. Each time students and faculty members pass by these walls; they are subtly encouraged to reflect on their own actions and choices regarding the environment. This initiative fosters a sense of responsibility and ownership among the campus community, empowering them to actively participate in maintaining a clean and green environment.

Photograph of Clean and Green SVCE Poster

Photograph of Clean and Green SVCE Poster

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Photograph of Clean and Green SVCE Poster

Photograph of Clean and Green SVCE Poster

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Photograph of Clean and Green SVCE Poster

Photograph of Clean and Green SVCE Poster

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4. Beyond the campus environmental promotion and sustainability activities

Swami Vivekanand College of Engineering Performs following beyond the campus environmental promotion and sustainability activities

- Water Harvesting Campaign Collaboration with 1 M.P. Girls Battalion NCC
- Water-Borne Diseases Awareness Campaign Collaboration with 1 M.P. Girls Battalion NCC
- Cleanliness Drive and Awareness Campaign Collaboration with 1 M.P. Girls Battalion NCC
- Environmental promotion and sustainability activity at Bhavarkua Square
- Environmental promotion and sustainability activity at Chappan Dukan

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Notice Water Harvesting Campaign Collaboration with 1 M.P. Girls Battalion NCC on 03/02/2023

Swami Vivekanand College of Engineering

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• Email : info@svceindore.ac.in • Website : www.vivekanandgroup.com

Date: 31/01/2023

Notice

Swami Vivekanand College of Engineering, in collaboration with the 1 M.P. Girls Battalion NCC, is planning to organize a Water Harvesting and Water-Borne Diseases Awareness campaign in Simroal. All NCC student volunteers and B.Tech student volunteers are requested to participate in this noble initiative. NCC students required to be present in NCC uniform or NCC track suit, while B.Tech students are required to be present in proper college uniform. The event will take place on 03/02/2023, 11:00AM at Gram Simrol, Indore.

The following faculties are coordinating this event:

Mr. Goutam Verma (Civil Engineering), Ms. Megha Sharma (Civil Engineering), and Mr. Vishal Wankhade (NCC Incharge / Mechanical Engineering).

Principal

SVCE,Indore

CC:

1. Director, SVGI
2. Vice Principal
3. Administrative Officer
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Swami Vivekanand College of Engineering, Indore

A Report

on

One Day Outreach Activity

Water Harvesting Campaign Collaboration

with 1 M.P. Girls Battalion NCC

on

13/02/2023

Academic Session 2022-23

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Report on Water Harvesting Campaign Collaboration with 1 M.P. Girls Battalion NCC on 03/02/2023

Introduction:

On 3rd February 2023, Swami Vivekanand College of Engineering in collaboration with the 1 M.P. Girls Battalion NCC to organize a water harvesting campaign in Simroal. The initiative aimed to raise awareness about the importance of water conservation and promote the adoption of rainwater harvesting techniques to address water scarcity issues in the region.

Event Details:

Date: 3rd February 2023

Venue: Simroal, Indore

Organized by: Swami Vivekanand College of Engineering (SVCE).

Type of Program: Water-Borne Diseases Awareness Campaign

Objective:

To educate residents about the benefits of rainwater harvesting and encourage them to implement sustainable water management practices.

Activities:

SVCE Students tries to aware residents about the importance of rainwater harvesting as a sustainable water management solution.

SVCE Students suggests skills to implement rainwater harvesting systems in their homes and neighborhoods.

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Conclusion:

The water harvesting campaign organized by Swami Vivekanand College of Engineering and the 1 M.P. Girls Battalion NCC in Simroal exemplified the potential for collective action to address water scarcity challenges. By fostering awareness, providing education, and promoting practical solutions, the initiative contributed to building a more resilient and water-secure community. Continued collaboration and concerted efforts are essential to sustain the momentum and further advance the adoption of rainwater harvesting practices for the benefit of present and future generations.

Mr. Vishal Wankhade

Assistant Professor, MED

Event Coordinator

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Photograph of Water Harvesting Campaign

Photograph of Water Harvesting Campaign

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COLLEGE OF ENGINEERING

Attendance Water Harvesting and Water-Borne Diseases Awareness Campaign in Simroal on 03/02/2023

S.No	Name of Student	Roll No	Branch	Signature
1.	Ritika Jaiswal	0822CS231148	CS-2	Ritika
2.	Shumika Tripathi	0822IT231031	IT-1	Shumika
3.	Kirti Rathore	0822IT231060	IT-1	Rathore
4.	Payal Kinkar	0822IT231092	IT-2	Payal
5)	Chaitanya Thakur	0822CS231048	CS-1	Chaitanya
6)	Varsh Patel	0822CS231205	CS-3	Varsha
7)	Nitya Tripathi	0822IT221078	IT	Nitya
8)	Astha Chaudhari	0822CS231003	CS-1	Astha
9)	Shreya Singh	0822CE231015	CE	Shreya
10	Prena Verma	0822CS221134	CS-2	Prena
11)	Pooja Yadav	0822CS221128	CS-2	Pooja
12)	Khushi yadav	0822IT22251	IT-1	Khushi
13)	Purva Mulatkar	0822ME211009	ME	Purva
14)	Vinit Khade	0822ME211022	ME	Vinit
15)	Priyanshu yadav	0822ME211008	ME	Priyanshu

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Notice Water-Borne Diseases Awareness Campaign Collaboration with 1 M.P. Girls Battalion NCC on 03/02/2023

Swami Vivekanand College of Engineering

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• Email : info@svceindore.ac.in • Website : www.vivekanandgroup.com

Date: 31/01/2023

Notice

Swami Vivekanand College of Engineering, in collaboration with the 1 M.P. Girls Battalion NCC, is planning to organize a Water Harvesting and Water-Borne Diseases Awareness campaign in Simroal. All NCC student volunteers and B.Tech student volunteers are requested to participate in this noble initiative. NCC students required to be present in NCC uniform or NCC track suit, while B.Tech students are required to be present in proper college uniform. The event will take place on 03/02/2023, 11:00AM at Gram Simrol, Indore.

The following faculties are coordinating this event:

Mr. Goutam Verma (Civil Engineering), Ms. Megha Sharma (Civil Engineering), and Mr. Vishal Wankhade (NCC Incharge / Mechanical Engineering).

Principal

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CC:

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Swami Vivekanand College of Engineering, Indore

A Report

on

One Day Outreach Activity

Water Harvesting Campaign Collaboration

with 1 M.P. Girls Battalion NCC

on

13/02/2023

Academic Session 2022-23

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Report on Water-Borne Diseases Awareness Campaign Collaboration with 1 M.P. Girls Battalion NCC on 03/02/2023

Introduction:

On 3rd February 2023, Swami Vivekanand College of Engineering, in collaboration with the 1 M.P. Girls Battalion NCC, organized a water-borne diseases awareness campaign in Simroal. The initiative aimed to educate the local community about the risks associated with water-borne illnesses and promote preventive measures to ensure better health and sanitation practices.

Event Details:

Date: 3rd February 2023

Venue: Simroal, Indore

Organized by: Swami Vivekanand College of Engineering (SVCE).

Type of Program: Water-Borne Diseases Awareness Campaign

Objective:

To raise awareness among the residents of Simroal about the prevalent water-borne diseases in their area.

Activities:

The students of SVCE Indore provides knowledge and awareness among residents about the causes, symptoms, and prevention of water-borne illnesses and discussed about practical strategies for maintaining clean water sources and adopting proper hygiene practices.

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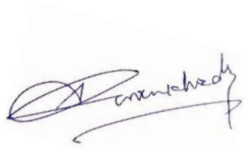
Conclusion:

The water-borne diseases awareness campaign organized by Swami Vivekanand College of Engineering and the 1 M.P. Girls Battalion NCC in Simroal underscored the importance of proactive community engagement in promoting public health and sanitation. By imparting knowledge, fostering dialogue, and advocating preventive measures, the initiative contributed to building a healthier and more resilient community. Continued efforts and collaborative initiatives are essential to sustain the momentum and further improve the well-being of the residents in Simroal and beyond.



Mr. Vishal Wankhade

Assistant Professor, MED

Event Coordinator

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COLLEGE OF ENGINEERING

Photograph Water-Borne Diseases Awareness Campaign

Photograph Water-Borne Diseases Awareness Campaign

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Photograph Water-Borne Diseases Awareness Campaign

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Attendance Sheet

Attendance Water Harvesting and Water-Borne Diseases Awareness Campaign in Simroal on 03/02/2023

S.No	Name of Student	Roll No	Branch	Signature
1.	Ritika Jaiswal	0822CS231148	CS-2	Ritika
2.	Shumika Tripathi	0822IT231031	IT-1	Shumika
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Notice Cleanliness Drive and Awareness Campaign Collaboration with 1 M.P. Girls Battalion NCC

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• Email : info@svceindore.ac.in • Website : www.vivekanandgroup.com

Date: 01/06/2022

Notice

Swami Vivekanand College of Engineering, in collaboration with the 1 M.P. Girls Battalion NCC, is planning to organize a Cleanliness Drive and Awareness Campaign at Tejaji Nagar, Indore. We invite all NCC student volunteers to actively participate in this event. NCC student volunteers required to be present in track suit for the event. The Cleanliness Drive and Awareness Campaign will starting at 10:30 AM on 7th June 2022 at Tejaji Nagar, Indore. The event is coordinated by Ms. Megha Sharma (Civil Engineering) and Mr. Vishal Wankhade (NCC Incharge / Mechanical Engineering).

Principal

SVCE,Indore

CC:

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Swami Vivekanand College of Engineering, Indore

A Report

on

One Day Outreach Activity

Cleanliness Drive and Awareness Campaign

Collaboration with 1 M.P. Girls Battalion NCC

on

07/06/2022

Academic Session 2021-22

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Report on Cleanliness Drive and Awareness Campaign Collaboration with 1 M.P. Girls Battalion NCC

Introduction:

On 7th June 2022, Swami Vivekanand College of Engineering organized a cleanliness drive and awareness campaign in collaboration with the 1 M.P. Girls Battalion NCC at Tejaji Nagar, Indore. The initiative aimed to foster community engagement, raise awareness about cleanliness, and instill a sense of responsibility towards environmental conservation among the residents of Tejaji Nagar.

Event Details:

Date: 7th June 2022

Venue: Tejaji Nagar, Indore

Organized by: Swami Vivekanand College of Engineering (SVCE) NCC Students

Type of Program: Cleanliness Drive

Objective:

To promote cleanliness and hygiene practices within the community and create awareness about the importance of maintaining a clean and healthy environment.

Activities:

Cleanliness Drive: Volunteers from NCC actively participated in cleaning streets at Tejaji Nagar. They swept roads and disposed of waste responsibly. The emphasis was on not only cleaning the surroundings but also educating residents about proper waste management practices.

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Awareness Campaign: Concurrently, volunteers conducted an awareness campaign focusing on the significance of cleanliness and its impact on public health and the environment

Collaborative Efforts: The collaboration between Swami Vivekanand College of Engineering and the 1 M.P. Girls Battalion NCC facilitated effective coordination and maximized the reach and impact of the initiative. Together, they worked tirelessly to achieve the common goal of promoting cleanliness and instilling a sense of civic duty among the residents of Tejaji Nagar.

Conclusion:

The cleanliness drive and awareness campaign organized by Swami Vivekanand College of Engineering in collaboration with the 1 M.P. Girls Battalion NCC at Tejaji Nagar, Indore, exemplified the power of collective action in addressing community issues. Through concerted efforts and effective coordination, the initiative succeeded in not only cleaning the locality but also in fostering a sense of ownership and responsibility among the participants. Such collaborative endeavors serve as a testament to the transformative impact that can be achieved when institutions and communities come together for a common cause.

Mr. Vishal Wankhade

Event Coordinator

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Photograph Cleanliness Drive and Awareness Campaign Collaboration with 1 M.P. Girls Battalion NCC

Photograph Cleanliness Drive and Awareness Campaign Collaboration with 1 M.P. Girls Battalion NCC

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COLLEGE OF ENGINEERING
KHANDWA ROAD, INDORE

Attendance Sheet

Attendance Water Harvesting and Water-Borne Diseases Awareness Campaign in Simroal on 03/02/2023

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Notice beyond the campus environmental promotion and sustainability activity on 05/02/2019

Swami Vivekanand College of Engineering

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Campus : Khandwa Road, Near Old Toll Naka, Indore-452020 (M.P.) Phone : +91- 07324-405000
• Email : info@svceindore.ac.in • Website : www.vivekanandgroup.com

Date: 01/02/2019

Notice

Swami Vivekanand College of Engineering is planning to organize a beyond the campus environmental promotion and sustainability activities at Bhavarkua Square, Indore. We invite all student volunteers to actively participate in this activity. The beyond the campus environmental promotion and sustainability activity will starting at 09:30 AM on 5th February 2019 at Bhavarkua Square, Indore. Faculty Coordinator for this activity are by Mr. Vijay Bircha (Computer Science) and Mr. Amit Kumar Kundu (Mechanical Engineering).

Principal

SVCE,Indore

CC:

1. Director, SVGI
2. Vice Principal
3. Administrative Officer
4. All Concerned Staff
5. Notice Board

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KHANDWA ROAD, INDORE

Swami Vivekanand College of Engineering, Indore

A Report

on

One Day Beyond The Campus Environmental

Promotion and Sustainability Activity

on

05/02/2019

Academic Session 2018-19

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Report on beyond the campus environmental promotion and sustainability activity on 05/02/2019

Introduction:

The Cleanliness Drive organized by students of Swami Vivekanand College of Engineering (SVCE), Indore, at Bhavarkua Square on 5th February 2019, echoes the spirit of the Swachh Bharat Abhiyan initiated by the Government of India. SVCE students took the initiative to extend this mission to the local community through a cleanliness drive at Bhavarkua Square.

Event Details:

Date: 5th February 2019

Venue: Bhavarkua Square, Indore

Organized by: Swami Vivekanand College of Engineering (SVCE) Students

Type of Program: Cleanliness Drive

Objective:

To raise social awareness about the importance of cleanliness and hygiene in public spaces.

Activities:

Cleanliness Drive: Swami Vivekanand College of Engineering (SVCE) students organized a comprehensive cleanliness drive at Bhavarkua Square. They engaged in activities such as picking up litter, sweeping the area, and ensuring proper disposal of waste. The students led by example, demonstrating the significance of taking responsibility for one's environment.

Awareness Campaign: Alongside the cleanliness drive, an awareness campaign was conducted to educate the public about the objectives of Swachh Bharat Abhiyan and the role of individuals in

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achieving its goals. Pamphlets and posters were distributed, emphasizing the importance of cleanlines and encouraging behavioral change towards a cleaner environment.

Interactive Sessions: Interactive sessions were held with the local community to discuss the challenges faced in maintaining cleanliness and potential solutions. SVCE students facilitated discussions on waste management techniques, segregation of waste, and the importance of using dustbins. The sessions encouraged active participation and exchange of ideas among participants.

Conclusion:

The Cleanliness Drive organized by students of Swami Vivekanand College of Engineering at Bhavarkua Square on 5th February 2019 exemplifies the spirit of Swachh Bharat Abhiyan. Through their initiative and dedication, SVCE students successfully mobilized the community towards embracing cleanliness and hygiene practices. Such endeavors are crucial in instilling a culture of cleanliness and promoting social responsibility for a cleaner and healthier society.

Mr. Amit Kumar Kundu

Event Coordinator

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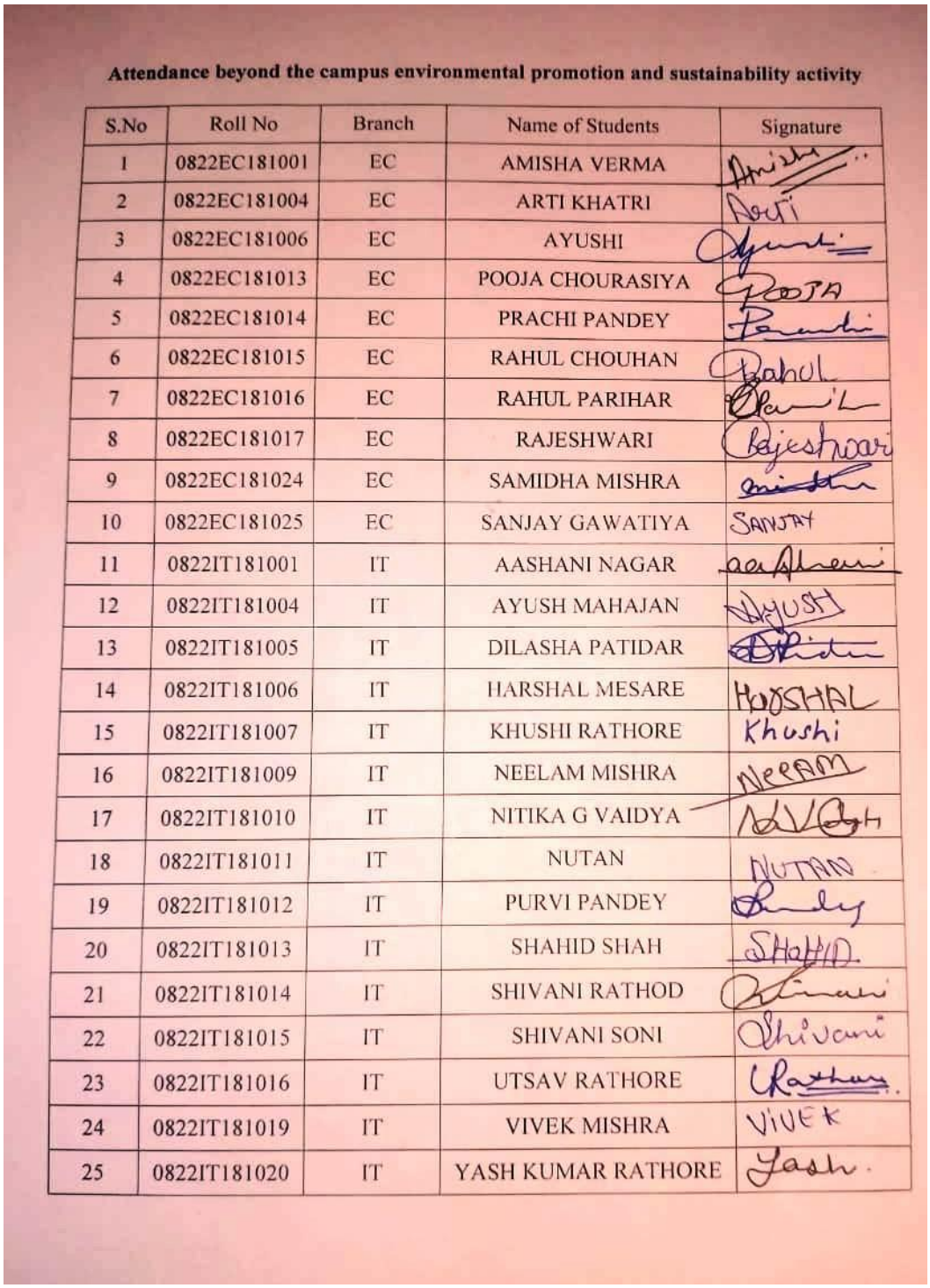
Attendance Sheet



Attendance beyond the campus environmental promotion and sustainability activity

S.No	Roll No	Branch	Name of Students	Signature
1	0822EC181001	EC	AMISHA VERMA	
2	0822EC181004	EC	ARTI KHATRI	
3	0822EC181006	EC	AYUSHI	
4	0822EC181013	EC	POOJA CHOURASIYA	
5	0822EC181014	EC	PRACHI PANDEY	
6	0822EC181015	EC	RAHUL CHOUHAN	
7	0822EC181016	EC	RAHUL PARIHAR	
8	0822EC181017	EC	RAJESHWARI	
9	0822EC181024	EC	SAMIDHA MISHRA	
10	0822EC181025	EC	SANJAY GAWATIYA	
11	0822IT181001	IT	AASHANI NAGAR	
12	0822IT181004	IT	AYUSH MAHAJAN	
13	0822IT181005	IT	DILASHA PATIDAR	
14	0822IT181006	IT	HARSHAL MESARE	
15	0822IT181007	IT	KHUSHI RATHORE	
16	0822IT181009	IT	NEELAM MISHRA	
17	0822IT181010	IT	NITIKA G VAIDYA	
18	0822IT181011	IT	NUTAN	
19	0822IT181012	IT	PURVI PANDEY	
20	0822IT181013	IT	SHAHID SHAH	
21	0822IT181014	IT	SHIVANI RATHOD	
22	0822IT181015	IT	SHIVANI SONI	
23	0822IT181016	IT	UTSAV RATHORE	
24	0822IT181019	IT	VIVEK MISHRA	
25	0822IT181020	IT	YASH KUMAR RATHORE	

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Notice beyond the campus environmental promotion and sustainability activity 20/07/2018

Swami Vivekanand College of Engineering

(Approved by: AICTE, New Delhi • Affiliated to RGPV, Bhopal and DAVV, Indore• Recognised by : DTE Govt. of MP)
Campus : Khandwa Road, Near Old Toll Naka, Indore-452020 (M.P.) Phone : +91- 07324-405000
• Email : info@svceindore.ac.in • Website : www.vivekanandgroup.com

Date: 14/07/2018

Notice

Swami Vivekanand College of Engineering is planning to organize a Nukkad Natak (Street Play) under environmental promotion and sustainability activities on 20th July 2018 at Chappan Dukan Indore. We invite all student volunteers to actively participate in this activity. This activity will start at 10:30 AM on 20th July 2018 at Chappan Dukan, Indore. The activity is coordinated by Dr. Manik Walenkar (Chemistry Depertment) and Mr. Amit Kumar Kundu (Mechanical Engineering).

Principal

SVCE,Indore

CC:

1. Director, SVGI
2. Vice Principal
3. Administrative Officer
4. All Concerned Staff
5. Notice Board

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Swami Vivekanand College of Engineering, Indore

A Report

on

One Day Beyond The Campus Environmental

Promotion and Sustainability Activity

on

20/07/2018

Academic Session 2018-19

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Report on beyond the campus environmental promotion and sustainability activity 20/07/2018

Introduction:

Swachh Bharat Abhiyan, launched on 2nd October 2014, is a nationwide cleanliness campaign initiated by the Government of India. The aim of the campaign is to achieve the vision of a 'Clean India' by 2nd October 2019, marking the 150th birth anniversary of Mahatma Gandhi. As part of this initiative, an outreach program was organized by students of SVGI at Chappan Dukan on 20th July 2018, to raise awareness about the importance of cleanliness and hygiene in our daily lives.

Event Details:

Date: 20th July 2018

Venue: Chappan Dukan

Organized by: SVCE Students

Type of Program: Nukkad Natak (Street Play)

Objective:

To educate and motivate the local community, shopkeepers, and passersby at Chappan Dukan about the significance of cleanliness and their role in maintaining a clean environment.

Activities:

Nukkad Natak: The highlight of the program was a nukkadnatak performed by SVGI students. The play depicted various scenarios highlighting the importance of cleanliness, the health hazards of living in unhygienic conditions, and the impact of littering on the environment. The performance was engaging and thought-provoking, capturing the attention of the audience and delivering the message effectively.

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Interactive Sessions: Following the nukkad natak, interactive sessions were conducted with the audience. The students explained the objectives of Swachh Bharat Abhiyan and shared practical tips on waste management, segregation of waste, and the proper use of dustbins. The audience was encouraged to ask questions and share their views on the campaign.

Conclusion:

The outreach program on Swachh Bharat Abhiyan conducted by SVGI students at Chappan Dukan on 20th July 2018 was a commendable initiative to spread awareness about cleanliness and hygiene. Such programs play a crucial role in mobilizing communities and fostering a sense of responsibility towards maintaining a clean and healthy environment.

Thanks and Regards

Ms. Anjali Bhatiya

Event Coordinato

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Date: 17/03/2017

POLICY OF ENVIRONMENT AND ENERGY USAGE

Swami Vivekanad College of Engineering (SVCE), Indore, recognizes the critical importance of environmental sustainability and responsible energy usage in contributing towards a healthier and greener future. As an institution committed to excellence in education and societal welfare, SVCE is dedicated to implementing practices to promote sustainable energy sources.

The main focus areas for Environment and Energy Usage Policy are:

1. **Environment Initiatives:**
    a) Plantation Drive
    b) QR scan codes for plants and trees
    c) Rainwater Harvesting
2. **Energy Initiatives:**
    a) Awareness Signboards
    b) Solar Panel installation
3. **Environment Audit**
4. **Energy Audit**

Environment Initiatives

a) Plantation Drive

SVCE will initiate and actively participate in tree plantation drives to increase green cover within the campus. This initiative aims to improve air quality and mitigate climate change.

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b) QR Scan Codes for Plants and Trees

SVCE will introduce QR scan codes for plants and trees on campus, providing information about their species. This initiative aims to enhance awareness about biodiversity and encourage active engagement in conservation efforts.

c) Rainwater Harvesting

SVCE will install rainwater harvesting systems across the campus to capture and store rainwater for groundwater recharge. This initiative aims to conserve water resources.

Energy Initiatives

a) Awareness Signboards

SVCE will install awareness signboards in common areas to educate students, faculty, and staff about energy conservation practices.

b) Solar Panel Installation

SVCE installed solar panels on rooftops. These solar panels harness solar energy to meet a significant portion of the institute's electricity needs, thereby reducing reliance on conventional energy sources and promoting clean energy usage.

Environment Audit

The college conducts environment audit to assess our assets and weaknesses to target our goals of long-term sustainability. Environment Audit involves estimating the organization's day to day policies, practices, and procedures to identify areas where environmental improvements can be taken into consideration. The main purpose of an Environment Audit is to promote the environmental sustainability.

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Energy Audit

The energy audit, with its specialized tools will identify waste of energy. Such an inspection often reveals several different flaws which cause a loss of significant amounts of energy which the college will not be able to detect. These flaws often have easy and affordable solutions and provide significant savings.

Director

SVGI, Indore

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PRINCIPAL
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